

DISSERTATION

UNCONVENTIONAL POLITICS OF UNCONVENTIONAL GAS:
ENVIRONMENTAL REFRAMING AND POLICY CHANGE

Submitted by

Andrew Robert Kear

Department of Political Science

In partial fulfillment of the requirements

For the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

Summer 2011

Doctoral Committee:

Advisor: Robert J. Duffy

Charles E. Davis
Kyle L. Saunders
John D. Stednick

ABSTRACT

UNCONVENTIONAL POLITICS OF UNCONVENTIONAL GAS: ENVIRONMENTAL REFRAMING AND POLICY CHANGE

The present Rocky Mountain West natural gas boom, enabled by historic pro-resource-development political, institutional, economic, and cultural structures, is a politically contested battle over values. Volatile political action, unconventional coalitions, and unconventional politics engulf this unconventional gas boom – especially at the state level. In this comparative case study of natural gas policy in Wyoming, Colorado, and New Mexico, I measure and compare these values, expressed as frames, through textual analysis of interest group public documents and state legislative bills and statutes from 1999-2008. By developing a new measure of state legislative framing, I test the relationship between interest group and institutional framing and also provide a viable measure of policy change useful to Narrative Policy Analysis theory. Results show that competing interest group and state legislative framing efforts are dynamic, measurably different, and periodically correlative. Competing interest groups rarely engage each other, except as the conflict matures when status-quo-supporters break their silence and engage the challengers' frames that have gained legislative traction. Environmental and land-use counter-framing ensues, but status-quo-supporters remain vigilant in their

economic framing. Economic frames retain their institutional privilege within Wyoming and New Mexico, but natural gas policy undergoes a complete environmental reframe in the Colorado state legislature.

Although the historically dominant economy frame based on “Old West” values remains largely intact, the respective state legislatures partially reframe policy (within 4 years) using environment, alternative land-uses, and democracy frames based on “New West” and long-extant but previously marginalized status-quo-challenger definitions. This reframing is not a strictly partisan issue, but rather it is influenced by political context, policy diffusion, and long-term interest group advocacy and framing efforts. A policy punctuation is observed in state legislative reframing and by the passage of three status-quo-challenging statutes in Wyoming (2005), four in Colorado (2007), and one in New Mexico (2007). Policy reframing, although rare in most policy areas, is common during this natural gas policy punctuation. The politics of successful reframing is the politics of punctuation.

ACKNOWLEDGEMENTS

Numerous people enabled, supported, guided, and even cajoled me into completing this dissertation and for that I am both indebted and thankful. First, I would like to thank my advisor, Dr. Robert J. Duffy for his wisdom, guidance, and attentiveness throughout this entire process. The foundation for success built through our relationship will serve me well in future academic endeavors. Second, I would like to thank my committee members, Dr. Charles Davis, Dr. Kyle Saunders, and Dr. John Stednick for their thoughtful insights and critique. The entire committee has been instrumental in my academic maturation and evolution from a natural to a social scientist – a process that has been difficult but rewarding.

Although this dissertation is based primarily on textual analysis, I conducted numerous interviews that provided context and insights while keeping this research real. I would like to thank Jim and Terry Fitzgerald, Gwen Lachelt, Bruce Baisel, Kathleen Sgamma, Ken Wonstolen, Nathan Newcomer, Mark Pearson, Duke Cox, Frank Smith, Alan Woodard, Williams Energy, Susan Avillar, Jane Van Ryan, Richard Ranger, April Reese, Eryn Gable, and the American Petroleum Institute for their time and contributions to this project.

I am grateful for the support and guidance of my cohort of friends, classmates, and colleagues throughout this journey. I extend special thanks to these people including George Stetson, Dallas Blaney, Oscar Ibanez, Tim Hurst, Nikki Detraz, Melissa Gutheil, Jon Fisk, John Hultgren, Tim Ehresman, Danny Rosen, and Robert Forbis. To my fly-

fishing partners, long-time friends, and source of constant inspiration I thank Steve Worsley and Alex Turchi for keeping my eye on the river and my priorities in check.

My brother, Jeff Kear, provided not only the much needed copy editing of this text but has also been a life-long source of inspiration, friendship, and wisdom that I cherish and always appreciate. Thanks brother. I would not be in Colorado if it were not for my aunt Amy Diller, who has been a sounding board throughout my life and especially during this process – many thanks. To my wife Lori who has shown faith, patience, love, energy, and passion, I am blessed that we have and will continue to walk this road together. Finally, I am eternally grateful to my parents Anne and Hugh Kear who have inspired, nurtured, promoted, and loved me through life. I dedicate this to you.

TABLE OF CONTENTS

| | |
|--|----|
| Abstract | ii |
| Acknowledgements..... | iv |
| Table of Contents | vi |
| List of Tables | ix |
| List of Figures..... | x |
| | |
| Chapter I American West Natural Gas Political Development | 1 |
| Introduction..... | 1 |
| “The Long Boom of Western Development” | 3 |
| <i>The “Old West” versus the “New West”</i> | 3 |
| <i>Western Population and Energy Booms</i> | 6 |
| <i>Federal Natural Resource Statutes</i> | 10 |
| <i>State Natural Gas Statutes</i> | 16 |
| The Rocky Mountain West Natural Gas Boom | 22 |
| <i>The Policy Context</i> | 22 |
| <i>The Technical Context</i> | 24 |
| <i>Unconventional Natural Gas Boom</i> | 27 |
| <i>The Economic Imperative</i> | 30 |
| Chapter Outline..... | 33 |
| | |
| Chapter II Policy Theory and Research Design..... | 36 |
| Introduction..... | 36 |
| Literature Review..... | 37 |
| <i>Problem Definition and Agenda Setting</i> | 37 |
| <i>Narrative Policy Analysis and Framing</i> | 41 |
| Research Design..... | 46 |
| <i>Research Questions and Hypotheses</i> | 46 |
| Methods..... | 55 |
| <i>Case and Interest Group Selection</i> | 57 |
| <i>Data Sources, Analytical Measures, and Framing Analysis</i> | 60 |
| Conclusion and Theoretical Contributions | 68 |
| | |
| Chapter III Colorado Natural Gas Politics and Policy..... | 69 |
| Introduction..... | 69 |
| Political Context..... | 73 |
| <i>Colorado State Legislature and Governor – Party Control and Party Positions</i> | 73 |
| Colorado State Legislature Results..... | 83 |
| <i>Natural Gas Agenda Attention and Success</i> | 83 |
| <i>Institutional Framing</i> | 88 |
| Interest Groups..... | 94 |
| <i>San Juan Citizens Alliance (SJCA)</i> | 94 |
| <i>Williams</i> | 95 |
| Analysis..... | 97 |
| <i>Agenda and Interest Group Attention</i> | 97 |

| | |
|--|-----|
| <i>Interest Group Framing</i> | 100 |
| <i>San Juan Citizens Alliance (SJCA)</i> | 100 |
| <i>Williams</i> | 104 |
| <i>State Legislative and Interest Group Framing</i> | 107 |
| Conclusion | 109 |
| | |
| Chapter IV Wyoming Natural Gas Politics and Policy | 119 |
| Introduction..... | 119 |
| Political Context..... | 122 |
| <i>Wyoming State Legislature and Governor – Party Control and Party Positions</i> | 122 |
| Wyoming State Legislature Results..... | 129 |
| <i>Natural Gas Agenda Attention and Success</i> | 129 |
| <i>Institutional Framing</i> | 133 |
| Interest Groups..... | 139 |
| <i>Powder River Basin Resource Council (PRBRC)</i> | 140 |
| <i>Williams</i> | 141 |
| Analysis..... | 142 |
| <i>Agenda and Interest Group Attention</i> | 142 |
| <i>Interest Group Framing</i> | 146 |
| <i>PRBRC</i> | 146 |
| <i>Williams</i> | 149 |
| <i>State Legislative and Interest Group Framing</i> | 151 |
| Conclusion | 154 |
| | |
| Chapter V New Mexico Natural Gas Politics and Policy | 164 |
| Introduction..... | 164 |
| Political Context..... | 166 |
| <i>New Mexico State Legislature and Governor – Party Control and Party Positions</i> ... 166 | |
| New Mexico State Legislature Results..... | 180 |
| <i>Natural Gas Agenda Attention and Success</i> | 180 |
| <i>Institutional Framing</i> | 182 |
| Interest Groups..... | 188 |
| <i>New Mexico Wilderness Alliance (NMWA)</i> | 189 |
| <i>Devon Energy Corporation</i> | 191 |
| Analysis..... | 192 |
| <i>Agenda and Interest Group Attention</i> | 192 |
| <i>Interest Group Framing</i> | 196 |
| <i>NMWA</i> | 196 |
| <i>Devon</i> | 201 |
| <i>State Legislative and Interest Group Framing</i> | 205 |
| Conclusion | 207 |
| | |
| Chapter VI Reframing, Policy Diffusion, and Policy Change..... | 217 |
| Introduction..... | 217 |
| Framing Natural Gas..... | 217 |
| State Legislative Reframing..... | 218 |

| | |
|---|-----|
| Policy Entrepreneurs and Policy Diffusion..... | 223 |
| Interest Group Framing Comparison | 227 |
| State Legislature and Interest Group Framing Comparison | 230 |
| Reframing and Policy Change | 235 |
| | |
| Chapter VII Conclusion – The Politics of Successful Reframing Is the Politics of Punctuation | 241 |
| Reframing Natural Gas Policy | 241 |
| Suggestions for Future Research | 248 |
| Conclusion | 250 |
| References..... | 252 |
| | |
| Appendices..... | 268 |
| Appendix 2.1 Interest Group Selection..... | 268 |
| Appendix 2.2 Problem Definition Codebook | 270 |
| Appendix 2.3 Natural Gas Policy Interview Guide | 273 |
| Appendix 3.1 Colorado State Legislature Natural Gas Bills/Statutes (1999-2008) | 274 |
| Appendix 4.1 Wyoming State Legislature Natural Gas Bills/Statutes (1999-2008) | 283 |
| Appendix 5.1 New Mexico State Legislature Natural Gas Bills/Statutes (1999-2008) | 290 |

LIST OF TABLES

| | |
|---|-----|
| Table 1.1 Wyoming, Colorado, and New Mexico Population Growth (1990-2010) | 7 |
| Table 3.1 Colorado Pro-, Anti-, and Neutral-Status Quo Bills and Agenda Success | 86 |
| Table 3.2 Colorado Legislature Frame Use (1999-2008) | 88 |
| Table 3.3 San Juan Citizens Alliance Frame Use (2000-2008) | 100 |
| Table 3.4 Williams (CO) Frame Use (1999-2008) | 104 |
| Table 4.1 Wyoming Pro-, Anti-, and Neutral-Status Quo Bills and Agenda Success | 132 |
| Table 4.2 Wyoming Legislature Frame Use (1999-2008) | 133 |
| Table 4.3 Powder River Basin Resource Council Frame Use (1999-2008) | 146 |
| Table 4.4 Williams (WY) Frame Use (1999-2008) | 149 |
| Table 5.1 New Mexico Pro-, Anti-, and Neutral-Status Quo Bills and Agenda Success | 182 |
| Table 5.2 New Mexico Legislature Frame Use (1999-2008) | 183 |
| Table 5.3 New Mexico Wilderness Alliance Frame Use (1999-2008) | 197 |
| Table 5.4 Devon Frame Use (2001-2008) | 201 |

LIST OF FIGURES

| | |
|--|-----|
| Figure 1.1: Natural Gas Production Wyoming, Colorado, and New Mexico..... | 35 |
| Figure 1.2: Natural Gas Approved Permits to Drill (1998-2008) – Wyoming, Colorado, and New Mexico..... | 35 |
| Figure 3.1: Party Control of the Colorado State Legislature | 113 |
| Figure 3.2: Colorado State Legislature Natural Gas Bills | 113 |
| Figure 3.3: Colorado State Legislature Natural Gas Agenda Attention and Success..... | 114 |
| Figure 3.4: Colorado State Legislature Natural Gas Frames | 114 |
| Figure 3.5: Natural Gas Agenda Attention and Interest Group Attention – Colorado State Legislature, SJCA, and Williams..... | 115 |
| Figure 3.6: San Juan Citizens Alliance Natural Gas Frames | 115 |
| Figure 3.7: Williams (CO) Natural Gas Frames | 116 |
| Figure 3.8: Environment Frames – Colorado State Legislature, SJCA, and Williams.... | 116 |
| Figure 3.9: Economy Frames – Colorado State Legislature, SJCA, and Williams | 117 |
| Figure 3.10: Land-Use Frames – Colorado State Legislature, SJCA, and Williams..... | 117 |
| Figure 3.11: Democracy Frames – Colorado State Legislature, SJCA, and Williams | 118 |
| Figure 4.1: Party Control of the Wyoming State Legislature | 157 |
| Figure 4.2: Wyoming State Legislature Natural Gas Bills | 157 |
| Figure 4.3: Wyoming State Legislature Natural Gas Agenda Attention and Success..... | 158 |
| Figure 4.4: Wyoming State Legislature Natural Gas Frames | 158 |
| Figure 4.5: Natural Gas Agenda Attention and Interest Group Attention – Wyoming State Legislature, PRBRC, and Williams | 159 |
| Figure 4.6: Powder River Basin Resource Council Natural Gas Frames | 159 |
| Figure 4.7: Water Issues, Human Health/Pollution, and Regulation Frames – Powder River Basin Resource Council | 160 |
| Figure 4.8: Total Land-Use and Private Property Rights Frames – Powder River Basin Resource Council..... | 160 |
| Figure 4.9: Williams (WY) Natural Gas Frames | 161 |
| Figure 4.10: Environment Frames – Wyoming State Legislature, SJCA, and Williams. | 161 |
| Figure 4.11: Economy Frames – Wyoming State Legislature, SJCA, and Williams | 162 |
| Figure 4.12: Land-Use Frames – Wyoming State Legislature, SJCA, and Williams..... | 162 |
| Figure 4.13: Democracy Frames – Wyoming State Legislature, SJCA, and Williams ... | 163 |
| Figure 5.1: Party Control of the New Mexico State Legislature | 211 |
| Figure 5.2: New Mexico State Legislature Natural Gas Bills | 211 |
| Figure 5.3: New Mexico State Legislature Natural Gas Agenda Attention and Success | 212 |
| Figure 5.4: New Mexico State Legislature Natural Gas Frames | 212 |
| Figure 5.5: Natural Gas Agenda Attention and Interest Group Attention – New Mexico State Legislature, PRBRC, and Williams | 213 |
| Figure 5.6: New Mexico Wilderness Alliance Natural Gas Frames..... | 213 |
| Figure 5.7: Devon Natural Gas Frames | 214 |

| | |
|---|-----|
| Figure 5.8: Environment Frames – New Mexico State Legislature, PRBRC, and Devon | 214 |
| Figure 5.9: Economy Frames – New Mexico State Legislature, PRBRC, and Devon.... | 215 |
| Figure 5.10: Land-Use Frames – New Mexico State Legislature, PRBRC, and Devon . | 215 |
| Figure 5.11: Democracy Frames – New Mexico State Legislature, PRBRC, and Devon | 216 |
| Figure 6.1: State Legislature Framing Totals – Colorado, Wyoming, and New Mexico..... | 237 |
| Figure 6.2: State Legislature Environment Frames | 237 |
| Figure 6.3: State Legislature Economy Frames..... | 238 |
| Figure 6.4: State Legislature Land-Use Frames | 238 |
| Figure 6.5: State Legislature Democracy Frames..... | 239 |
| Figure 6.6: Status-Quo-Supporter Framing Totals | 239 |
| Figure 6.7: Status-Quo-Challenger Framing Totals..... | 240 |

Chapter I

American West Natural Gas Political Development

“Natural gas is hemispheric. I like to call it hemispheric in nature because it is a product that we can find in our neighborhoods.” President George W. Bush

Introduction

Historically, the American West was developed and sustained by natural resource exploitation. Presently, the Rocky Mountain West is embroiled in a natural gas development “boom” enabled by embedded pro-resource-development political, economic, cultural, and institutional structures. While demographic, economic, and cultural biases have diversified in some western states, state-level political institutions promoting natural gas development remain entrenched. Thus, rapid natural gas development is creating a policy paradox that is increasingly contentious, salient, and intractably complex. The policy paradox is, at base, a politically contested battle over values. “Old West” versus “New West” political, economic, and environmental differences color these debates, but value debates transcend developmental eras and can be framed more simply. How do we want to live with and upon the increasingly populated and natural-resource-rich American West? This research will illuminate these contested values, their political expression, and their effect within state legislatures.

American West natural gas production has accelerated rapidly since the energy crisis of the 1970s, and natural gas development has boomed in the Rocky Mountain West since the 1990s. Exponential development, evidenced by record permitting, drilling, and natural gas production, has spurred political conflicts at the local, state, and federal

levels. Increased political salience and visibility, conflict expansion, and renewed institutional agenda attention make western natural gas policy a timely and important regional political dynamic meriting study. Rocky Mountain West natural gas politics, a burgeoning component of U.S. energy policy, epitomize regional public and private land-use battles and symbolize our global struggle with fossil fuel development, consumption, and dependence.

Wyoming, Colorado, and New Mexico sit at the nexus of this Rocky Mountain West natural gas boom and political conflict. In this research, I explore how this boom plays out by analyzing the relationship between state legislative and competing interest group framing efforts and evaluate how framing relates to policy change. While states like Wyoming reap enormous revenues from resource exploitation, it is logical that historically embedded pro-development laws and regulations remain intact. However, more economically diverse and higher populated states like Colorado and, to a lesser degree, New Mexico have initiated several natural gas policy changes to include previously marginalized environmental, land-use, and basic democratic frames. I argue that how interest groups and state legislatures define natural gas development is politically significant; frames are measurably different; and framing analysis is a viable measure of policy change.

I examine state natural gas policy for several reasons. Intense state and local politics surround natural gas policy, and real-time action and effects are experienced at this level. Historic state and federal natural gas laws and regulations enabled this present boom, but recent state-level natural gas policy making is breaking from that tradition. Not only are states attempting institutional reform, but also diverse and unusual coalitions are forming

to monitor and mitigate the effects of this boom. Volatile political action, unconventional coalitions, and unconventional politics result from the rapid development of unconventional gas – especially at the state level. Natural gas policy activity and change at the state and local level also carry regional and national consequences. Although federal natural gas policy is not the focus of this research, I briefly discuss significant federal statutes in order to provide greater background and context for understanding state-level natural gas policy.

While these state natural gas policy cases are important western political events by themselves, this research is also designed to further our understanding of the public policy process. By conducting this comparative case study of state-level natural gas policy, I seek to answer broader policy questions like the following: Is framing analysis a viable indicator of policy activity and change? What generalizations can be drawn from this energy policy study that are applicable to other policy areas and aid our understanding of how interest group and institutional framing relate to each other and to policy? And, can the lessons learned from this complex policy problem be applied to other intractable conflicts in different policy areas? In an attempt to answer these questions, I first explore the foundations of natural gas policy and the most recent boom.

“The Long Boom of Western Development”

The “Old West” versus the “New West”

Writers, scholars, and historians have chronicled and evaluated the transformation of the American West with insight and eloquence (Limerick 1987; Stegner 1992; and Wilkinson 1992). My goal is not to re-evaluate these canonical texts. Rather, I mine several key themes from these works to provide historic context relevant to present Rocky Mountain West natural gas development politics. Baden (1997) succinctly

articulates a central and common theme – natural resource exploitation was a dominant paradigm in the American West from the mid 1840s until the late 1960s. Culturally inculcated, supported by local and national economic development imperatives, and enabled by state and federal political institutions, natural resource exploitation exhibits a formative, lengthy, and historically dominant western legacy. Baden (1997), relying heavily on Stegner (1992) and Wilkinson (1992), provides a compelling political and economic synopsis of the “Old West” and its transition to the “New West” and an emergent “Next West.” Resource extraction and development supremacy over the Old West’s political economy was enabled by several factors. Baden (1997, 111-112) argues:

“First, cultural values and low population densities dictated that to make a living, almost everyone had to farm, log, or mine or service those who did. Moreover, economic and technological constraints helped keep the traditional economy of the West intact. High transportation costs, manufacturing processes that were wasteful of natural resources, weak economies of scale, and relatively low labor productivity and per capita incomes all tended to constrain the region’s economy. Scarce water and long distances to major markets kept communities small and scattered . . . Second, the geologic, demographic, and economic realities that entrenched resource extraction as the driver in the region’s development also created the impetus behind public policies encouraging extraction-based economic growth.”

The economic benefits provided by natural resource development were crucial to local and state economies and continue to be important revenue sources for many western states. Thus, the resource extraction model, based on abundant resources and rooted in economic necessity, drove western development and became entrenched in state and federal policies.

Economic and population booms of the “Old West”, based largely on natural resource development, have assumed a different character in the “New West.” Historians debate precisely when the region shifted from the “Old West” to the “New West,” but most agree it was sometime between the 1930s and late 1960s. Whereas mining, logging, agriculture, and ranching spurred western development for nearly 200 years, “an

economically diverse postindustrial regime of services, information technology, light manufacturing, tourism, and retirement now drives growth” (Travis 2007, 3). While the western population expanded, job growth in natural resources lagged during the 1990s. Occupational statistics confirm this regional economic shift, where only 19 out of 400 western counties have at least one-third of their jobs related to mining, ranching, logging, farming, and manufacturing (Travis 2007). Similarly, service and professional income has grown faster than all other sources in the American West since the 1970s, while agriculture and mining income is lagging (Travis 2007).

Economist Thomas Power highlights the tensions surrounding the West’s economic transformation from a natural resource extraction to a service-based economy. Power argues that the “Old West” extractive economy plays a “declining and destabilizing role in local economies” (Power 1996, 5) and a new post-cowboy economics serves the region better and more holistically (Power 2001). Power argues the new economy pays better (western personal income is growing faster than any other region), the quality of life offered by amenity-rich landscapes provides an attractive lifestyle, and long-term regional economic growth is better served by preservation and conservation than extraction. Regardless of whether one favors the “Old,” “New,” or a combination of both, the political battles over natural gas policy are exacerbated by this paradigmatic shift.

The “New West” development boom (1990s and 2000s) of ski resorts, trophy homes, ranchettes, and extensive urbanization and suburbanization is rapidly transforming historic land-use patterns and traditional land-use debates. “Old West” political land-use debates surrounding mining, grazing, lumber, and agriculture are posited against “New

West” debates over urban sprawl, traffic congestion, ski area expansion, rural-to-urban water transfers, affordable housing, residential encroachment on wildlife habitat, and fire-prone forests (Travis 2007). The “New West” has not supplanted the “Old West.” Rather, the confluence of both paradigms creates modern and hotly contested land-use political battles.

Although land-use debates between eras may appear seemingly different, they are old arguments framed anew – open space versus growth, private uses of public lands and public uses of private lands, wilderness areas versus developed landscapes, surface owner versus mineral owner, private property rights versus the free market, etc. Fundamentally, the debate over how we populate and use the American West’s resources – whether they are land, water, or minerals – is timeless. “Old West” natural resource development remains important to local communities, provides needed state revenues, and continues to shape the political and geographic landscape, but a “New West” postindustrial and amenity-based economy has emerged as another driver of growth. Regardless, the West’s wealth of energy minerals, technological innovations, and historically amenable resource development policies are facilitating yet another energy development boom.

Western Population and Energy Booms

American West development history has been characterized by cycles of booms and busts in areas from gold mining to oil to the present population and natural gas booms. Western energy and natural resource development booms create and are supported by population increases. Historical geographer William Travis argues that the boom-bust cycle is a mischaracterization, especially related to land development and population growth. Although localized economic and population downturns have followed booms, Travis argues (2007, 14):

“The trajectory of western development is much more cumulative than the cyclic historical model implies . . . development subjects land to increasingly intense uses that permanently transform the natural and cultural landscapes, even after growth spurts end. The West’s geography is permanently inscribed more by boom than by bust.”

This “long boom of western development” is evidenced by faster population growth than other U.S. regions from 1850 through 2010, with population growth at twice the national rate during the 1990s (Travis 1997, 15). Population expansion in both urban and rural areas creates new and re-opens old cultural and land-use wounds. For example, ecosystems are increasingly pressured by rural development and long-time, small-town, middle-class residents must share communities with a “trophy home” culture. As the “Old West” confronts the “New West,” cultural and political battles are inevitable.

Western state population trends from 1990 through 2010 vary by state, but the three states in this investigation have experienced significant growth. Table 1.1 provides U.S. Census Bureau population statistics for Wyoming, Colorado and New Mexico from the beginning of the recent natural gas boom in 1990 through 2010 (2010 Census).

**Table 1.1
Wyoming, Colorado, and New Mexico Population Growth (1990-2010)**

| | 1990 | 2000 | 2010 | Population Increase (1990-2010) |
|------------|-------------|-------------|-------------|--|
| Wyoming | 453,588 | 493,782 | 563,626 | 24.3% |
| Colorado | 3,294,394 | 4,301,261 | 5,029,196 | 52.7% |
| New Mexico | 1,515,069 | 1,819,046 | 2,059,179 | 35.9% |

Colorado has experienced the most significant population growth during these two decades as the state’s population has increased by over 50% since 1990. New Mexico (35.9%) and Wyoming (24.3%) have also experienced significant population growth during this time. This continued population boom not only changes land-use patterns, but these demographic shifts also affect state politics.

The region's natural resource abundance, political institutions, statutes promoting resource development, culture, and economic imperatives have enabled coal, oil, natural gas, and oil shale energy booms and busts. Limerick et al. (2003) argue the boom and bust regional economic cycle is connected to the development of the West's abundant natural resources and national oscillations in energy use and consumption.

Understanding how past energy development booms originated, failed, and affected regional politics provides insights for dealing with present and future booms.

Throughout development of the American West's energy mineral estate, coal, oil, and natural gas development have surged or declined relative to each other. International and domestic markets, technological innovations, federal and state policies, U.S. energy consumption, and land-use shifts are responsible for these fluctuations in energy mineral development dominance. Whereas coal dominated 19th and early 20th century mineral development, oil and natural gas development became increasingly important in the mid to late 20th century (Limerick et al. 2003). Prodigious coal reserves in expansive western geologic basins including the Powder River and San Juan Basins again became increasingly important for electricity generation, especially after the 1970s energy crisis.

As the Organization of Petroleum Exporting Countries (OPEC) drastically constrained oil supplies during the 1970s, politicians sought domestic energy development and production relief. The American West, replete with coal, oil, and natural gas, was targeted for development to combat high energy prices and an energy and population boom ensued. Regional population grew by nearly 40% in the 1970s, 11 coal-fired power plants were built on the Colorado Plateau, and energy boom towns like Gillette, Wyoming, and Rifle, Colorado, sprang to life with the influx of extractive

industry workers (Wilkinson 1999; Limerick et al. 2003; Travis 2007). Energy boom communities both benefited from and were stressed by this rapid development. The energy boom provided jobs, opportunities for working-class people, infrastructure buildup, improved services in rural areas, and vital local and state revenues. The 1970s and 1980s energy boom also created pernicious effects like pollution, traffic congestion, crime, drug abuse, housing shortages and affordability issues, health problems, local government fiscal stress, infrastructure overload, and cultural clashes between long-term residents and immigrating populations. As basic supply-and-demand economics forced OPEC to change strategies, energy costs fell precipitously causing an energy bust.

Even energy busts, exemplified by the 1980s federally subsidized and misguided oil shale development fiasco in western Colorado, did not slow regional population growth. Although Exxon and the Oil Shale Company spent nearly 2 years and \$5 billion to develop oil shale, no commercially and economically viable oil shale was ever produced (Limerick et al., 2003). Exxon pulled the oil shale plug on May 2, 1982 – or “Black Sunday” to Coloradoans. Colorado’s western slope communities of Grand Junction and Parachute, which grew exponentially during the boom, were decimated by unemployment, bankruptcies, and foreclosures. Energy boomtowns like these across the West, however, lost less than a quarter of their populations following similar busts (Travis 2007).

Western energy extraction has remained strong since the 1970s, and a review of production numbers for all of the fuel minerals shows a continued boom except for oil production, which has declined significantly. Western coal production increased from 630 million tons in 1978 to 1.1 billion tons in 2001 (Limerick et al. 2003; Travis 2007).

Domestic natural gas marketed production peaked around 22.6 trillion cubic feet (Tcf) in 1973, dropped gradually to a low of 16.9 Tcf in 1986, and has risen steadily since to 20.2 Tcf in 2007 (EIA 2010). To put these numbers in perspective, total U.S. natural gas consumption was 23 Tcf in 2007 with projected consumption expected to reach 33 Tcf by 2025 (EIA 2008; Curtis and Boland 2006).

Population and natural resource development booms have left an indelible mark on western politics and landscapes. Laws and regulations enabling these booms remain largely in place, but the efficacy of those policies is being questioned. While the bulk of this research explores how those natural gas policies are being questioned and framed during the recent boom, understanding the genesis and evolution of natural gas policy provides the necessary context for the present analysis. State and federal natural gas policies first developed in the early 20th century continue to promote the pro-development status quo and serve as a major control over future policy direction. In the following section I turn my attention to these historic natural gas laws.

Federal Natural Resource Statutes

Charles F. Wilkinson (1992) astutely observes that many natural resource laws passed during the late 19th and early 20th centuries effectively subsidized and facilitated resource development and colonization. These federal mineral estate statutes reflected the pervasive non-native political, economic, cultural, and expansionist values held regionally and nationally during the time of their formation.¹ The 1872 Mining Law, still in use and substantially unchanged, exemplified the aggressive federal opening of the

¹ For a probing revisionist history of the American West that explores U.S. imperialism, gender roles, race relations, Native American perspectives, natural resource exploitation, religion, language, art, and commercialization see William Cronon, George Miles, and Jay Gitlin, eds., *Under an Open Sky – Rethinking America’s Western Past* (W.W. Norton and Company: New York, 1992).

mineral estate to facilitate western economic growth and resource maximization. The 1902 Reclamation Act subsidized federal water projects including dams, irrigation networks, and water transportation infrastructure and remains instrumental in western population increases and agricultural development. The 1916 Stock Raising Homestead Act opened 640-acre public land parcels for homesteading and facilitated western migration and colonization. Cumulatively, these federal laws incentivized and enabled colonization and natural resource exploitation while leaving a distinct political institutional legacy.

Understanding the origins and design of the 1872 Mining Law provides an initial economic and institutional context for natural resource development, writ large, in the American West (Klyza 2001). Beginning with the California gold rush in 1848, a debate ensued regarding the disposition and control over the region's mineral estate. Should the federal government seize ownership or allow the extra-legal property rights system established by the mining community to remain intact? Should the federal government collect royalties or allow private interests unfettered profit? These debates culminated in the passage of the 1872 Mining Law.

Klyza (2001) argues that economic liberalism (i.e., minimal government involvement in the economy), a weak administrative state, the pre-existence of an extra-legal property rights system developed by miners, and the failure of the lead leasing program in the Midwest during the 1820s and 1830s strongly influenced the 1872 Mining Law's content. Simply, the 1872 Mining Law guaranteed a miner's right to access and claim mineral ownership on and beneath public lands. Unlike subsequent mineral estate legislation, the federal government to this day collects no severance taxes under the 1872 Mining Law.

As could be expected following the Mining Law's passage, public lands mineral claims and development skyrocketed. Originally, fuel minerals were included under the 1872 Mining Law's jurisdiction, and coal, oil, and natural gas were claimed and developed at elevated rates. Early 20th century conservationists criticized this wasteful and singular use of public lands enabled by the Mining Law. Presidents Theodore Roosevelt and William H. Taft, concerned that the federal government was losing control over and revenues from the mineral estate, withdrew nearly 150 million acres of public lands from development (Klyza 2001; Limerick et al. 2003; Humphries 2004). Congress followed suit by passing the Mineral Leasing Act (MLA) in 1920 that created a leasing and severance tax program for minerals, established separate regulatory structures for fuel mineral and metal mineral mining, and codified federal mineral ownership beneath public lands. The MLA placed subsurface fuel mineral resources, including oil, natural gas, and oil shale, within the federal estate and made these resources subject to federal control and leasing. The MLA created a regulatory framework where private corporations could lease coal, oil, and natural gas under public lands from the federal government and pay a 12.5% severance tax upon extraction of the fuel mineral. Although the MLA required a severance tax while the 1872 Mining Law did not, both federal statutes clarified how private entities could develop the mineral estate and encouraged that development wherever possible.

The 1872 Mining Law and 1920 Mineral Leasing Act regulated metal and fuel mineral development beneath public lands, but regulation of minerals beneath private lands also received legislative attention during this time period. Three federal statutes enabled the federal government to cede surface land ownership to individuals while

retaining subsurface mineral rights – a relationship defined as a split-estate.²

Bureaucratic implementation and judicial interpretation of these long-standing statutes place mineral estate rights as dominant relative to surface rights, much to the chagrin of surface owners and users. As Charles F. Wilkinson (1992, 61) writes:

“Pausing for a moment, one can envisage an entire residential subdivision on Stock-Raising Homestead Act lands. There are many such developments today, and more are being built. In come the prospectors, bearing not only their 1916 picks and shovels, but their modern day bulldozers and draglines.”

What must have seemed at the time a logical means to ensure federal ownership and revenue generation from the mineral estate is now one of the most politically contested issues in Rocky Mountain West natural gas politics. Unfortunately, well-intentioned policies often produce unintended consequences. Today, surface and mineral owners across the American West taste the split-estate’s bitter fruit planted by these statutes. In Wyoming, roughly 50% of the lands are split-estate (Humphries 2004), and with more than 60 million split-estate acres peppering the American West (Limerick et al. 2003), this political donnybrook spans the region. Exponential split-estate and public lands natural gas development squared against a western population boom and paradigmatic shifts from the “Old West” to the “New West” creates a perfect storm for political conflict.

Numerous federal statutes, relevant to public and private lands natural gas development, govern energy policy. Federal energy policy prior to the 1970s was geared toward industry-specific supporting policies. Oil and natural gas development supports

² These statutes include the Coal Lands Act of 1909, 30 U.S.C. 81; the Agricultural Entry Act of 1914, 30 U.S.C. 121-123; and the Stock-Raising Homestead Act of 1916, 43 U.S.C. 291-301. See Marc Humphries, *Oil and Gas Exploration and Development on Public Lands*, Congressional Research Service Report for Congress, March 26, 2004, for a more complete coverage of oil and gas leasing, restrictions, and resource potential on public lands.

included increased public lands leasing for development, tax subsidies for production, and protectionist oil import quotas (Joskow 2001). Following the 1970s energy crisis, the federal government passed a series of energy-related laws.³ Political rhetoric and rationale during that time called for U.S. energy policy that would reduce dependence on foreign oil, protect the U.S. economy, and provide for energy security.

During the 1980s there was a general paucity of energy-related federal statutes. Congress passed the Energy Policy Act in 1992 that placed fewer restrictions on oil and gas imports; promoted natural gas heating and cooling technologies; fundamentally altered the electric utility industry by facilitating a competitive market for wholesale electric power; and encouraged domestic natural gas development through technological innovation and funding (EPA 1992). The federal government became more active in energy and natural gas policy around the millennium. The Clinton administration valued public lands as an important source of domestic energy and the federal lands' energy production increased during the Clinton administration from 13% in 1992 to 25% of total domestic production in 1999 (Hayes 2001). Thus, increased natural gas production on federal lands showed that the Clinton administration did not “close off” the federal mineral estate to oil and gas development. Rather, when industry discovered that the Powder River Basin was a valuable source for coalbed methane (CBM), President Clinton pushed the Department of Interior's (DOI) Bureau of Land Management (BLM) to ramp up its permitting effort in the region. These efforts were eventually codified through the 2000 Energy Policy and Conservation Act (EPCA), which directed the

³ For an economic and historical discussion of energy-related statutes see Paul L. Joskow, *U.S. Energy Policy During the 1990s*, conference paper presented at the “American Economic Policy During the 1990s” sponsored by the J.F. Kennedy School of Government, Harvard University, June 27-30, 2001.

Secretaries of the Interior, Agriculture and Energy to conduct an inventory of oil and natural gas resources beneath onshore federal lands. It also directed these federal agencies to determine whether the public lands were open or closed to leasing and the degree of constraint on development resulting from lease stipulations. This statute resulted in two scientific inventories of oil and gas resources and identified any impediments to their development (U.S. Department of Interior, Agriculture, and Energy 2004, 2006). Thus, the 2000 EPCA identified impediments to oil and gas development on public lands and was a precursor to the decidedly pro-resource-development Energy Policy Act of 2005 (EPA 2005).

Congress passed and President George W. Bush signed into law the Energy Policy Act of 2005 (EPA 2005), which required the DOI and Department of Agriculture (DOA) to coordinate, streamline, and expeditiously review onshore oil and gas leasing and permitting practices. Subtitle F of the statute codified President Bush's Executive Order 13212, provided for continuing appropriations for the DOI and DOA to ease access to federal lands, and prompted the DOI to streamline and expedite the approval process for lease applications and for permits to drill. The act also resulted in a 2006 inventory report (DOI 2006) that comprehensively inventoried the proved and potential natural gas reserves in the Rocky Mountain West (among other areas). Although this lengthy statute (1,700 pages) covered an enormous amount of energy policy issues, the primary intent of Subtitle F was to foster development and remove impediments to onshore oil and gas resource development within public and split-estate lands. Clearly, the George W. Bush administration sought to aggressively develop domestic energy sources from the beginning, as evidenced by the Bush/Cheney National Energy Policy Development

Group in 2001 (NEPDG 2001), and the Energy Policy Act of 2005 was the culmination and codification of that preferred policy. These recent federal statutes controlling natural gas and oil development have effectively identified and removed many of the impediments to natural gas development on public lands.

Overall, federal natural gas policy, as evidenced in the previous statutory history, exhibits a pro-resource-development bias. Historic federal laws like the 1920 Mineral Leasing Act reflect the dominant resource extraction development paradigm typical of the “Old West.” While the 1920 MLA ensures federal mineral ownership, it simultaneously establishes a federal leasing and severance tax system applicable to natural gas development. It also lays the groundwork for the private development of the federal natural gas and oil estate and has effectively facilitated energy development. Federal natural gas statutes and presidential (i.e., administrative) policy following the 1970s has generally encouraged this resource development bias. What the 1920 MLA legislation started, the 2000 EPCA and 2005 EPA have aggressively continued – the comprehensive development of the natural gas and oil estates. Historic and recent federal natural gas statutes have enabled this present natural gas boom, but the states also play a vital role.

State Natural Gas Statutes

Western state natural gas statutes and regulations originate during and were commensurate with the “Old West” pro-natural-resource-development mantra. Throughout the development and colonization of the American West, states (and territories desiring to become states) benefited from the exploitation of natural resources, and state and federal political institutions were also designed to facilitate and maintain natural resource development. In this section, I explore these early natural gas

development laws in Wyoming, Colorado, and New Mexico. This section does not provide a comprehensive review of all historic state natural gas statutes and regulations. Rather, I explore the general tone of these early natural gas statutes, noting their development bias.

Wyoming, Colorado, and New Mexico created oil and gas conservation commissions and boards in the early-to-mid 20th century to facilitate energy development. According to Bryner (2002) these natural gas laws and regulatory agencies were enacted for three purposes: to prevent waste of the resources; to protect the opportunity for owners to share in oil and gas production; and to avoid drilling unnecessary wells. Although each state varied in the authority and regulatory jurisdiction provided to their respective oil and gas commissions, the development bias was pervasive.

Wyoming natural gas laws and regulations are extraordinarily supportive of the oil and gas industry. The Wyoming State Legislature has an extended history in dealing with natural resource issues and “controlling the waste” of those resources (Gifford 1982, 415). Prior to 1951, the state lacked a comprehensive statute dealing with natural gas issues, but the state legislature rectified that when it passed the Oil and Gas Conservation Act (Oil and Gas Act), whose primary purpose was to prevent the waste of natural gas. The original language reads as follows (Ch. 94 § 13(a)(1) [1951] Wyoming Session Laws 129):

“The waste of oil and gas or either of them in the State of Wyoming as in this act is hereby prohibited. . . (Waste is defined as) the escape, blowing or releasing, directly or indirectly, into the open air of gas from wells productive of gas only, or gas from well producing oil or both oil and gas; and the production of gas in quantities or in such manner as will unreasonably diminish the quantity of oil or gas that might ultimately be produced; excepting gas that is reasonably necessary in the drilling, completing, testing and producing of wells and gas unavoidably produced with oil if it is not economically feasible for the producer to save or use such gas.”

The definition of waste also included protection of aquifers from drilling contamination, prevention of the release of gas from wells except during drilling and testing, and penalties for non-conformance with well placement and density (Williams and Porter 1975). The Wyoming Oil and Gas Conservation Commission (WOGCC), established by this act as the primary oil and gas regulator, was given the responsibility to “prevent waste of natural gas.” The Oil and Gas Act gave the WOGCC authority to allocate production, require information from producers, regulate drilling, and make rules and regulations to implement the act (Wyoming Statute § 30-5-103(a-d)). In short, early natural gas legislation mandated the WOGCC to promote the production and conservation of natural gas in Wyoming. From the 1951 Act through all subsequent amendments, industry has worked with the state in crafting legislation. Williams and Porter (1975, 364) highlight this cozy industry and state government relationship.

“The 1951 Act was produced by a cooperative effort on the part of the oil and gas industry and the state government. It is apparent that an attempt was made to draft legislation which would be acceptable to both the industry and government. Since that time industry has participated to a large extent in the amendments of the original Act of 1951.”

The Oil and Gas Act has been amended over a dozen times, but the primary purpose of the act remains in place, and that is “to provide a comprehensive regulatory program which prevents the waste of Wyoming's oil and gas resources and protects the correlative rights of property owners” (Wyoming Statute § 30-5-102). Throughout its legislative history and amendments, industry has worked closely with the state legislature and the WOGCC to modify the act, and the law still maintains fidelity to its original pro-development, non-resource wasting, and mineral-owner-protecting mission.

The statutory command to develop natural gas resources in Colorado is consonant with neighboring state laws and with rules set forth by the Interstate Oil and Gas

Conservation Commission (formerly the Interstate Oil Conservation Commission). Mitchell (2010) provides a detailed historical analysis of Colorado oil and gas conservation law stretching back to 1860 and extending through the significant statutory changes of 2007. Colorado first addressed oil and gas conservation in 1915 and later created the Gas Conservation Commission in 1927 to prevent waste from oil and gas wells.⁴ Mitchell asserts that natural gas played a relatively minor economic role in Colorado until the 1930s when several areas in Colorado began producing gas. Prominent Denver attorney Warwick M. Downing set the foundation for Colorado's modern oil and gas conservation act. As a leader in the Oil State Advisory Committee, Downing pushed for public rather than private enforcement of existing oil and gas conservation laws and for state rather than federal control. Eventually these efforts were successful and Downing helped establish the Interstate Oil Conservation Commission (IOGCC) in 1939 with the goal of "prevention of physical waste . . . to promote . . . the maximum ultimate recovery of oil and gas" (Mitchell 2010). Colorado signed the interstate compact and followed with its own Oil and Gas Conservation Act in 1951 – with considerable support and political maneuvering by Downing.

Statutory language in the 1951 Colorado Oil and Gas Conservation Act is unequivocal in its promotion of natural gas and oil development. The act, which also establishes the Colorado Oil and Gas Conservation Commission (COGCC), argues in the first substantive section that (Colorado Statute § 34-60.102):

"It is declared to be in the public interest to foster, encourage, and promote the development production, and utilization of the natural resources of oil and gas in the state of Colorado in a manner consistent with protection of public health, safety, and welfare; to protect the public

⁴ See Act of Apr. 13, 1915, ch. 126, § 29, 1915 Colo. Sess. Laws 374 (prohibiting the escape of oil or gas into the air). See Act of Apr. 1, 1927, ch. 138, 1927 Colo. Sess. Laws 525-27.

and private interests against the evils of waste in the production and utilization of oil and gas by prohibiting waste; to safeguard, protection, and enforce the coequal and correlative rights of owners and producers in a common source or pool of oil and gas may obtain a just and equitable share of production therefrom.”

Mitchell (2010) completes his analysis by asserting that Colorado Oil and Gas Conservation Act amendments closely follow the 1949 IOGCC Conservation Model Act and its subsequent amendments even through recent times. A 1955 amendment strengthened COGCC regulatory authority and the numerous subsequent amendments maintain the original pro-development and conservation intent. The 1994 amendments to Colorado’s Oil and Gas Conservation Act call for protection of public health, safety, and welfare (see previous quote), but the resource development mandate remains central to the statute and COGCC policy implementation.

Finally, New Mexico has been producing oil and gas since the early 20th century with most production coming from the San Juan Basin in the northwest and the Permian Basin in the southeast (EMNRD 2001). In 1925 the New Mexico state legislature began regulating the production, leasing, recording, and forfeiture of rights relating to natural gas development (New Mexico Statutes 1925, Ch. 70, § ARTICLE 1-1 through 1-5). Following this initial regulation, the legislature established the New Mexico Oil Conservation Commission with the goal of promoting the production of oil and gas while minimizing waste. The 1949 New Mexico Oil and Gas Act, similar to Colorado’s and Wyoming’s Gas Acts, prohibits wasting of the natural gas resource. The 1949 Oil and Gas Act states:

“The production or handling of crude petroleum oil or natural gas of any type or in any form, or the handling of products thereof, in such manner or under such conditions or in such amounts as to constitute or result in waste is each hereby prohibited.”

The 1978 amendments to the Oil and Gas Act (Sections 70-2-1 through 70-2-38 NMSA 1978) grants the Oil Conservation Division the following authority.

“(The) jurisdiction and authority over all matters relating to the conservation of oil and gas, the prevention of waste of oil and gas and of potash as a result of oil and gas operations, the protection of correlative rights, and the disposition of wastes resulting from oil and gas operations.”

The New Mexico Oil and Gas Act has evolved since oil and gas was first developed in the state, but despite numerous amendments it retains the original intent of the statute. Consonant with historic Wyoming and Colorado state natural gas statutes, New Mexico law actively promotes natural gas development and prohibits wasting of the resource within the state.

Political institutions created during this era have proven extraordinarily resistant to change. The stubbornness of the status quo, born from historic pro-resource-development laws, serves as an impediment to substantive state natural gas policy change. Although these early state laws unequivocally promote natural gas development, the present natural gas development boom has spurred many challenges to these statutes. Recent regional demographic, economic, and political diversification has been accompanied by calls for different uses of western public and private lands. Vociferous and politically active resource development critics argue state law and oil and gas regulatory commissions consistently favor natural gas production over environmental protection, public health, ecosystem, and other land uses. These new demands conflict with historic natural gas development laws and fuel this heated political conflict. In the following section I elaborate on the technical, economic, and policy context behind this increasingly contentious natural gas political conflict.

The Rocky Mountain West Natural Gas Boom

The Policy Context

Past researchers have separated federal and state energy policy into five or six distinct policy areas dealing with individual sources of energy (Katz 1984; Rosenbaum 1989; Davis 1993; Eisner et al. 2000). Natural gas policy shares the high technical complexity, generally low public salience, and historic subgovernment designation of other energy policy areas such as coal and oil (Eisner et al. 2000). A subgovernment (i.e., policy monopoly or iron triangle) is a relatively small, stable set of actors that include bureaucratic agency administrators, legislators, and interest groups who share policy goals, desire low media visibility, dominate policy, and receive exclusive benefits from this relationship (Cater 1964; Freeman 1965). The past dominance of subgovernments within energy policy has eroded in many of the distinct policy areas, but policy monopoly remnants remain, especially in federal natural gas policy (Forbis 2010). Subgovernments controlled public policy in mining, grazing, energy, and logging for over a century and held in place an “antique economy anchored by the federal land base of the West” (Baden 1997).

Forbis effectively chronicles the replacement of the grazing subgovernment on public lands by a new energy-dominated policy monopoly. At the federal level, the natural gas/energy subgovernment, especially relating to public lands issues, is thriving. However, ever-increasing political opposition to this natural gas boom threatens natural gas subgovernment stability at the state and, to a lesser degree, federal levels (Duffy 2005, 2008; Kear 2006, 2008; Forbis 2010). Arguably, Rocky Mountain West unconventional natural gas development is the fastest growing aspect of western natural

gas policy. Kear (2006, 2008) and Duffy (2005, 2008) show that natural gas policy conflicts are increasingly salient drivers of natural gas policy at the state level.

Natural gas development in the western U.S. is contentious, complex and unique. Conflicts encompass gas ownership and severed rights, water disposal and use rights, overlapping regulatory jurisdictions, environmental law implementation, environmental problems, public land multiple-use mandates, and tribal land development. Recently, a significant conflict has arisen over natural gas development on split-estate private lands and public lands because resource development lowers property values, degrades stream water quality, negatively impacts grazing/farming operations, degrades wildlife habitat, dewater aquifers used for drinking water, creates methane seeps into homes and groundwater, causes underground coal fires, kills vegetation, increases air pollution, and potentially contaminates both soil and surface water. Thus, development of natural gas conflicts with ranching and farming, creates deleterious environmental impacts, and potentially threatens communities reliant on tourism. As a result, unconventional coalitions of environmentalists, ranchers, property rights advocates, outfitters, renewable energy activists, and county commissioners have mobilized to fight for rights they feel are being trampled by the rapid expansion and negative effects of unconventional natural gas development.

Duffy (2005) concludes that natural gas development opponents are seeking to “expand the scope of the conflict” (Schattschneider 1960) to mobilize new actors and change policy through a “wave of criticism.” Natural gas development opponents are attempting to unlock the subgovernment’s pro-development status quo by redefining the issues. Specifically, opponents are attempting to redefine the issues by “highlighting

environmental problems and (raising) questions about property rights in order to attract the attention of actors in new institutional venues” (Duffy 2005, 440). Conversely, development proponents argue that natural gas is a cleaner-burning fossil fuel, it is available and abundant domestically, resource development creates jobs and revenues, natural gas is the segue fuel to renewable energy, and the U.S. needs domestic natural gas production to meet our energy demands. Duffy argues that as opponents redefine policy issues using negative images, they are simultaneously expanding the number of institutional actors involved and altering those institutions.

The Technical Context

Natural gas, comprised mostly of methane (CH₄), is a naturally occurring hydrocarbon that is developed and used for a variety of purposes ranging from electricity generation to home heating to manufacturing. The U.S. Geological Survey (USGS) defines natural gas deposits as either conventional or continuous (i.e., unconventional). Conventional natural gas deposits are defined as follows (DOI 2006, 228):

“Conventional oil and gas accumulations are defined as discrete fields with well-defined hydrocarbon-water contacts, where the hydrocarbons are buoyant on a column of water. Conventional accumulations commonly have relatively high matrix permeabilities, have obvious seals and traps, and have high recovery factors.”

Conventional natural gas deposits have provided most of the natural gas produced within the U.S. until recent technological innovations including hydraulic fracturing, rising natural gas prices, and tax incentives enabled the development of unconventional natural gas (Bryner 2002). Unconventional natural gas development is responsible for the present Rocky Mountain West natural gas boom. The U.S. Geological Survey (USGS) defines continuous or unconventional natural gas deposits in the following manner (DOI 2006, 228).

“Continuous accumulations (also called unconventional accumulations) are commonly

regional in extent, have diffuse boundaries, and are not buoyant on a column of water. Continuous accumulations have very low matrix permeabilities, do not have obvious seals and traps, are in close proximity to source rocks, are abnormally pressured, and have low recovery factors. The resource potential of these accumulations may be greater than that for conventional accumulations in the U.S. Included in the category of continuous accumulations are hydrocarbons that occur in tight reservoirs, shale reservoirs, unconventional reservoirs, basin-centered reservoirs, fractured reservoirs, coal beds, and oil shales.”

Geologists also classify natural gas deposits according to the quantity of reserves they contain or might contain. Curtis and Boland (2006, 506) assert “there is no universal consensus on how to categorize natural gas resources.” However, two major natural gas assessment programs in the United States, the Potential Gas Committee (PGC, a private entity) and the USGS (a public entity), provide the most reliable and scientifically defensible estimates of U.S. natural gas reserves. The PGC and USGS classify natural gas reserves as proved, probable, possible, and speculative.⁵ Importantly, natural gas reserve calculations include geologic and economic data but exclude political, social, environmental, and infrastructure costs.

Proved reserves are the most strictly defined and less politically contested natural gas numbers and are the numbers included in this research. The PGC, USGS, and Department of Energy’s (DOE) Energy Information Administration (EIA) generally agree on the definition of a proved reserve. PGC defines proved reserves as “the quantity

⁵ Curtis and Boland (2006, 508) classify proved reserves in a separate category from the probable, possible, and speculative resources. Curtis and Boland (2006, 508) state that, “Assessments of the recoverable gas resource, as prepared by the Potential Gas Committee and the United States Geological Survey – Minerals Management Division, incorporate geological, technological, and economic factors. The estimates do not take into account the environmental, infrastructural, social, or political constraints that may operate at the surface above a gas accumulation at any given time, nor do they consider the financial, legal, or technical capacity of the entity that holds the rights to extract the gas.” Curtis and Boland further (2006, 509) acknowledge that “natural gas resource assessments are not a purely scientific construct with the exception of the somewhat abstract concept of the total (in-place) resource, gas resource estimates include natural, social, and cultural concepts, and they frequently incorporate judgments based on the personal experience and knowledge of the assessor.”

of natural gas that is estimated, with reasonable certainty, to be recoverable in the future from known gas reservoirs under existing economic and operating conditions” (Curtis and Boland 2006, 507). Proved reserve calculations are regulated tightly by the Securities and Exchange Commission (SEC) and they are the most important, financially speaking, because they are a “bankable asset” included in corporate financial statements (Curtis and Boland 2006, 508).

There is considerable controversy surrounding the calculation of potential natural gas resources (probable, possible, and speculative). These potential resources are defined as “gas (that) is potentially recoverable in the future under assumed technological and/or economic conditions. The potential gas resource is much less certain than proved reserves, and the degree of uncertainty increases from the probable through the speculative category” (Curtis and Boland 2006, 508). Because of this uncertainty, there is much debate over how much natural gas in the Rocky Mountain West and the U.S. is actually recoverable.

To further complicate matters, status-quo-supporting and -challenging groups discuss potential natural gas resources in relation to their technical and economic feasibility. Industry and its challengers fiercely contest the technically and economically potentially recoverable natural gas resource numbers. Not only is the definition of “technically recoverable” disputed, development challengers counter that the exploration, production, infrastructure, transportation, and environmental impacts are not factored into technically recoverable resource estimates (RAND 2002).⁶ Also, technically and economically

⁶ RAND (2002, xi-xii) frames this debate as follows: “Technically recoverable resource assessments, by design, make no assumptions about whether or not the resource will be developed, and resources are evaluated regardless of political, economic or other

recoverable resource numbers are dynamic and change in response to increased knowledge of the in-place resource, technological innovations, economic conditions, prices, markets, and regulations (DOI 2006). While competing interest groups differ widely in their estimates of potential natural gas resources, even private and public scientifically based organizations like the PGC and USGS differ in their resource estimates.⁷ In short, the technical complexity surrounding natural gas resource estimates is problematic even among the geological experts.

Unconventional Natural Gas Boom

The Rocky Mountain West natural gas boom that began in the late 1980s and early 1990s is driven largely by unconventional natural gas development. Figure 1.1 presents Wyoming, Colorado, and New Mexico natural gas marketed production volumes from 1967 through 2008. Note the dramatic rise in natural gas production volumes for all three states beginning in the late 1980s and early 1990s. Total production in all three states rose significantly from 1.269 Tcf in 1986 to 5.11 Tcf in 2008 (EIA 2009). This rapid natural gas production increase is indicative of another boom. For example, the San Juan and Powder River Basins are producing massive quantities of unconventional CBM,

considerations. The distinction between the technically recoverable resource and that which is likely to be actually produced is important when confronting questions about the potential benefits and impacts of increased natural gas and oil exploration and production. The criterion that a resource be technically recoverable is only one of several factors that are relevant to determining if that resource is, in fact, recoverable. Legal access restrictions may not always be the pivotal factor for actual resource development, because other factors may play greater roles in determining if a resource is recoverable. Three key factors are: exploration and production costs; infrastructure and transportation costs; and environmental impacts”.

⁷ Curtis and Boland (2006, 512) explain that the overall assessments of total recoverable resources for the U.S. “are comparable (1,119 Tcf by the PGC vs. 1,431 Tcf by the USGS–MMS), but differ significantly in the classification and distribution of those resources.”

while tight sands natural gas production in western Colorado's Piceance Basin has also driven the boom. Historically, the San Juan Basin has been the most prolific natural gas producing basin in the U.S., and it continues to provide nearly two-thirds of all the natural gas produced in New Mexico (EMNRD 2003, 2008).

Between 1998 and 2008, natural gas production in Colorado doubled from 696 billion cubic feet (Bcf) to 1.39 Tcf (Figure 1.1; EIA 2009). This significant rise in production has been accompanied by an increase in Colorado's total proved natural gas reserves from 8.21 Tcf in 1998 to 23.3 Tcf in 2008 (EIA 2009). Colorado accounted for 9% (21.8 Tcf) of total U.S. proved gas reserves in 2007 and these numbers are increasing as existing plays and new discoveries are developed (Colorado Geological Survey 2007; EIA 2009). Not only are Colorado's proved reserve numbers expanding, but also new discoveries in existing fields have exceeded 1 Tcf per year beginning in 2006 (EIA 2009).

In Wyoming, natural gas production has also boomed thanks in large part to conventional gas development near Pinedale and unconventional development within the Powder River Basin. Between 1998 and 2008, Wyoming natural gas production more than doubled from 903 Bcf to 2.27 Tcf (Figure 1.1; EIA 2009). Like Colorado, Wyoming natural gas proved reserves rose during this time from 14.37 Tcf in 1998 to 31.1 Tcf in 2008. Again, these production and proven reserve numbers clearly show a natural gas boom.

New Mexico natural gas production between 1998 and 2008 remains fairly constant hovering around 1.5 Tcf for the entire decade. New Mexico's boom actually began around 1987 when production rose dramatically from 823 Bcf to over 1.5 Tcf in the mid

1990s (Figure 1.1; EIA 2009). New Mexico's proven reserves rose slightly from 14.9 Tcf in 1998 to 16.3 Tcf in 2008. Although New Mexico did not show the dramatic production increases like its northern neighbors during this decade (1998-2008), the extraordinarily high production numbers and consistent proven reserves indicate that a boom is still in progress.

In 2007, the U.S. experienced a record high in additions to natural gas proved reserves (46.1 Tcf) and the 237 Tcf of total proved reserves was the highest in 30 years since the EIA first published natural gas reserve estimates (EIA 2009). These significant reserve additions reflect the rapid development and importance of unconventional natural gas resources including CBM and low-permeability formations (shale and tight sandstones) that require advanced technologies like hydraulic fracturing to develop. Colorado contains an abundance of these unconventional natural gas resources, and the rapid escalation in proved reserves and production is a direct result. According to the EIA (2009), total U.S. proved reserves and production volume increases are due primarily to development of these unconventional resources in Colorado, Wyoming, New Mexico, Oklahoma, and Texas.

Similarly, state-level natural gas well permitting data also provide evidence of a boom. Figure 1.2 shows Wyoming, Colorado, and New Mexico natural gas approved permits to drill (APDs) from 1998 through 2008 (WOGCC 2010; COGCC 2010; EMNRD 2010). Wyoming and Colorado have increased their natural gas permitting efforts considerably throughout the decade while New Mexico exhibits a more moderate rise. For example, Colorado APDs rise from 1,157 in 1998 to 8,027 in 2008 (COGCC 2010). Similarly, Wyoming APDs begin at 2,448 in 1998, peak at 10,514 in 2001, and

level off at 7,941 in 2008 (WOGCC 2010). Natural gas production and concomitant permitting increases provide solid evidence of a natural gas boom within the three states.

The Economic Imperative

Wyoming, Colorado, and New Mexico continue to reap the economic benefits from this natural gas boom. According to the Wyoming State Auditor, mineral revenues in 2008 were the most significant contributor to the state's general fund (Meyer 2009). In fact, the State Auditor asserted "it is well known that Wyoming's economic well-being continues to depend primarily on the mineral industry. Wyoming's economy is the least diversified of the 50 states" (Meyer 2009, 3). In 2005, the natural gas industry provided over 18,000 jobs, produced more than \$1 billion in severance and property taxes, and provided another \$978 million to the state from natural gas leases (Rockies Energy Workforce 2011). Wyoming relies even more heavily on the natural gas industry to fill its general fund than Colorado and New Mexico. In fact, the state would literally be bankrupt without natural resource revenues. Thus, the natural gas economic imperative in Wyoming is the strongest out of all the states in this study. During previous boom times, oil and gas revenues contributed up to 87% of the New Mexico general fund, while contributions to the general fund during this study range between 20% and 30% (Christiansen 1989; EMNRD 1999, 2008). In 2008, the oil and gas industry contributed \$1.25 billion or 21% of total revenues to New Mexico's general fund. Oil and natural gas revenues remain important to New Mexico's state budget, but they are not the primary revenue source like the extractive industries are in Wyoming. Thus, New Mexico falls between Colorado and Wyoming in terms of overall economic diversity and contributions oil and gas make to the state's general fund.

Colorado serves as a good example of the economic importance of natural gas to the state's general fund and overall economy. With the part of the top onshore natural gas play in the U.S. (San Juan Basin), the highest CBM proved reserves, 9% of total proved U.S. reserves, 7% of total U.S. production, and new discoveries adding to state production numbers, Colorado is one the top natural gas producers in the U.S. Colorado's natural gas boom is also an economic driver and important source of funding for local governments, education, and other state programs. The Colorado Geological Survey estimates that total natural gas production values have grown from around \$3 billion in 1997 to \$7.2 billion in 2007 (Colorado Geological Survey 2007). State, local, and federal governments benefit from natural gas development in the form of federal mineral lease revenues, state severance taxes, state mineral royalties and rents, and county property taxes. Natural gas revenues fluctuate not only based on yearly production but also because natural gas is a commodity subject to fluctuating market prices.

Severance taxes are state taxes collected on the production of commodities such as natural gas, coal, and oil. Oil and gas state severance tax revenues ballooned from nearly \$20 million in 1997 to \$200 million in 2006.⁸ Similarly, Colorado's share of federal oil and gas lease revenues has increased from nearly \$30 million in 1997 to \$71 million in 2007 and are distributed among local governments, education, and other state-designated programs. While federal oil and gas lease revenues and state severance taxes dipped

⁸ Colorado Geological Survey reports the state severance tax revenue, property taxes, State Land Board Revenues, and county property taxes based on information from the Colorado Department of Local Affairs. See Colorado Geological Survey Information Series 75 (2006) and 77 (2007) for a more detailed natural gas industry economic analysis.

slightly between 2006 and 2007, the combined revenues still exceeded \$196 million (Colorado State Geological Survey 2007; Colorado Department of Local Affairs 2009). Property taxes paid to the counties from oil and gas energy development rose from around \$70 million in 1997 to over \$320 million in 2007.⁹ Finally, Colorado State Land Board mineral royalties and rents rose from \$7 million in 1997 to just above \$30 million in 2007 (Colorado State Geological Survey 2007).

State, local, and federal revenues and employment numbers show that natural gas development provides a significant economic benefit to Colorado. The Colorado Department of Labor and Employment tracks mining and oil and gas employment activities and reports these numbers annually. Although mining and oil and gas jobs are included together, these industries employed around 14,000 people in 1997 and 22,200 in 2007 (Colorado Geological Survey 2007). Oil and gas extraction and support activities account for nearly two-thirds of the 2007 totals (roughly 14,800 jobs) (Colorado Geological Survey 2007). According to the Colorado Department of Labor and Employment, wages for oil and gas workers rank very high in the state, with the average annual wage for oil, gas, and mining industry workers at \$85,000 in 2007 (Colorado Department of Labor and Employment 2009). Oil, gas, and mining employment numbers and wages have shown a marked increase from 1997 through 2008 with wages rising from around \$50,000 to \$85,000 and total workers increasing from nearly 17,000 to over 22,000 (Colorado Department of Labor and Employment 2009).

As evidenced by the Colorado case, the natural gas boom continues to provide substantial economic benefits to state coffers and the state's overall economy. The

⁹ Property tax revenues are generally two years behind the production year. See Colorado Geological Survey Information Series 77 (2007) for further analysis.

economic benefits that these three states enjoy from natural gas development are a vital source of revenue for their general funds. Wyoming's dependence on natural gas and natural resource funds is the most extreme – as the state could not function without the money. New Mexico and Colorado also rely on natural-gas-related revenues to support state services but are not solely dependent upon them like Wyoming. However, natural gas revenues remain extraordinarily important to each state, and the laws and regulations reflect this economic reliance.

Chapter Outline

In this introductory chapter, I provide an historical context of federal and state natural gas policy looking broadly at the American West and specifically at the Rocky Mountain West. Natural resource exploitation is an historically dominant national and regional paradigm with strong cultural, economic, and political supports. The economic benefits resulting from natural gas development play a huge role in the construction of natural gas policies and serve as the dominant historical frame. Federal and state laws and regulatory agencies exhibit an entrenched bias enabling the pro-development status quo. As the Rocky Mountain West unconventional natural gas boom progresses, unconventional coalitions are challenging the pro-development status quo and working to change state-level policy. These challenges represent, in part, struggles between the “Old West” and “New West,” while simultaneously representing deeper value debates over the environment, land-use, and basic democratic principles. Natural gas policy value debates, played out at the local, state, and federal levels, demonstrate heightened political salience, visibility, and conflict over policy direction. Throughout the remaining chapters, I will explore these value debates, their political expression, and policy effects at the state-level using Narrative Policy and Framing Analysis (NPA) (McBeth and

Shanahan 2004; McBeth, Shanahan, and Jones 2005; McBeth, Shanahan, Arnell, and Hathaway 2007; McBeth, Shanahan, Hathaway, Tigert, and Sampson 2010; Jones and McBeth 2010).

In Chapter II, I detail the theoretical concepts supporting NPA and explain the methods used in my state-level natural gas policy framing analysis. In this comparative case study, I empirically measure and analyze how competing interest groups frame natural gas development issues in Wyoming, Colorado, and New Mexico during the recent boom. Interest groups, while constrained by existing laws and regulations, also work to affect present and future policy direction. NPA scholars have argued that interest group framing efforts are important to policy change and/or stasis. However, the theory fails to link interest group framing with policy change. I develop an institutional measure of framing that also serves as an indicator of policy change. I assert that state legislatures create unique and measureable frames that are substantively different but correlated with interest group framing efforts. By using longitudinal policy framing analysis and developing a new institutional measure of framing, I further our understanding of the relationship among interest groups and political institutions with respect to policy making and change. In Chapters III through V, I present the empirical results gleaned from my framing analysis for the Colorado, Wyoming, and New Mexico cases. In Chapter VI, I compare framing results across the three cases, provide answers to the hypotheses outlined in Chapter II, evaluate reframing, and discuss policy diffusion. Finally, in Chapter VII, I draw broader conclusions about the correlative relationship between interest group and state legislative framing and how framing relates to policy change. I conclude this study by providing questions and routes for future study.

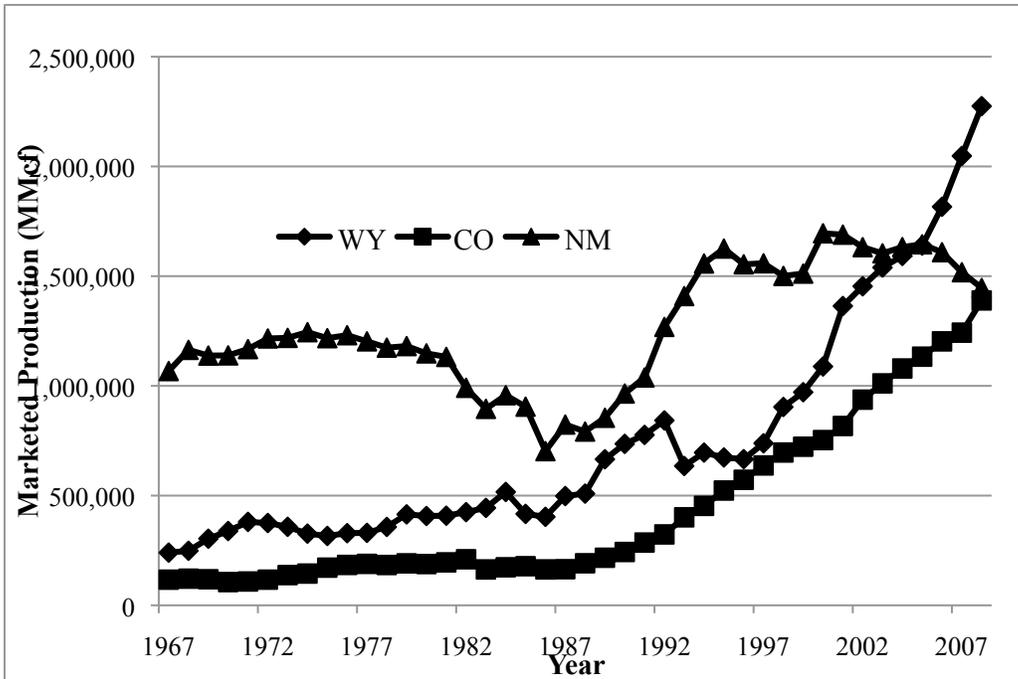


Figure 1.1: Natural Gas Production – Wyoming, Colorado, and New Mexico

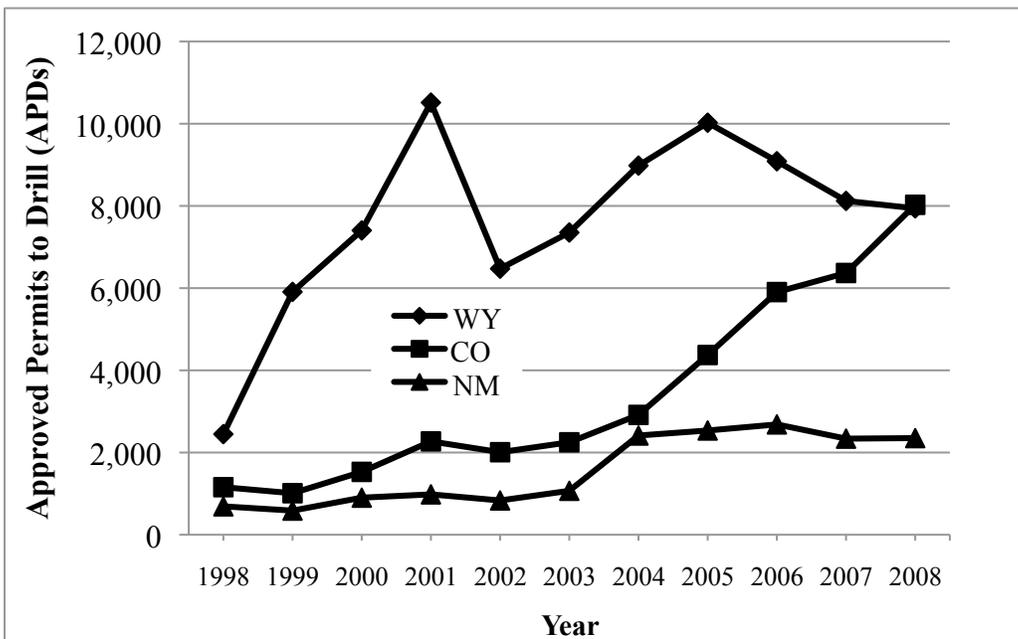


Figure 1.2: Natural Gas Approved Permits to Drill (1998-2008) – Wyoming, Colorado, and New Mexico

Chapter II

Policy Theory and Research Design

Introduction

This research explores how the framing efforts of competing interest groups and Wyoming, Colorado, and New Mexico state legislatures correlate over time. Through textual analysis, I will measure how frames are expressed in policy during the Rocky Mountain West natural gas boom in the late 1990s and early 2000s. Competing interest groups and state legislatures produce frames that are measurably different, and this research highlights those differences. Throughout this research I employ framing analysis to answer the following central questions: What is the relationship between competing interest group framing efforts? What is the relationship between interest group and state legislative framing? Can measures of interest group attention and state legislative agenda attention serve as indicators of policy activity and change?

Recently, policy scholars have used narrative policy analysis (NPA) as a methodological and theoretical approach to explain the relationships among interest group framing strategies, policy conflict expansion or containment, and policy change (McBeth and Shanahan 2004; McBeth, Shanahan, and Jones 2005; McBeth, Shanahan, Arnell, and Hathaway 2007; McBeth, Shanahan, Hathaway, Tigert, and Sampson 2010; Jones and McBeth 2010). In this research, I use many of the basic tenets from this theoretical perspective, verify and expand upon its utility, and make several methodological additions. In the next section, I elaborate on the strengths and

weaknesses of the problem definition, agenda setting, and narrative policy literature as it relates to this research. Following this literature review, I outline my research questions and hypotheses and provide a detailed explanation of the methods and design for this natural gas policy framing study.

Literature Review

Problem Definition and Agenda Setting

The problem definition and agenda setting policy literature ask how, why, and in what form are some societal problems included in the institutional or public agenda, while alternative issues and supporting frames are excluded. Schattschneider (1960, 66) argues “the definition of alternatives is the supreme instrument of power.” Leech et al. (2002, 277) describe problem definition as “the way people conceptualize a policy issue” and view it as a competitive and evolving process. Riker (1996, 9) parsimoniously describes framing as “structuring the world so you can win.” Problem definitions are inherently social constructions, with cultural values, ideologies, ideas, and political socialization all contributing to how we define problems (Fischer and Forrester 1993; Bosso 1994; Rochefort and Cobb 1994; Benford and Snow 2000; and Stone 2002). In this study, I use the terms problem definition, issue definition, and framing interchangeably, consistent with previous policy scholars’ usage (Baumgartner and Jones 1993; Rochefort and Cobb 1994; Bosso 1994; Kingdon 1995; Portz 1996; Stone 2002).

Benford and Snow (2000, 614) define framing as “an active, processual phenomenon that implies agency and contention at the level of reality construction.” Although Benford and Snow employ a larger unit of analysis (social movements) than my research, their conceptualization of framing is instructive. Framing is active in that the work being done is dynamic and evolving. Actors have agency and it is their work that is evolving.

Also, the framing process is contentious because actors are promoting different policy goals through their respective framing efforts (Benford and Snow 2000). Frames contain unique understandings of a problem and either explicitly or implicitly offer solutions to that particular problem. Frames provide causal explanations and fix responsibility that in turn limits the content and breadth of solutions the public and policy makers view as viable (Stone 2002). A primary goal of framing is not only to express one's beliefs and articulate a rhetorical strategy but also to have those frames and attendant solutions expressed in policy. Frame institutionalization leads to preferred policies and outcomes for the framer. If a policy issue is successfully redefined within the political institutions, this redefinition may lead to policy change. Alternatively, framing efforts may support the status quo and effectively inhibit issue redefinition and policy change.

How groups define and redefine a particular issue is one key to understanding their political strategy and an important factor in explaining agenda setting (Rochefort and Cobb 1994; Kingdon 1995; McBeth, Shanahan, and Jones 2005; Pralle 2006; McBeth et al. 2007; McBeth et al. 2010). Agenda setting is a competitive, complex, political process, and it focuses on the question of how issues achieve institutional attention by government in order to be acted upon. Elder and Cobb (1983) distinguish between the systemic or popular agenda (i.e., the universe of potential issues) versus the institutional or public agenda. Notably, problem definition occurs throughout all 'stages' of the policy cycle and is integral to agenda setting. Baumgartner and Jones elaborate on the connection between framing and agenda setting (1993, 12 and 16):

“Issue definition and agenda-setting are related, because changes in issue definition can often lead to the appearance of an issue on the public agenda . . . issue definition is the driving force in both stability and instability primarily because issue definition has the potential for mobilizing the previously disinterested. The structure of political institutions offers more or fewer arenas for raising new issues or redefining old ones – opportunities to change

understandings of political conflict. Issue definition and institutional control combine to make possible the alternation between stability and rapid change that characterizes political systems.”

Framing can transform a previously unnoticed issue into a public policy concern, and successful reframing may allow policy challengers to catapult their frame onto the institutional agenda. Successful issue redefinition within one of the many U.S. political institutions can lead to dramatic policy change.

Language is the vehicle for employing symbols that lend legitimacy to one definition and undermine another. If one can attach a dominant and popular cultural symbol to their problem definition, that definition has a better chance of influencing status quo frames within the institutional agenda. While Edelman (1964), Elder and Cobb (1983), and Stone (2002) concur that symbolic representation is an essential component of framing, Stone furthers this thinking by highlighting how political actors deliberately use language through causal stories to promote their desired course of action. This strategic representation of actors’ beliefs through causal stories is a highly contested process that simultaneously highlights and minimizes certain aspects of an issue (Schon and Rein 1994; Stone 2002). Winning the causal story and framing battle is imperative to policy success.

The definition and redefinition of issues affects the scope of the conflict, potentially mobilizes the previously disinterested, helps people shape perceptions of their interests, highlights what they have to gain or lose, and determines policy winners and losers (Schattschneider 1960; Majone 1988; Hall 1993; Baumgartner and Jones 1993; Benford and Snow 2000; Stone 2002; McBeth et al., 2007). Pralle asserts that, “issue expansion and containment strategies are part of the larger battle over problem definition” (Rochefort and Cobb 1994; Kingdon 1995; Pralle 2006, 17). In his seminal work on

reframing, Riker (1986) argues that policy makers and advocates regularly and strategically reframe issues in an attempt to structure the debate, which is instrumental in producing the preferred political and policy outcomes. Baumgartner et al. (2009) concur that strategic attempts at reframing are common but disagree with Riker's (1986; 1996) conclusions that strategic reframing is usually successful. In the following natural gas case studies, I engage this debate over the relative success of strategic policy reframing efforts.

Baumgartner and Jones (1993), building on the work of Anthony Downs (1972) and E.E. Schattschneider (1960), argue that there are two types of political mobilizations. Actors may be mobilized during waves of enthusiasm or waves of criticism. Political mobilizations driven by waves enthusiasm engender policy monopolies characterized by positive definitions of policy issues, policy containment strategies, and no organized opposition (Baumgartner and Jones 1993). Policy monopoly actors (policy winners) typically structure the political environment by constructing laws, regulations, and institutions that favor subsystem actors and their policy preferences. Status quo supporting frames become institutionalized and policy outcomes are generally stable and enduring.

Waves of criticism (i.e., conflict expansion) undermine policy monopolies through negative problem definitions and attacks on status quo policies. Previously excluded actors (policy losers) employ conflict expansion strategies by redefining policy issues and emphasizing the harmful outcomes of status quo policies. Existing political institutions, policies, and procedures that enable status quo dominance are criticized heavily. More interest groups and actors mobilize, different political institutions become involved, and

the policy monopoly is destabilized. Therefore, subsystem stability is tenuous and depends upon existing political institutional structures and how subsystem actors define the issues. Effective redefinition of policy issues or changes in existing political institutions can lead to substantive policy change (Baumgartner and Jones 1993).

This literature draws causal, correlative, and inferential connections between framing and agenda setting by examining actor resources; their level of involvement; problem characteristics (complexity, visibility, viability); problem tone and image; status quo challenging and supporting frames; and the strategic use of causal stories and symbols (Schattschneider 1960; Edelman 1964; Baumgartner and Jones 1993; Rochefort and Cobb 1994; Cobb and Ross 1997; Portz 1997; Stone 2002; McBeth et al. 2007; Baumgartner et al. 2009). Although the problem definition and agenda setting literature asserts that actor framing is important in political conflicts, it is divided on whether policy framing causes policy change and if framing can be used to measure such change. Policy scholars who believe that narratives and frames are both measures and causes of policy change still lack well-developed empirical measures and tests of these relationships. NPA scholars have partially bridged that theoretical and methodological gap by using a mixed methods approach to link NPA and policy change theory (McBeth et al. 2007). In this next section, I explore the fundamentals of NPA and elaborate on my contributions to this policy literature.

Narrative Policy Analysis and Framing

The study of narratives originates in literary theory but has been examined by a variety of disciplines, including the policy sciences. Literary theorists who study narratives are often separated into two epistemological camps: the structuralists and poststructuralists. These camps correspond to positivism and postpositivism in policy

studies, respectively. Structuralists analyze language and discourse as articulated through texts and seek to develop generalizable narratives across different contexts and cases (McQuillen 2000; Huisman 2005; Herman 2009; Jones and McBeth 2010). Structuralist epistemology is commonly paired with positivist methodology that employs deductive reasoning, hypothesis generation and testing, and scientific and quantitative methods in order to make predictions and generalizations (Jones and McBeth 2010).

Poststructuralists assert that reality is highly subjective, value laden, and socially constructed. Each person offers a unique interpretation of that reality, narratives cannot be universally categorized, and narratives should be deconstructed to find hidden meanings (Derrida 1981; Huisman 2005; Jones and McBeth 2010). Poststructuralist theory is supported by inductive, qualitative research methods that eschew hypothesis testing and spurn attempts at generalization that obfuscate the rich and unique underlying values coloring each person's reality (Fischer 2003).

Jones and McBeth (2010, 334) assert that postpositivist narrative policy scholars believe "narratives (or stories) occupy an epistemologically privileged position in making sense of a socially constructed world" (Roe 1994; Hajer 1995; Stone 2002; Fischer 2003). When describing the policy studies debate between these two epistemologies, Jones and McBeth (2010) note that most narrative studies have been conducted within the postpositive tradition but that narratives are increasingly being subjected to quantitative and positivistic methods (McBeth and Shanahan 2004; McBeth, Shanahan, and Jones 2005; McBeth, Shanahan, Arnell, and Hathaway 2007; McBeth, Shanahan, Hathaway, Tigert, and Sampson 2010; Jones and McBeth 2010).

Policy scholars like Mark McBeth demonstrate that narrative policy analysis (NPA) is useful in determining causal relationships and unearthing fundamental values so policy scholars and makers can better understand and arrive at solutions for intractable policy problems (McBeth, Shanahan, Arnell, and Hathaway 2007; Jones and McBeth 2010). Rein and Schon (1993, 162) concur and succinctly declare, “Any process aimed at resolving stubborn policy controversies must engage their underlying frame conflicts.” McBeth et al. (2007) use NPA as an analytical tool to explore the causal relationships among actor framing, agenda setting, and policy change. NPA uses mixed methods where qualitative data is quantified to empirically measure narratives and frames, formulate and test hypotheses, and evaluate policy change.

Although McBeth et al. (2010) differentiate between narrative analysis (Stone 2002) and framing analysis (Iyengar 1991), this distinction is one of scale, not of kind. A policy narrative tells a story that contains a plot carried out by characters over a certain time line (McComas and Shanahan 1999), whereas a policy frame is a competitive and dynamic process in which people conceptualize and articulate (linguistically or textually) their understanding of a policy issue (Benford and Snow 2000; Leech et al. 2002). Frames are the infrastructure of larger policy narratives or the building blocks of causal stories. For this research, I measure and test policy frames that support these larger natural gas policy narratives. NPA plays a role in my research by providing the larger theoretical and methodological foundation for my framing analysis.

McBeth et al. (2010), McBeth et al. (2007), and McBeth, Shanahan, and Jones (2005) use public consumption documents in an attempt to fill the empirical gap in the policy literature by connecting changes in framing with changes in actor strategies. NPA can be

used to further our *understanding* of political phenomena as well as help *explain* causal relationships. These scholars systematically test “whether or not winning narrative frames attempt to contain the issue with predictable narrative strategies and whether or not losing narrative frames attempt to expand the issue with predictable narrative strategies” (McBeth et al. 2007, 102). In short, winning frames seek to contain and losing frames seek to expand policy conflicts. These scholars also provide evidence that interest group narratives are “indicators of a group’s political strategies and tactics and are tied to whether a group is winning (and trying to contain an issue) or losing (and trying to expand an issue)” (McBeth et al. 2007, 103). In sum, policy narratives contain interest group strategies that are both predictable and testable.

Proponents of framing analysis assert that this method yields insights into underlying values and strategies of conflict expansion and containment while it also serves as a metric for determining issue agenda status (Pralle 2006; McBeth et al. 2007). McBeth et al. (2007) argue that certain frames expand the conflict while others restrict it. They argue that winning frames include identification of winners, diffusion of benefits and concentration of costs of policy success, and use of scientific certainty in order to contain the conflict. Losing frames geared to engender conflict expansion include those that identify losers, concentration of benefits and diffusion of costs of policy failure, use of condensation symbols and policy surrogates, and use of scientific uncertainty. Importantly, McBeth et al. assume from the outset that these narrative frames represent conflict containment or conflict expansion strategies, depending on who is using it. Although this assumption may hold true for many issue frames, it may not apply to all; for instance, the use of policy surrogates like “domestic drilling will help combat climate

change” can actually be both a conflict expansion and containment strategy. Natural gas companies pushing for increased domestic development could use this argument to increase participation and garner support from uninvolved actors while minimizing the critique (and containing opposition) that fossil fuels are all significant contributors to global warming. The point here is that one cannot make the *a priori* assertion that frames are automatically expansion or containment without providing the context in which they are written.

In my framing analysis, I do not assume or attempt to discern that frames are either focused on conflict expansion or containment. Rather, I focus my attention on how the frames between competing interest groups and state legislatures correlate through time. Instead of inferring strategy from the frames, I concentrate on the frames themselves and how they are expressed in policy. I am not arguing that exploring conflict expansion and containment framing strategies through the lens of policy winners and losers is unimportant. I am arguing that, by establishing an institutional framing baseline and comparing it to interest group framing efforts, my research moves NPA closer to evaluating how framing correlates to policy change.

McBeth, Shanahan, and Jones (2005) and McBeth et al. (2007) highlight criticisms of NPA by researchers supporting the Advocacy Coalition Framework (ACF). ACF founder and leading proponent, Paul Sabatier, asserts that NPA ignores institutions and individuals; lacks clearly articulated propositions and hypotheses; is “largely nonfalsifiable”; and eschews rational scientific methodology (Sabatier 2000). While these are legitimate criticisms of postpositivist epistemology, NPA scholars have recently employed a mixed methodology that embraces both positivism and

postpositivism (McBeth, Shanahan, and Jones 2005; McBeth et al. 2007). Thus, NPA scholars are gradually responding to many of the empirical criticisms levied by Sabatier. In this research, I move NPA one step further by bringing state legislative (i.e., institutions) policy framing under empirical scrutiny and testing. Sabatier and Jenkins-Smith (1993) and Baumgartner and Jones (1993) also criticize NPA for its use of public consumption documents instead of congressional testimony as data sources. I argue that both are legitimate sources of data that can and should be used in NPA.

Although the problem definition and NPA literature effectively define framing and employ mixed methods to empirically measure and test frames and related hypotheses, the framework lacks a clear empirical method for measuring the relationship between interest group and institutional framing efforts and policy change. While NPA scholars have made significant progress in identifying and testing correlative relationships between interest group policy narratives and issue containment or expansion strategies (McBeth et al. 2007), the relationship between interest group framing and policy change is underdeveloped. If problem definitions are as important to policy change or stasis as the NPA literature and I assert, then policy scholars must empirically test and measure those relationships. I help bridge that gap by developing a measurement of state legislative (i.e., institutional) framing that serves as a baseline to evaluate changes in framing and is an indicator of policy change. In the next section, I delve into the research design and methodology supporting this framing analysis.

Research Design

Research Questions and Hypotheses

Fundamentally, this research asks how the strategic use of language through framing influences policy. Using this broad question as a starting point, I ask and answer the

following questions: What is the relationship between competing interest group framing efforts as the boom progresses? Do they talk past each other early in the conflict only to engage each other later as the conflict escalates? If interest group framing convergence does occur, who is driving the debate, who is the framing winner, and how is the winner determined? State legislatures control natural gas policy, and I examine how these gatekeeper-framing efforts relate to interest group framing. Are state legislative and interest group framing efforts measurably different yet responsive to each other and the broader political environment? Finally, how do interest group and state legislative framing relate to statutory outputs and policy change?

Policy scholars have developed numerous hypotheses designed to test the utility of framing analysis. In the following discussion, I first identify the hypotheses germane to this research and then provide some background on their genesis.

Hypothesis #1: Early in policy conflicts, competing interest groups will engage in “noncontradictory argumentation” where they “talk past” each other (Baumgartner and Jones 1993, 110; Pralle 2006).

Baumgartner and Jones (1993) and Pralle (2006) assert that in nascent policy conflicts, competing interest groups and actors use unique frames, symbols, and arguments that are most favorable to their own position without engaging their opponents directly. Thus, early in policy conflicts opposing actors employ contrasting strategies of containment and expansion, the traditional Schattschneider mobilization (Schattschneider 1960). One group of actors seeks conflict restriction, the other expansion, and this is reflected in their noncontradictory framing efforts. Frequently, oppositional groups have unequal resources, do not compete directly in the same venues, and have unbalanced access to decision-makers (Schattschneider 1960; Baumgartner and Jones 1993).

Competition is indirect, problem definitions are substantively different, and political mobilizations follow the traditional containment and expansion strategies. However, as conflicts mature, so do actor strategies. As competition escalates and power balances shift, competing actors begin to work against each other more directly in the same political institutions. Actors who previously dominated policy and initially desired to restrict competition may change strategies and seek to expand the conflict if they feel they are losing control of policy direction (Pralle 2006). Framing convergence may likely result from this rebalancing of power and increased competition within the same venues (Pralle 2006).

Baumgartner et al. (2009) measure how frequently policy issue opponents use the same categories or types of frames. Their data indicate that framing is a competitive process and that, “although there is often some form of loose engagement with rivals, it is much more common for each side to focus on its best arguments . . . Given the complexity of issues and the need for advocates to justify a policy on the basis of the most compelling arguments available, it is no wonder that each focuses on different themes. But the result is one where each side often speaks past the other” (Baumgartner et al. 2009, 143). Baumgartner et al. (2009, 142) demonstrate that competing actors engage in noncontradictory argumentation throughout policy conflicts and that “there are some types of arguments on which the (competing) sides appear to engage one another – but not many.” In her conflict management model, Pralle (2006) compares the dynamic strategies advocacy groups employ when they embark on conflict expansion/containment strategies versus conflict management strategies. During the former, actors engage in noncontradictory argumentation, and during the latter actors engage their opponent’s

arguments directly. Pralle's assertion that interest groups will engage each other directly as time elapses is not fully supported by the Baumgartner et al. study. Thus, I empirically test the following hypothesis to clarify this discrepancy.

Hypothesis #2: As time elapses in a policy conflict, competing interest groups will engage their opponent's frames directly and their discourses will converge (Pralle 2006, 222).¹⁰

Pralle asserts that as conflicts mature and the historic "losing" side gains power and becomes more successful, competing actors engage each other's framing efforts, symbols, and discourses directly. In short, competing actor's framing efforts converge as time progresses. Framing convergence occurs when actors engage each other's frames directly and at similar frequencies. For example, status quo challengers argue that natural gas production is environmentally irresponsible because it pollutes both air and water and is harmful to human health. Status quo supporters counter that scientific and technological innovations enable drilling to be conducted in an environmentally responsible manner that minimizes pollution. I would classify this as frame convergence because both groups are utilizing environmental frames, albeit from opposing sides. The direction in which framing converges is an important indicator of which group has won the framing contest. This leads to the third hypothesis.

Hypothesis #3: If an interest group adopts some of the frames and symbols of its opponents, then their opponent is the framing winner.¹¹

¹⁰ Pralle states that "as competition for allies and supporters increases, competing advocacy groups search for claims that resonate with potential sympathizers. Successful issue frames and their attendant symbols – those that seem to resonate with key segments of the public or policymakers – will be adopted by both advocacy groups in hopes that they can win over some of the audience. Given that policy venues tend to have particular norms, rules, and procedures that require a certain type of discourse or set of frames, we should witness the convergence of discourses when advocacy groups compete in the same venues" (Pralle 2006, 224).

¹¹ Pralle also asserts "one method of assessing who has 'won' a framing contest at any point in time is to look for signs of discourse convergence. In what direction is the discourse

As policy conflicts mature and framing efforts by competing interest groups converge, the direction in which the framing contest converges points toward the framing winner. For example, if one interest group is framing natural gas issues using environmental arguments for years and its opponent remains silent but eventually begins to use environmental frames, the framing contest is converging toward the first group. In essence, the first interest group is forcing their opponent to change strategy and counter-frame using environmental arguments. I determine the framing winner qualitatively by noting which interest group first employs a frame and at consistently elevated levels. If their competition remains relatively silent at first but later uses that frame at higher levels, the group that was last to react would be the framing loser.

In addition to testing these interest-group-related hypotheses, I am also interested in how state legislatures frame natural gas policy. Previous narrative policy studies have not empirically measured state legislative policy narratives and supporting frames, albeit it was not one of their research goals. My research acknowledges that state legislatures produce policy narratives and frames that can be measured via coding analysis of proposed natural gas bills. If framing is important to policy stasis and change, then one needs an institutional measure of this framing. Simply looking at how competing interest groups frame through time only tells part of the story. In order to more accurately evaluate the role of framing in policy making and change, I establish an institutional framing baseline and then compare it to interest group frames. By acknowledging that state legislatures produce narratives and frames that can be empirically measured and

converging? If an advocacy group has compelled its opponents to engage with it directly, and if its opponents adopt some of its symbols and rhetoric, then the advocacy group has succeeded in setting the terms of the debate” (Pralle 2006, 224).

tested against hypotheses, I am adding a new metric to narrative policy analysis that serves as an indicator of policy change.

When analyzing state legislative framing efforts I ask the following questions: Do state legislatures produce frames that are measurably different than interest group frames? Is there a consistent pattern between interest group framing and state legislative frames within and across the cases? What frames are in place for the interest groups and the state legislatures when policy is passed in each state? And finally, what is the relationship between interest group and legislative framing and policy change in each case?

In one of the most comprehensive studies of lobbying and policy change, Baumgartner et al. (2009) are considerably more guarded in their assessment of the policy effects of framing and reframing, and they draw several conclusions that I address in the following hypothesis.

Hypothesis #4: Policy reframing is uncommon and, when it does occur, it is generally a partial reframe.

Baumgartner et al. (2009, 176) conclude that policy reframing is rare and occurs in only 4% of the cases. I test this conclusion/hypothesis using longitudinal policy framing analysis and their policy reframing definitions. Baumgartner et al. (2009) define reframing as stable, partial, or complete. In addition to applying these same reframing definitions as Baumgartner et al. (2009) do for interest groups, I also apply this coding scheme when evaluating state legislative frames as articulated through natural gas related bills. In my framing analysis, when state legislatures use a new or previously marginalized frame at levels exceeding the dominant status quo frame, I deem that a complete reframing has occurred. Based on Baumgartner et al.'s explanation, when a

new frame changes the debate but does not become the dominant or most used argument, then a partial reframing has occurred; correspondingly, when new frames in legislative bills and statutes rise in importance but are not the dominant argument, then the issue is partially reframed. Stable frames do not change the debate, and in these cases actors use the same language and frames throughout the period of study. If policy reframing occurs, Baumgartner et al. (2009) argue that it occurs incrementally over a long time period.

This leads to the next hypothesis.

Hypothesis #5: Policy reframing occurs incrementally, over long time periods, and is a matter of slow attention shifting rather than dramatic reframing.

Because Baumgartner et al. (2009) do not specifically delineate what constitutes a long versus a short time period for incremental and dramatic reframing, I use 4 years as a conservative cutoff point. I assert that state legislative natural gas issue reframing that occurs in 4 years or less is a dramatic and relatively quick shift, whereas anything greater than 4 years is incremental. In order to test this, I empirically measure state legislative framing efforts through time, paying close attention to how frequently each state legislature uses a specific frame and the overall trend. If reframing does occur, is it the result of a new idea or frame coming to the fore, or does it result from increased institutional attention to a previously marginalized frame? This leads to the final hypothesis.

Hypothesis #6: Policy change “is rarely the consequence of the emergence of an entirely new frame” but could result from increased attention to a long-extant but previously neglected frame (Baumgartner et al. 2009, 186).

By tracing interest group and institutional framing efforts through time, I am able to determine if incremental or dramatic reframing occurs and if previously marginalized frames have emerged as viable understandings of natural gas development. I

acknowledge that ideas promulgated by strategic framing efforts are not the only factors affecting policy change. For example, policy is changed by exogenous factors including but not limited to existing political institutions, elections, long-time interest group advocacy, interest group resources, focusing events, media coverage, status quo policies, and political context (Kingdon 1995; Birkland 1997; Mintrom 1997; Pralle 2006; Baumgartner et al. 2009; Mintrom and Norman 2009). Other actors and institutions, such as policy experts, policy entrepreneurs, state and local governments, and regulatory agencies are also framing issues, offering causal stories, and connecting problem definitions to solutions (Hall 1993; Rochefort and Cobb 1994; Schon and Rein 1994; Mintrom 1997; Pralle 2006; Boscarino 2009; Mintrom and Norman 2009). While I provide the political context for these natural gas case studies, I focus more directly on the relationship between competing interest group and state legislative framing and demonstrate how institutional reframing is an indicator of policy change.

The Baumgartner et al. (2009) interest group study provides a wealth of conclusions, data, and hypotheses that are germane to my research. However, my research methods differ significantly and are worth exploring. Baumgartner et al.'s investigation spans 4 years and is not designed to measure framing shifts over longer time periods. My investigation spans 10 years, and this longer period of examination is necessary to capture both incremental and dramatic reframing in any policy arena. Ideally, any policy area should be studied for time periods spanning decades but the logistics and data issues are increasingly problematic going back in time. The differences between the Baumgartner et al. (2009) study and this investigation regarding the frequency of policy reframing can be attributed, in part, to this difference in the length of time period

examined. Baumgartner et al. (2009) do not look at the issues for a long enough time period to adequately capture longer term framing shifts. Additionally, they examine federal policy making and issue framing, while my study explores state-level policy and framing. The severity of federal policy gridlock and associated framing does not mean that states are subject to similar institutional problems. I assert that state policy making, while intensely partisan, can also address policy issues more quickly due to the economy of scale (smaller legislatures, fewer constituents, fewer competing interest groups, etc.).

Baumgartner et al. (2009) and my investigation also differ with respect to the sources of our framing data. Baumgartner et al. (2009) use personal interviews, searches of actor Web sites, congressional testimony and related activity, and newspaper and television searches to determine what the 2,220 actors in their investigation said about the issue in question. They use congressional dockets and follow-up interviews to determine whether actors achieve their policy goal(s) and if reframing occurs. My research, although considerably less comprehensive in scope, differs with respect to data source. I empirically measure interest group framing as articulated through their public consumption documents that include newsletters, press releases, and fact sheets. While Baumgartner et al. (2009) use follow-up interviews and analysis of congressional dockets to determine if an issue is reframed, I develop a considerably different institutional measure of framing/reframing. I measure state legislative framing efforts as articulated through proposed bills and statutes and assess whether institutional reframing occurs based on longitudinal framing analysis. Using state legislative bills and statutes as a baseline provides a different and more representative measure of issue reframing than data from personal interviews, news media documents, and the congressional docket.

Personal interviews provide excellent context and rich supporting detail, but actors sometimes create post hoc rationalizations about their actions, strategies, and framing efforts that may not be entirely representative of the political circumstances. The media provides its own unique frames that are relevant and potentially influential in policy conflicts, but resource constraints prohibit any media framing analysis in this study. Measuring frames articulated through state legislative bills eliminates some of the problems associated with personal interviews, media accounts, and even the congressional docket.

It is logical to expect our conclusions about reframing to differ because our measures and data sources differ. Simply, the differences in data sources (interviews and congressional dockets versus public consumption documents and legislative bills), duration of our respective studies (4 years versus 10 years), locus of policy making (federal versus state), and the different measures of policy reframing (follow-up interviews and congressional dockets versus state legislative bills) are responsible for some of our differences in research conclusions. I provide greater detail regarding these research methods in the following section.

Methods

In this natural gas policy comparative case study, I use longitudinal policy framing analysis and mixed methods to further our understanding of the complex framing relationships among competing interest groups and state legislatures. In this mixed methods approach, qualitative information is quantified and then analyzed empirically. Using methods developed in NPA, I employ content analysis (coding) to measure frames discerned from public consumption documents and state legislative bills. I assert that interest groups and political institutions produce frames that are unique, evolving, and

competitive and that analysis of these framing interrelationships provides valuable insights into policy making and change. To test these assertions, I have developed and analyzed measures of state legislative agenda attention, interest group attention, and actor framing efforts in three natural gas boom states: Wyoming, Colorado, and New Mexico. Natural gas subsystem policy interest groups and state legislatures serve as the primary level of analysis and interest group public consumption documents, and state legislative bills are the primary units of analysis (Yin 2003; Corbin and Strauss 2008). Appendix 2.1 lists the potential interest groups, their policy position, the state(s) in which they operate, data available on the Internet, and whether the interest group is selected or not. Appendix 2.2 contains the framing codebook used in this research.

Based on historic natural gas permitting, drilling, and production data and legislative activity, I examine the decade between 1999 and 2008 that includes the start of the boom and beyond. Certainly, natural gas policy and supporting frame(s) precede that date – hence the discussion of the historic statutes in Chapter 1. Historic state natural gas laws and regulations clearly promote the development of the resource, ensure it is not wasted, protect mineral owner rights, and facilitate the economic development and colonization of the western United States. Although determining the original starting time of an issue and its supporting frames is difficult, the pro-development status quo rooted in economics and resource utilization is anticipated to be the initial frame. Baumgartner et al. (2009, 176) are informative here.

“Yet to study initial framing requires observations at the beginning, and the true beginning of an issue is difficult to fix. In this respect, some of the literature on reframing suffers from the same problems that we have noted in the literature on lobbying in general. Just as in lobbying there is almost always an existing policy that establishes a status quo, so too in framing studies. In the policy process, there is virtually always an established, status quo frame that dominates discussion. Reframing, like lobbying, is about changing the status quo.

But the status quo achieved its status usually for many reasons, and these may not easily disappear.”

Thus, this research is an analysis of reframing using 1999 as the baseline, while I acknowledge that initial framing began sixty to eighty years ago. In the following section, I explain my rationale for selecting cases, choosing representative interest groups, selecting appropriate data sources, establishing framing categories, and employing a mixed methods approach to answer the research questions and hypotheses.

Case and Interest Group Selection

I selected Wyoming, Colorado, and New Mexico as the cases for strategic and rational reasons. First, all three states have experienced exponential natural gas development especially within the last decade, and they all contain some of the largest on-shore conventional and unconventional reserves in the U.S. Second, the century-old energy laws in all three states aggressively promote natural gas exploration and development (Bryner 2002; Duffy 2005). Although historic state statutes are similar, the recent natural gas development boom has caused a substantial legislative and regulatory response that merits comparison to determine if each state is acting uniquely. Third, there are significant demographic and economic differences among these states, especially between the more heavily populated and economically diverse Colorado and sparsely populated and natural resource dependent Wyoming. Fourth, the environmental community in Wyoming is relatively small compared to that in Colorado and New Mexico. Environmental groups have limited access to Wyoming state government, while their reach in Colorado and New Mexico is greater. Fifth, recent shifts in party affiliation and registration, especially in Colorado, have produced substantive electoral consequences with the Democrats gaining control over the governor’s office and state legislature in 2007 for the first time in over 40 years. These electoral shifts may be

accompanied by natural gas policy shifts. The Wyoming and New Mexico state legislatures have not experienced such a change in party control, as each legislature remains solidly Republican and Democratic, respectively. Finally, all three state legislatures are considered “citizen” or “unprofessionalized” legislatures, with each exhibiting minor differences in session length, administrative staff, pay, and parliamentary rules.

I employ a number of criteria in selecting the specific interest groups for each case (Appendix 2.1). I searched the Internet for environmental and community-based organizations; examined state legislative testimony; culled major newspapers; checked state databases for major natural gas producers; employed snowball sampling of known natural gas interest groups to determine their opinion of key actors; and conducted a detailed evaluation of each group’s Internet data. Note that I did not include all of the groups identified in my initial survey, only those groups with extended political and economic involvement at the state level. Due to my limited resources, the availability of on-line data was a major control on interest group selection.

I selected two interest groups for each case study, with one interest group serving as proxy for the pro-development status quo side and the other interest group as representative of status quo challengers. For the Colorado case, I chose the San Juan Citizens Alliance (SJCA)(status quo challenger) and Williams (status quo supporter) as the two interest groups. Ideally, I would have used an industry-trade group like the Colorado Oil and Gas Association (COGA) as the pro-development interest group. But, COGA had little data available on-line, refused to provide access, and argued that its information was proprietary. Because Williams is a public company, one of the largest

producers in Colorado, and has an excellent on-line database containing press releases, fact sheets, and related information, I selected them to represent the pro-development status quo.

Although comparing a grassroots citizen advocacy organization with a business may at first seem problematic, I believe the comparison is justified. In his study of business influences on environmental regulatory policy, Furlong (2007) argues any organization that attempts to influence public policy can be classified as an interest group and is therefore subject to comparison even though one group operates for profit (business) and the other (public interest group) does not. Both groups attempt to influence policy and policy makers through a variety of inside and outside lobbying tactics, active engagement with the media and wider public, unique political mobilization strategies, and framing efforts. Because these groups engage in similar political activities, compete directly and indirectly to influence natural gas policy, actively support a specific policy agenda, and engage in policy framing, they are interest groups that can and should be compared.

Similar to COGA, the Petroleum Association of Wyoming provides no on-line data and directed me toward their legislative testimony when asked for information. Thus, I chose Williams again as the pro-development interest group and the Powder River Basin Resource Council (PRBRC) as the status quo challenger for the Wyoming case study. I selected the New Mexico Wilderness Alliance (NMWA) (status quo challenger) and Devon Energy (status quo supporter) for the New Mexico case study (Appendix 2.1). I provide further justification for interest group selection in each of the respective case studies.

Data Sources, Analytical Measures, and Framing Analysis

To fulfill my research objectives, I have collected interest group data from public consumption documents and supplement that information with personal interviews. These public consumption documents include newsletters, press releases, and policy-relevant fact sheets from interest groups' Web sites. Interest groups use public consumption documents to speak to their members and anyone in the general public who is interested. Actors seek to define policy problems via these public documents in a manner that expresses their policy positions and underlying values as well as implies or directly states preferred policy solutions. NPA scholars regularly use public consumption documents as data sources because they present policy beliefs and frames, are amenable to longitudinal analysis, and are relatively accessible (Roe 1994; McBeth, Shanahan, and Jones 2005; McBeth et. al 2007; McBeth et al. 2010). Critics (Sabatier and Jenkins-Smith 1993, 243; Sabatier 1999; Sabatier 2000) argue that congressional testimony and public hearings are more reliable sources of information "because speakers are likely to be consistent when the audience is comprised exclusively of other subsystem actors." I assert that public consumption documents and public testimony are both "crafted statements" geared toward particular audiences. Arguably, when providing public testimony, the speaker must adhere to institutional rules, norms, and etiquette of that venue and tailor their message to that specific audience. Rein and Schon (1993, 156) concur by asserting that "the institutional context may carry its own characteristic perspectives and ways of framing issues, or it may offer particular roles, channels, and norms for discussion and debate." When actors, such as interest groups, interact directly with political institutions, like state legislative committees, the institutional norms control and/or direct the framing and larger discursive conversation. Authors of public

consumption documents are also speaking to a public audience, but their message is unfettered by such institutional strictures. While I consider both data sources valid (congressional testimony and public consumption documents), I use public consumption documents because of their more consistent and regular publication, accessibility, and relatively unfettered – and less mediated – message.

In my research, I perform content analysis on all natural gas policy relevant articles from interest group public documents. Appendix 2.2 contains the codebook of questions and corresponding frames used in this analysis. When analyzing problem definitions, I note their frequency of occurrence in a particular document, specific content, and date. This framing data is then aggregated on a yearly basis for statistical analysis and comparison. For the Wyoming case, I code and analyze 271 PRBRC documents and 46 documents produced by Williams. In Colorado, I code 109 SJCA and 39 Williams natural gas related documents. For the New Mexico case, I code 99 NMWA and 71 Devon documents. In sum, I code and analyze 635 interest group public consumption documents for this dissertation.

In addition to conducting this interest group framing analysis, I also measure the amount of attention each interest group pays to natural gas issues each year. To calculate this interest group attention score (IGA), I count the number of natural gas related documents and divide that by the total number of public consumption documents per year. For example, in 2006 PRBRC published 46 natural gas related articles and 90 total articles in their Powder River Breaks Newsletter ($46/90 = 51.1\%$ IGA score). This IGA score allows me to determine the relative importance that particular interest group is

placing on natural gas issues each year and it also serves as an indirect measure of natural gas policy activity.

In order to draw comparisons between interest group framing efforts and state legislative framing, I perform content analysis on all natural gas related state legislative bills for Wyoming, Colorado, and New Mexico from 1999 through 2008. I code and analyze 54 natural gas bills from Wyoming, 48 bills from Colorado, and 69 bills from New Mexico (171 total bills) for this study. Each legislative bill is coded using the same problem definition categories as used when analyzing interest group public consumption documents. Framing data is also aggregated per category on a yearly basis for statistical analysis and comparison. While this framing analysis provides great detail about the specific arguments and content of legislative bills, it does not differentiate among those bills that support, undermine, or have negligible effects on the status quo. Thus, I code each natural gas bill with respect to its effect on the status quo. When classifying the bills into the pro-, anti-, and neutral status quo categories, I do not measure how far each bill moved natural gas policy away from the status quo. Rather, I look at the language of each bill to determine if it generally supports, undermines, or has little overall effect on the status quo. Bills promoting the status quo loosen regulation, ease the tax burden on natural gas developers, establish or strengthen institutions promoting resource development, and incentivize development. Bills working against the status quo seek greater regulation, more environmental protections, surface owner property rights advancement, higher taxes, and increased penalties for regulatory violations. The natural gas bill qualitative data are then quantified for empirical analysis and comparison.

I also measure the agenda success rate of natural gas bills and the amount of agenda attention these bills garner each year. Agenda success (AS) is calculated as the number of natural gas bills signed into law divided by the total number of natural gas bills per legislative session and it is expressed as a percentage. This measure reveals the relative success natural gas bills enjoy on a yearly basis. Agenda attention (AA) is calculated as the total number of natural gas bills divided by the total bills per legislative session (again this is calculated as a percentage). This measures how much attention each state legislature is paying to natural gas relative to other issues, serves as an indicator of natural gas policy activity, and is compared against the interest group attention score.

Numerous problem definitions have been identified in the literature with regard to environmental conflicts. Coding scheme framing categories are developed using a combination of my own analytically derived categories unique to the natural gas policy debate and established problem definitions (Schon and Rein 1994; Stone 2002; McBeth, Shanahan, and Jones 2005; Pralle 2006; and McBeth et al., 2007). NPA scholars have identified problem definitions including federalism, science, the human-nature relationship, economic costs and benefits, policy surrogates, and condensation symbols (McBeth, Shanahan, and Jones 2005; McBeth et al. 2007). In their environmental policy study of the Greater Yellowstone area, McBeth et al. (2007) identify numerous problem definitions relating to the economy, science, and policy surrogates that I also have discovered when analyzing interest group public consumption documents for this study. Thus, I have developed seven major framing categories based on my policy narrative content analysis and categories previously established in the literature. The main problem definition categories for this study include environment, economy, land-use,

democracy, federalism, policy surrogates, and condensation symbols (Appendix 2.2). In the following section, I detail the framing categories and sub-categories used in this research.

This study also relies on actor interviews to identify and categorize competing problem definitions. Appendix 2.3 is the natural gas policy interview guide that lists the questions for the semi-structured interviews. Semi-structured interviews are designed to elicit actor policy preferences, underlying values, individual and coalition problem definitions, actor strategies, and understandings of policy. In-depth interviews provide a political, geographic, and personal context that increases research internal validity. Interview data is compared with public consumption document data to corroborate and/or refute established facts. Actors often create post-hoc rationalizations for their behavior, are not always the best judge of what influences their strategic actions, and may paint themselves more nobly than deserved (Hacker 1997; Pralle 2006). Systematically gathering, evaluating, reporting, and corroborating actor insights against the public consumption documents helps ameliorate some of these issues.

Environmental-based problem definitions are broad and contain a variety of sub-categories. Using established environmental problem definitions from the literature and my own content analysis, I develop a coding scheme inclusive of these empirical and established categories. When coding for the environmental variable, I ask whether the narrative describes the policy decision or action as harmful or friendly to the environment. Sub-categories include human health, pollution, wildlife, habitat, and whether the proposed policy action is environmentally responsible or irresponsible. Additional sub-categories within the larger environmental problem definition category

include the use of science to justify or refute a policy and whether regulations are followed or not. Also, water issues are especially important to natural gas development as enormous amounts of water are used and disposed as part of gas extraction. These issues include water quantity and quality, beneficial use, and proper disposal.

McBeth et al. (2007) and Nie (2003) argue that scientific disagreement is fundamental to natural resource political conflicts and its use may serve to restrict the scope of the conflict. While McBeth et al. (2007) use the scientific problem definition as a stand-alone category, I coded it as a sub-category under the environment. Scientific problem definitions are technically complex and jargon-filled but also relate more broadly to debates over human health effects, wildlife and habitat preservation or destruction, and pollution issues. Because scientific problem definitions contain and articulate these related environmental arguments, I include science in the environment meta-category. Similarly, natural gas regulations – whether local, state or federal – contain environment-related content and specific, technically complex guidelines.

McBeth et al. (2007) use the economic idea of costs and benefits in their analysis of interest group conflict expansion and containment. They argue that losing interest groups will seek to expand the issue by declaring that a policy has diffuse costs and concentrated benefits. This narrative strategy attempts to mobilize the previously disinterested public and thereby expand the conflict. Conversely, winning interest groups are more likely to argue that the policy issue brings diffuse benefits with concentrated costs, effectively restricting the conflict and maintaining the status quo. I employ this cost-benefit problem definition in my analysis, noting if the costs and benefits are defined as diffuse or concentrated. If the policy narrative employs this economic problem definition, I also

note how those benefits or costs are described. I also include any references to energy costs (to the consumer), jobs, and revenues in this category.

Competing ideas over appropriate land-uses are central to natural gas policy and most environmental political conflicts. The checker-board mix of public, private, and split-estate lands in the Rocky Mountain West combined with conflicting land-use perspectives makes state-level natural gas policy making contentious, frustrating, and difficult. McBeth et al. (2007) have categorized public land-use problem definitions within the larger policy surrogate variable. Because land-use conflict is so intense, central to natural gas policy struggles, and prevalent in the studied policy narratives, I code it as a separate category. If the policy narrative contains a preferable land use, I note the occurrence and identify whether the problem definition advocates for recreation, ranching, farming, wilderness designation, energy development, private property rights, alternate uses, or multiple uses.

Larger debates about the role of democracy underlie natural resource policy struggles. Although previous environmental policy studies have not directly addressed democratic-related problem definitions (McBeth et al. 2007), these democratic problem definitions are prevalent and important to Rocky Mountain West natural gas policy interest groups. When coding for democracy, I ask if the policy narratives use democratic-related problem definitions to promote a specific policy option. If applicable, I ask which specific democratic problem definitions the narrative employs. These specific democratic variables include transparency, accountability, and right-to-know problem definitions as well as participation, liberty, and equality arguments.

As noted in the land-use variable, the complex patchwork of public, private, and split-estate lands in the Rocky Mountain West creates problems for natural gas policy-making. Overlapping local, state, and federal jurisdictions frustrate policy making while also allowing interest groups to venue shop (Baumgartner and Jones 1993). McBeth, Shanahan, and Jones (2005) argue that conflicting theories of American federalism (compact versus nationalism theories) are central to Greater Yellowstone environmental policy conflicts, and they code for them respectively. Following their lead, I have developed a federalism variable and ask if the narrative identifies an appropriate level of government where the policy option should be addressed. Sub-categories of federalism include the local, state, federal, or multiple levels of government where the policy should be addressed.

A policy surrogate ties the problem definition to larger normative societal issues like national security and climate change. During framing analysis, I ask if the narrative uses a policy surrogate and what specific larger normative issue the narrative uses. I include national security, energy independence, a domestic source of energy, renewable energy, climate change, energy efficiency, consumption, waste, addiction to fossil fuels, conservation, culture, and lifestyle as sub-categories. These sub-categories are included because they apply to broader environmental-policy-related debates occurring in the U.S. and internationally.

A condensation symbol is a word or phrase that “shrinks and reduces complicated concepts into simple, manageable, or memorable forms (McBeth et al. 2007). Stone (2002, 137) is informative here when she asserts “symbolic representation is the essence of problem definition in politics.” Condensation symbols are an important tool used by

interest groups to frame issues in a manner amenable to their policy preferences and also as a means of defining their opponents (McBeth et al. 2007). For example, the San Juan Citizens Alliance employs symbolism when it calls the buried liners in natural gas waste pits “toxic burritos.” Similarly, status quo supporters like Devon use condensation symbols when they characterize the capture of leaking natural gas during hydraulic fracturing (“fracking”) as a “green completion.”

Conclusion and Theoretical Contributions

My primary objective in this research is to advance narrative/framing policy theory. While NPA scholars have made significant strides in pairing narrative policy analysis with positivist methodology, the theory and method require further refinement. I advance NPA theory by developing and testing hypotheses and assertions through the lens of natural gas policy case studies. By comparing competing interest group framing efforts through time, I am able to test if these groups engage in noncontradictory argumentation followed by framing convergence as the conflict evolves. This, in turn, allows me to determine the framing winner. My most significant contribution to NPA theory and method is the idea that state legislatures produce policy frames that are measurably different than interest group frames. Previous NPA research neither acknowledges nor tests these important institutional narratives and supporting frames. NPA researchers assert that framing analysis is one means of evaluating policy change but largely neglect to evaluate the political institutions that are the policy gatekeepers. I develop an institutional framing baseline and compare it to interest group framing efforts through time. By analyzing this interest group and institutional framing relationship, this research furthers our understanding of how problem definitions support or undermine status quo policies and provides a new indicator of policy change.

Chapter III

Colorado Natural Gas Politics and Policy

“We can create an energy future for our state and our nation that is built on the best available technology and does not come at the expense of our environmental future.”
Governor Bill Ritter

Introduction

In this chapter I examine Colorado natural gas politics through the lens of the Colorado state legislature and two interest groups, the San Juan Citizens Alliance (SJCA or San Juan Citizens) and Williams Energy (Williams). Presently, Colorado is experiencing a natural gas development and population boom. Colorado’s Oil and Gas Act, pro-development federal statutes, recent technological advances, and tax incentives all contribute to the most recent natural gas boom (Bryner 2002). These concurrent natural gas and population booms, although reminiscent of past booms, differ in two key respects. First, Colorado’s economy is considerably more diverse today than historically. The post-industrial “New West” economy has largely supplanted the resource extractive “Old West” economy as the central economic engine in Colorado and the western U.S. (Travis 2007; Power 2001). However, the natural gas industry’s economic contributions remain important to state revenues, jobs, and the overall economy.¹² With oil and gas severance tax revenues ballooning from nearly \$20 million in 1997 to \$200 million in

¹² Colorado’s share of federal oil and gas lease revenues increased from nearly \$30 million to \$71 million and mining and gas employment rose from 14,000 in 1997 to 22,200 in 2007, respectively (Colorado Geological Survey 2006, 2007).

2006 and production values growing from \$3 billion to \$7.2 billion over nearly that same stretch of time, one can hardly argue that natural gas is unimportant to Colorado (Colorado Geological Survey 2006, 2007). However, the total economic value represents a smaller contribution to the state economy than does the amenity-based “New West” economy.¹³ Second, Colorado’s century long and steady population growth is punctuated by a 50 percent population increase from 1990 through 2009, with Colorado’s population exceeding 5 million people (U.S. Census Bureau 2010; Duffy, Saunders, and Kear 2010). This recent and massive immigration has significant effects on the landscape and politics – with diverse interest groups making competing political claims over appropriate land uses. A “New West” economy, booming population, and growing natural gas policy community all help expand the political conflict that in turn threatens the pro-development status quo.

Despite the paradigmatic economic shift and political flux created by Colorado’s population boom, entrenched natural gas development policies remain difficult to alter. Colorado’s abundant natural resources, the historically conservative and Republican dominated “citizen legislature,” and existing state and federal statutes all promote the pro-development status quo. Powerful energy companies like Williams, a status quo beneficiary, also support Colorado’s existing natural gas policies through framing and lobbying efforts. Maintaining natural gas status quo development policies, however, is

¹³ The Wilderness Society report, *Natural Dividends – Wildland Protection and the Changing Economy of the Rocky Mountain West* (2009), argues that the amenity based “New West” economy now dominates the region’s economy. For example, the professional and service sector account for 30% of personal income, while extractive industry personal income accounts for 1.3% of the total in 2005. Similarly, non-motorized recreational activity accounted for \$22 billion in economic activity, and hunting, angling, and wildlife viewing accounted for \$7 billion in 2006.

becoming more difficult as the boom progresses and the conflict expands. Opposition is not an entirely new phenomenon as community advocacy organizations, like San Juan Citizens Alliance, have an extended history working to protect community members and the environment from natural gas development. San Juan Citizens has formed unique coalitions with ranchers, outfitters, private-property-rights activists, and other environmental groups to express their dissatisfaction with the present boom. These unconventional coalitions are uniting in response to the unconventional natural gas boom.

SJCA offers numerous critiques of the status quo with respect to the environment, land-use and private property rights, and fundamental democratic values. My analysis will show that the SJCA employs multiple problem definitions at increasing rates and devotes greater attention to natural gas issues than pro-development actors. Williams spends considerably less effort attempting to frame the debate and exhibits a “hegemonic silence” until the policy status quo is threatened. Williams employs counter-framing efforts arguing that technological innovation enables natural gas development in an environmentally sensitive fashion. Further, they assert that the economic benefits of domestic natural gas production meets U.S. energy needs and is both a necessary and legitimate land use. I provide empirical evidence showing that competing interest groups generally talk past each other in framing debates and, when they do engage each other, it is over the environment. My analysis will show that interest group problem definitions are dynamic, responsive to changing political context, and exert significant influence on state legislative framing and policy direction.

The Colorado state legislature, although influenced by interest groups, has demonstrated a commitment to the development and exploitation of natural resources

since the West was first colonized. Thus, pro-development status quo policies permeate the natural gas statutory and regulatory history. Through longitudinal framing analysis, I trace how the legislature responds to both supporting and challenging frames. My analysis reveals that natural gas issues generally receive sparse state legislative attention, pro-status-quo bills are more successful than status-quo-challenging bills (on average), but status-quo-challenging bills are proposed more frequently than pro-development bills. Looking at sheer numbers rather than percentages, status-quo-challenging bills garner more agenda attention and are passed in higher numbers than pro-development bills during the time period examined. The “stickiness” of the status quo and difficulty in changing it is reflected by these numerous failed attempts. The fact that status-quo-challenging bills have gained some institutional success speaks to the changing nature of natural resource politics and the increasingly diverse and competing claims being made on the governing political institutions.

Unified party control of state government plays a key role in allowing or denying status quo changes, and legislative framing exhibits some movement in the 2 years prior to 2007.¹⁴ The Colorado state legislature is not a static institution, however, and this analysis shows that institutional frames are also dynamic and the legislature does respond to interest group framing efforts. As the boom progresses, environmental and land-use problem definitions become legislative favorites, with economic and democratic frames also garnering increased agenda attention. I will show that this legislative reframing for environment, land-use, and democracy arguments corresponds with long-existing but previously marginalized frames offered by status quo challengers like SJCA.

¹⁴ Note that 7 of the 9 successful status quo challenging bills were passed after the Democrats took control of the state legislature and governor’s office in 2007.

In order to more fully explain the complex framing relationships between interest groups and the state legislature, I first explore the political context surrounding this recent natural gas development boom. Because state political institutions create natural gas policy and provide a significant control over which problem definitions are promoted or denied, I detail party control of the legislature and governor's office and their policy orientations. Next, I analyze natural gas bills and statutes (1999-2008) with respect to content, attention, and success. I follow state legislative analysis with an in-depth analysis of how Williams and SJCA define natural gas development throughout this time. Finally, I explore the interrelationship between legislative agenda attention and content and interest group framing efforts. I complete this comparison by exploring how framing analysis can be used to measure policy change.

Political Context

Colorado State Legislature and Governor – Party Control and Policy Positions

Like many western states, Colorado's bicameral, part-time "citizen legislature" exhibits a relatively low level of "professionalization."¹⁵ Despite these institutional strictures, the state legislature was designed to be and remains the dominant political institution in the state. Colorado's legislature, comprised of 65-member House of Representatives and 35-member Senate, experiences relatively high turnover due in part to term limits and the shifting of members from the House to the Senate.¹⁶ Historically,

¹⁵ The level of professionalization or congressionalization refers to the amount of pay, staff, office support, and legislative session length. Colorado General Assembly members receive an annual salary of \$30,000 (set in 1998 and remains through 2010), share office space, have minimal staff support, and meet for only 120 days per year (Straayer 2000). See also the Colorado Legislative Council website at: <http://www.colorado.gov/cs/Satellite/CGA-LegislativeCouncil/CLC/1200536135358>

the Colorado legislature is a “very partisan body” that has largely been controlled by the Republicans (Straayer 2000). Between the late-1960s and early-2000s, the Republican party dominated the Colorado General Assembly with significant majorities in both houses, excepting the 1975-76 House and beginning in 2001-02 Senate when party control changed hands for three consecutive sessions (Straayer 2000; Colorado Secretary of State 2009). Figure 3.1 shows party control in the Colorado state legislature from 1998 through 2008. Republicans controlled the House and Senate until 2005 when Democrats gained a majority in each body for the first time in nearly 40 years (Figure 3.10). In Colorado’s 66th General Assembly Session (2007-08), Democrats controlled the House (40 to 25 margin) and the Senate (20 to 15 margin).

Why is this change in party control state legislature significant to state-level natural gas policy? Straayer (1990, 171) notes, “party does make a difference” in the way legislators vote and that “party clearly reflects policy orientation – fiscal, social, environmental and more.” Historically, Colorado Republican state legislators have taken anti-tax, anti-spending, limited government, and free-market policy stances. This has resulted in natural gas statutes and regulations promoting resource development and minimizing environmental regulations. Democratic state legislators’ policy stances generally trend in the opposite direction and environmental and natural gas policy positions are no exception. With the 2005 change in legislative party control, Democrats had the opportunity and power to alter the historic pro-development natural gas

¹⁶ Straayer (2000) notes that it is an increasingly common occurrence for House members to move to the Senate because state senators (4 year terms) have to run for office less frequently than state representatives (2 year terms). House and Senate members are also limited to 8 years per legislative branch (a state constitutional change passed via a 1990 citizen initiative).

policies.¹⁷ Generalizations like Republicans are pro-natural gas development and Democrats favor more regulations and constraints on development, although usually apt, are sometimes misleading. As I will demonstrate, legislative and gubernatorial party control is not the sole determinant of natural gas policy direction.

Although 1990s natural gas politics are not the focus of this research, I examine the following case to provide historical context and to dispel the idea that elections and party control are the primary determinants of natural gas policy direction. Technological innovations plus a federal unconventional fuels tax credit (IRS Section 29) drove natural gas development throughout Colorado's San Juan, Raton, and Denver basins during the late 1980s and early 1990s (Bryner 2002). This early 1990s natural gas boom stirred animosity between Colorado's agricultural community and natural gas developers along the front-range that, in turn, drove legislative policy responses.¹⁸ In 1994, the legislature

¹⁷ Party control of the Colorado state legislature guides natural gas policy, but is not the only control on policy direction. As discussed in Chapter I and articulated by Baden (1997), American West culture, local and national economic development imperatives, and state and federal policies elevated natural resource development to its privileged status. Colorado has an extended natural resource development history deeply embedded in its political institutions, policies, and economy. Pro-development resource policies have been a fixture in Colorado for over a century, and party control of the legislature is only one of several natural gas policy drivers.

¹⁸ Former Colorado Oil and Gas Association director and 30 year oil and gas attorney/expert, Ken Wonstolen (personal interview 10/30/2009) provides a general overview of Colorado's natural gas politics. Wonstolen states, "In the early 90s as natural gas activity ramped up, particularly in Weld County, we ran into the first real round of push back against the industry. We even called it the Weld County Wars back in those days. It was whole different set of protagonists. It was really the agriculture and farming community versus the industry. There were good reasons on the agricultural side, because companies were pushing so fast to get these wells spudded in the ground so they would qualify for the tax credits. They were not paying attention to the back end. They were not getting their last sites cleaned up; pits were staying open too long; sites weren't being reclaimed; they were rushing the process; they weren't doing a good job of protecting agricultural soils. Naturally we ran into a buzz saw, (followed by) rounds of

passed and Democratic Governor Roy Romer signed into law a bill, SB94-177 (C.R.S. § 34-60-102 through 126), that was a major rewrite of Colorado’s Oil and Gas Act. The statute retained a pro-development focus by stating that it is “in the public interest to foster, encourage, and promote the development, production, and utilization of the natural resources of oil and gas in the state of Colorado” (C.R.S. § 34-60-102). But this statute also changed oil and gas policy in several important respects. The act included Colorado’s first statutory protections for public health, safety, welfare, and the environment in response to oil and gas development.¹⁹

Notably, the early 1990s natural gas boom created political controversy that spurred a significant legislative and regulatory response. Political pressure from the agricultural community combined with the natural gas industry’s realization that reforms were necessary (and looming) spurred legislative involvement. The agricultural and natural gas communities played instrumental roles in the 1994 Oil and Gas Act rewrite. Former Colorado Oil and Gas Association Director, Ken Wonstolen, argued that the 1994 statute was a “major rewrite and biggest fundamental restructuring of the Colorado Oil and Gas Conservation Commission (COGCC), its statute, and its operations. It predates the

litigation and several attempts to amend the oil and gas act in the early 1990s. We were very, very close to adopting one of the first surface owner compensation bills in the U.S. in 1992. It went down to the last minute and the agricultural community pulled the plug.”

¹⁹ This revised statute (C.R.S. § 34-60-102 through 126) contains Colorado’s first protections for public health, safety, and welfare as part of oil and gas development. Amendments to the Oil and Gas Act also included: membership expansion and changed requirements for the Oil and Gas Conservation Commission members; establishment of an Environmental Response Fund; provision for reclamation and waste management; and expansion of COGCC’s authority to prevent and mitigate significant adverse environmental impacts on any air, water, soil, or biological resource resulting from oil and gas operations to the extent necessary to protect public health, safety, and welfare, taking into consideration cost-effectiveness and technical feasibility.

significant policy shifts observed in 2007.” Following this statutory shift, the COGCC spent the rest of the decade writing and implementing natural gas rules invoked by the revised statute. COGCC developed rules pertaining to financial assurance, operations near subdivisions, high density well spacing rules, aquifer rules, reclamation and waste management rules, groundwater monitoring, emergencies, violations and penalties, surface owner notice, and pit rules.

What is important about the 1994 Oil and Gas Act amendments? First, this significant policy shift is driven largely by the conflict between the agricultural, natural gas, and property development industries. The actors involved in this early 1990s policy shift are quite different than the broader, unconventional coalitions active in the present conflict. Second, this legislation and subsequent regulation work against the status quo by protecting human health and environment while further solidifying industry’s right and the state’s commitment to “foster, promote, encourage, and not waste” the natural gas resources in the state. Third, these substantive policy changes increase (and clarify) the regulatory burden on the natural gas industry, with industry’s input and blessing. Sure, the “Weld County Wars” and privileged position of the agricultural industry forced the natural gas industry’s hand, but nonetheless, industry and agriculture worked out a compromise. Fourth, this substantive policy shift occurred when the Republicans controlled both houses and Democrat Roy Romer was governor. Thus, the generalizations regarding the relationship between party control and policy change are not always correct.

A Republican-dominated legislature passed legislation that increased natural gas regulation, reapportioned the COGCC to include west-slope representation, and promoted

human health and environmental protection in the face of natural gas development. This may seem counter-intuitive, but the right political circumstances were in place (i.e., agriculture demanding and industry realizing more regulation was needed) for the Republican legislature to restrict and undermine the status quo. Fast-forward to 2007 when the Democrats control the legislature and governor's office (Bill Ritter) and a number of anti-status-quo laws are enacted. In the first case, divided government passed an anti-status-quo or at minimum, status-quo-slowness, law. In the second case, unified government (Democrats) passed a number of status-quo-challenging laws. Elections and party control may be key factors in policy shifts, but political context and interest group involvement are also significant contributors to policy change.

Straayer (2000) asserts and Duffy, Saunders, and Kear (2010) reiterate that Colorado has a mixed voting and electoral history during the past several decades.²⁰ Historically, Coloradans generally favor Republican over Democratic presidential candidates but voting in statewide and gubernatorial elections is more unpredictable.²¹ Party control over the governor's office has been mixed throughout Colorado's history. During the past 100 years Colorado voters have elected seventeen Democrats and twelve Republicans (Duffy, Saunders, and Kear 2010). Straayer (2000) notes that Colorado is a

²⁰ See Straayer (2000) and Duffy, Saunders, and Kear (2010) for a more complete description of Colorado's demographic changes, voter registration history, presidential voting records, U.S. Senatorial elections, and gubernatorial results. This data is also located on the Colorado Secretary of State website and can be accessed at: <http://www.sos.state.co.us/pubs/elections/main.htm>.

²¹ Duffy, Saunders, and Kear (2010, 246) argue that in presidential elections, "Colorado voted Republican in nine of the previous eleven elections, with the exceptions of Johnson in 1968 and Clinton in 1992. In elections for other statewide offices, though, Colorado voters have been more unpredictable, electing seventeen Democrats and twelve Republicans to the governorship in the last 100 years."

legislatively dominated state with the governor playing a secondary role, especially in the budgetary process.²²

Despite this legislative dominance, governors have wrested some control from the legislature, especially during times of divided government. For example, former Democratic governors Richard Lamm (1975-1987) and Roy Romer (1987-1999) “dominated the state’s political spotlight” during their tenures but the Republican legislature reasserted its authority through the broad legislative and specific budgetary process (Straayer 2000). Both Lamm and Romer would “kill some Republican bills and blame them for the states woes,” while state Republicans would criticize the governors, kill Democratic bills, and add to the partisan rancor (Straayer 2000). The governor’s formal powers were (and remain) secondary to the legislature but their informal powers (agenda setter, media spotlight, etc.) allow significant policy-making influence.²³

²² The Colorado state legislature has a six-member Joint Budget Committee (JBC) that controls state financial policies. While the governor does submit an annual budget to the legislature, the JBC and legislature are the ultimate budgetary decision makers (Straayer 2000).

²³ Straayer (2000) provides an excellent example of the formal and informal powers of both the Colorado legislature and governor. In 1988, Democratic Governor Roy Romer vetoed HB-1274 that would use state lotto money to fund prisons but was overridden by a two-thirds vote in the legislature. Straayer (2000, 272) states, “The governor demonstrated how the state’s chief executive can use his center-stage platform to good political advantage. Colorado is not a strong-governor state. The executive budget powers are weak, state agencies respond as much to legislative cues as they do to the chief executive, and in 1988, as has been the case over the past full decade, the Democratic governor’s political opposition controlled both legislative houses . . . Yet the governor came within a whisper of stopping it. The governor used his media position very effectively to whip up political opposition in the public. He very nearly won. The lotto story also shows how persons in positions of leadership can use their power to make real differences in public policy.”

The pro-development status quo encountered serious statutory and regulatory setbacks during the 1990s when the Republicans controlled the legislature and Democrat Roy Romer served as governor. Industry experienced the regulatory ratchet more than ever before, but the COGCC and politicians realized the continued economic importance of natural gas to the state's economy (Raabe 2001). Thus, natural gas policy retained its pro-development focus (as also dictated by the promotion, no-wasting clause in the governing statute) even with the new strictures in place. Colorado's next governor, Republican Bill Owens (1999-2007), furthered this pro-development status quo. Owens, a former state senator and representative, ran on the platform of cutting taxes, repairing Colorado's aging infrastructure, and as an advocate for school accountability reforms. Governor Owens was clearly an advocate for the natural gas industry and his oil and gas industry ties and dislike of industry antagonists are well documented (Greene 2001).²⁴ During his tenure, Governor Owens signed a number of pro-status-quo natural gas bills into law and resisted further industry regulation (Johnson 1999; Schroer 1999; Denver Post Editorial 2000).²⁵

The 2005 change in party control of the Colorado state legislature was followed by another political change in the governor's office in 2007. Former Republican Governor Bill Owens did not want the natural gas industry, a major source of state revenues, to be regulated more stringently, but was term-limited. In 2006, gubernatorial candidate Bill

²⁴ Prior to and during his political career, former Governor Owens served as the Executive Director of the Colorado Petroleum Association as well as Executive V.P. of the Rocky Mountain Oil and Gas Association.

²⁵ For example, during Owens first year as governor (1999) he signed a law deregulating the natural gas retail market.

Ritter's (D) campaign platform focused on the benefits of renewable energy, arguing that it could reduce dependency on oil and gas and invigorate economic development in Colorado's rural areas (Couch 2007).²⁶ Ritter was subsequently elected and touted a "New Energy Economy" that promoted renewable energy development and called for a more balanced oil and gas development strategy (Clausing 2007; J. Brown 2007; K. Brown 2007; Ingold 2008).²⁷ Governor Ritter's expansive energy policy agenda and activity has been at the policy forefront throughout his administration. After first promoting and ensuring the passage of a more aggressive renewable energy portfolio standard, Ritter began developing strategies to address political issues stemming from the natural gas development boom.

In early 2007, Ritter signed several executive orders (D0011-07 and D0012-07; Greening of State Government: Goals and Objectives and Detailed Implementation) requiring all state agencies to reduce energy consumption by 20%, paper use by 20%, water use by 10%, and petroleum consumption by 25% by 2013. Simultaneously, he renamed and refocused the Governor's Energy Office to reflect "New Energy" policies and climate change concerns. Many of Ritter's renewable energy and natural gas policies

²⁶ Bill Ritter's gubernatorial campaign and subsequent legislative agenda included a concentrated push to expand Colorado's renewable energy standard from 10 to 20 percent, require gas utilities to adopt energy conservation and efficiency programs, enhance transmission capacity to accommodate wind and solar power, promote new energy technologies, and implement energy efficiency standards for new state-owned buildings.

²⁷ Governor Ritter's "New Energy Economy" proposals included investing in energy-efficiency programs, using tax incentives to help solar-panel manufacturing and home installation, developing a high-tech electrical grid, and building new natural gas pipelines. Ritter detailed these proposals in a letter to President Barak Obama and the policy suggestions were well received.

found legislative traction and he signed 10 natural-gas-related policies into law during 2007.

The governor's environmental stewardship efforts did not stop there as he supported a status-quo challenging and extensive regulatory rule-making in 2008, backed a 2008 ballot initiative that would eliminate natural gas severance tax breaks, and attempted to influence BLM and federal policy with respect to natural gas development on the Roan Plateau (Jaffe 2008; Denver Post Editorial June 11, 2008; Ingold 2008; Gable 2008; Denver Post Editorial December 14, 2008). The Roan Plateau, located in Colorado's western slope, is mostly BLM-controlled land that potentially contains nine trillion cubic feet of natural gas. The George W. Bush administration and 2005 Energy Policy Act called for aggressive development of the federal mineral estate and the Roan, under BLM control, was slated for leasing and development. Governor Ritter and many Democratic members of Colorado's U.S. Congressional delegation worked hard to forge a compromise with the BLM and industry. Ritter called for a phased leasing strategy, protection for 36,000 acres of wildlife habitat, increased environmental safeguards, and a greater state share of lease revenues. The BLM, at the direction of the Bush administration, largely ignored these requests and leased the Roan much to the consternation of Governor Ritter and his supporting coalition. Ritter lamented the all-at-once lease sale that resulted in "vastly undervalued bids" and complained that the federal government "has done a tremendous disservice to our state and to every Western Slope community impacted by drilling" (Straube 2008). Although Ritter failed to steer federal natural gas policy in Colorado during the Bush administration, he was very successful in achieving his energy policy initiatives at the state level. Even in a legislatively dominant

state, the governor does wield considerable influence over the political agenda and policy choices.

As evidenced in this section, generalizations about party control and “weak” governors are sometimes completely wrong. Party control of the state legislature and governor’s office is only one of many controls on natural gas policy direction. Long-standing statutes, like Colorado’s Oil and Gas Act, set policy precedents that restrict or channel policy in a specific direction. But the political institutions and laws they promulgate, although historically constrained, are not static. Thus, in the next section I examine how the state legislature is framing natural gas policy as a response to this recent boom. Interest group framing efforts, although important in natural gas policy formation, are also subject to state legislative policy precedent and institutionally accepted issue frames. In the following section, I explore these issue frames as articulated in the Colorado state legislature by characterizing natural gas agenda attention, success rates, and problem definition content during the recent boom.

Colorado State Legislature Results

Natural Gas Agenda Attention and Success

The 1951 Colorado Oil and Gas Conservation Act (Oil and Gas Act)(C.R.S. § 34-60-102 through 126) was designed to foster, encourage, and promote the development of oil and gas. The statute, amended numerous times since its original passage, maintains its original objectives and continues to effectively promote natural gas development.²⁸ Subsequent amendments in 1994 expand this pro-development mission but also include protections for environmental and human health impacts. Unlike neighboring Wyoming, Colorado’s economy is considerably more diverse and less dependent on the natural gas

²⁸ See Chapter I for an analysis of past Colorado State Legislative natural gas statutes and amendments.

industry for its overall economic well being. Prior to Colorado's economic diversification, extractive industries were the dominant economic engine in Colorado, and the Oil and Gas Act reflects these pro-development economic frames. The Oil and Gas Act retains this initial economic emphasis, but as the recent boom progresses my analysis shows that alternative definitions including environmental, land-use, and democratic frames gain legislative attention. In this section, I examine the Colorado state legislature's natural gas policy narrative by looking at agenda attention, success rates, and legislative bill framing content from 1999-2008.

The Colorado General Assembly proposes and deals with a large number of bills each session (mean of 681 bills per session during this 10-year study) and natural gas bills occupy a small fraction of the total legislative agenda. Between 1999 and 2008 Colorado state legislators passed 30 of 48 proposed natural gas bills into law (62.5% success rate). Figure 3.2 details the relatively small number of proposed natural gas bills (mean = 4.8/year) as well as the proportionately high number of bills passed into law (mean = 3.0/year). In 2000, natural gas development in Colorado's Piceance basin (west-slope) was booming, and this spurred some political concerns. As a result, the legislature passed and Governor Owens signed into law SB00-16 (COGCC Personnel Requirements), requiring that two members of the COGCC must be from communities west of the continental divide. During this legislative session, several other bills attempting to increase surface owner (HB00-1008) and wildlife (HB00-1009) protections failed. Following those early statutes, natural gas bills are a minor agenda item until 2007 when an unusual number of bills are proposed and passed (Figure 3.2). As I will

discuss in greater detail, changes to natural gas policy in 2007 surpass the 1994 policy changes.

Figure 3.3 shows agenda attention and success rates for natural gas bills from 1999-2008.²⁹ During this time, natural gas agenda attention shows little variation (0.3% to 2.0%), occupying only small piece of the entire state legislative agenda. Simply looking at natural gas agenda attention relative to the host of other policy issues, one may conclude that the institution is comfortable with the status quo. However, natural gas agenda attention spikes in 2007 (2% of total legislative agenda) and declines in 2008 (0.9%). This 2007 agenda attention peak indicates that significant policy activity and change is afoot. Natural gas bill agenda success rates span a wide range (0% to 100%) but also peak in 2007 and 2008 (76.9% and 100%, respectively) (Figure 3.3). Again this high success rate is an indicator that policy is moving. Overall, natural gas bills exhibit a relatively high success rate (mean = 62.5%) even though the number of bills proposed each year is low. These simultaneous peaks in both agenda attention and success rates indicate that natural gas issues are institutional priorities in 2007.

Colorado, 7 or 8 years into the boom by this time, is confronted with increasing environmental, economic, and land-use issues that the legislature previously ignored. As noted, Democratic control of the legislature and Governor Ritter's promotion of a "New Energy" economy enable natural gas issues to gain greater institutional attention in 2007. State legislators take advantage of this "window of opportunity" (Kingdon 1995) by re-

²⁹ Agenda success (AS) is calculated as the number of natural gas bills signed into law divided by the total number of natural gas bills per legislative session (e.g., in 2007, 10 natural gas bills became law and 13 natural gas bills were proposed: $10/13 = 76.9\%$). Agenda attention (AA) is calculated as the total number of natural gas bills divided by the total bills per legislative session (e.g., in 2007, 13 natural gas bills were proposed of the legislature's 642 total bills: $13/642 = 2.0\%$)

introducing previously unsuccessful bills and developing new bills that address several of the neglected issues stemming from the boom. These natural-gas-related bills cover a variety of issues including severance taxes, surface-owner accommodation, wildlife protections, COGCC membership requirement changes, and surface development notification. Elevated agenda attention and success rates and changes in state legislative framing point toward policy change in 2007.

Agenda attention and success rates, however, only tell part of the natural gas policy story because they do not differentiate among those bills that promote, undermine, or have little effect on the status quo. Appendix 3.1 provides a detailed list of the legislature’s natural-gas-related bills, their titles, end result, dominant and secondary problem definitions, and relation to the status quo. Table 3.1 details the percentage of pro-, anti-, and neutral-status-quo natural gas bills and their agenda success rates.³⁰

**Table 3.1
Colorado Pro-, Anti-, and Neutral-Status-Quo Bills and Agenda Success**

| | Natural Gas Bills (% of total) | Agenda Success |
|------------------------------|---------------------------------------|-----------------------|
| Pro-Status-Quo Bills | 18.8% | 77.7% |
| Anti-Status-Quo Bills | 45.8% | 40.9% |
| Neutral | 35.4% | 82.4% |
| All Natural Gas Bills | ----- | 62.5% |

³⁰ An example of a pro-status-quo bill would be the 2007 Surface Developers Notify Oil and Gas Operators Bill (SB07-237) that instructs surface developers to provide notice to oil and gas operators prior to development in the greater Wattenberg area (front-range). Bills promoting the status quo loosen regulation, ease the tax burden on natural gas developers, establish or strengthen institutions promoting resource development, and incentivize development. A prime example of an anti-status-quo bill is the 2007 Surface Owners’ Accommodation Act (HB07-1252), that provides for notice, compensation, and remedies to surface owners for losses due to oil and gas development (Appendix 4.1). Bills working against the status quo seek greater regulation, more environmental protections, surface owner property rights advancement, higher taxes, and increased penalties for regulatory violations.

Anti-status-quo bills comprise nearly one-half, neutral bills occupy around one-third, and pro-status-quo bills occupy less than one-fifth of all proposed natural gas bills. By parsing natural gas bills into these three categories, the agenda success measurement becomes more meaningful. Pro- and neutral-status-quo bills have a much greater chance of becoming law (77.7% and 82.4%, respectively) than status-quo-challenging bills (40.9%). Numerous-status-quo challenging bills are proposed throughout this 10-year legislative window, but the relatively low success rate speaks to the difficulty of changing pro-development policies. This is unsurprising given the intransigence of the status quo. The overall agenda success rate (62.5%) does not account for the legislature's propensity to pass pro-development or neutral natural gas bills and its rejection of over one-half of the status quo challenging bills.³¹

Agenda attention and success rate analyses show that natural gas issues are a relatively low institutional priority and any changes to the status quo are uncommon. However, the variability in both agenda attention and success leads to more questions about how policy content and issue frames evolve through time. Agenda attention and success are broad measures of policy action and institutional priorities; however, they do not address the timing, content, and determinants of success of natural gas bills. Thus, in the next section I analyze natural gas bill content to clarify how the legislature is framing natural gas issues. Measuring changes in natural gas problem definitions through time provides insights into policy shifts and the dynamic nature of framing.

³¹ When classifying the bills into the pro-, anti-, and neutral-status-quo categories, I look at the language of each bill to determine if it generally supports, undermines, or has little overall effect on the status quo.

Institutional Framing

In this section, I analyze how the Colorado state legislature frames natural gas policy during the recent boom. As articulated in Chapter 2, institutional frames are coded according to analytically derived problem definition categories that include the environment, economy, land-use, democracy, federalism, policy surrogate, and condensation symbol frames. Table 3.2 presents Colorado state legislative natural gas problem definitions as a percentage of the total frames from 1999 through 2008. Environmental frames are the dominant natural gas problem definition followed by economy, land-use, democracy, and federalism frames. These data indicate that although legislative and existing pro-development status quo policies are concerned with the economics of natural gas policy, environmental, land-use, and democracy issues are also institutional priorities. Given Colorado's diverse economy, it is logical that the legislative policy narrative would reflect a balance among natural gas development, environmental concerns, land-use struggles, and basic democratic values.

Table 3.2
Colorado Legislature Frame Use (1999-2008)

| Frame | Yearly Mean | % of Total |
|----------------------|--------------------|-------------------|
| Environment | 35.1 | 30.1% |
| Economy | 24.8 | 21.3% |
| Land-Use | 23.6 | 20.2% |
| Democracy | 17.8 | 15.3% |
| Federalism | 13.6 | 11.7% |
| Policy Surrogates | 1.5 | 1.3% |
| Condensation Symbols | 0.2 | 0.2% |

It is important to note that these simple percentage calculations do not show the variability in institutional framing between each legislative session. Natural gas environmental frames may be the most prevalent, but they did not always occupy this institutionally privileged position.

Figure 3.4 presents Colorado state legislature natural gas bill frames from 1999 through 2008. Several problem definition trends are evident in Figure 3.4. Legislative framing of natural gas policy between 1999 and 2004 is relatively static with low frequencies (Figure 3.4). The paucity of legislative activity and relatively silent legislative discourse imply acceptance of the pro-development status quo. Legislative framing changes significantly between 2004 and 2007 as evidenced by increases in framing frequencies for all categories (Figure 3.4), agenda attention and success rate increases (Figures 3.3), and record high framing efforts. Environmental frames, used infrequently until 2005, begin trending upward and peak in 2007.³² Importantly, land-use, economic, and democracy frames gain institutional traction beginning in 2005 and peak along with environmental framing in 2007.

This institutional framing shift between 2004-07 is what Kingdon (1995) would refer to as a “softening-up” period. It takes time for alternative policy proposals and policy redefinitions to make it on the institutional agenda (split-estate issue had been brewing for a while), and the legislature experiences this softening-up period before these long-time present but previously marginalized frames are considered, modified, and/or passed. In this case, the legislature begins to frame at increasingly elevated levels using previously ignored frames several years before the passage of the 2007 statutes. This 2007 policy shift is reflected by the heightened legislative attention, elevated agenda

³² The elevated use of environmental and economic frames in 1999 is attributed to a natural gas deregulation bill (SB99-153). The elevated use of land-use (private property rights) and democratic frames in 2001 is attributed to a failed bill (HB01-1062)(Compensation for Land Surface Damages) that attempted to provide greater protections and input for surface owners in the face of natural gas development.

success rate (Figure 3.3), and measured changes in framing content and frequency (Figure 3.4).

What caused these notable shifts in legislative framing and policy? The Democrats gained control of both state legislative houses in 2005 (Figure 3.1) and previously ignored natural gas issues and alternative frames now had an institutional audience. Environmental issues, including human health, pollution, wildlife, and habitat protection, and increased regulations gained institutional traction and attention under Democratic control. Increases in agenda attention, changes in the policy narrative, and a dramatic spike in the number of anti-status-quo bills foreshadowed the policy shift that occurred in 2007. When Democrat Bill Ritter was elected governor in 2007, unified party government enabled alternative natural gas policy proposals to achieve agenda recognition and success. As a result, the state legislature reframed natural gas issues using status-quo-challenging frames including the environment, land use, and democracy.³³

For example, the legislature passed and Governor Ritter signed into law a bill that fundamentally restructured the COGCC (HB07-1341). This statute expanded the COGCC from seven to nine members, reduced the board's industry membership (from five to three), and added environmental, wildlife, and public health membership requirements. Ritter immediately appointed five new COGCC members including an ecologist, environmental consultant, and a west-slope county commissioner (Clausing 2007). Ritter's green agenda was emboldened after touring the Roan Plateau and more

³³ Notably, the legislative discourse was already reflecting a fundamental shift in content and priorities prior to status quo changes in 2007.

northerly Vermillion Basin, where he had a “spiritual experience.” He articulated his thoughts as follows:

“We want to leave things better than how we find them . . . These are different voices. We can create an energy future for our state and our nation that is built on the best available technology and does not come at the expense of our environmental future. We're stewards of this place. We're stewards of this time. It's not just about governing. It's not just about leadership. It's about citizenship. (I will) be a stubborn steward” (Brown 2008).

Unified party government coupled with Governor Ritter’s “New Energy” agenda allowed for marginalized voices to be heard and fostered conflict expansion, but this is not the only reason for the 2007 policy shift. Colorado’s dramatic population increase and rapidly expanding amenity-based economy also place numerous demands on land use. For decades, natural gas development on split-estate lands (i.e., surface ownership separate from subsurface mineral ownership) has created heated land-use debates and political fights. The “Weld County Wars” of the early 1990s pitted agricultural interests against natural gas developers with respect to split-estate property rights. A 1992 bill attempting to clarify split-estate property rights failed, but the fundamental debate over how each estate should accommodate the other persisted. Five split-estate bills (see Appendix 3.1) between 2000 and 2006 failed, but the issue’s continued presence on the institutional agenda speaks to the enduring and contested nature of the problem. After considerable debate, an extended legislative history, and institutional familiarity with the issue, Colorado passed the Landowner Protection Act in 2007 (HB07-1252). This act requires gas companies to consider surface owner rights, minimize surface impacts, and

gives surface owners a cause of action to litigate with the burden of proof upon the natural gas developer.³⁴

This Landowner Protection Act changes the status quo in that it provides more balance between the surface and mineral estates – undermining the historic dominance of the mineral estate. In 2007 the legislature also passed the Wildlife Protection Act (HB07-1298), which concerns the conservation of wildlife habitat and minimization of adverse impacts resulting from oil and gas development. This statute substantively alters the status quo because oil and gas companies must now minimize their impacts on wildlife habitat and provide remedies or alternative mitigation plans prior to and during natural gas development. Through this statute, the legislature clearly demonstrates that wildlife and wildlife habitat are valued in Colorado and must be taken into equal consideration when natural gas development is planned. When surface owners and Colorado greenback cutthroat trout gain ground on energy development, policy has changed significantly.

Colorado also passed the Severance Tax Coalbed Methane Seepage Act (HB07-1341) in 2007. This status-quo-challenging act creates a natural gas severance tax and creates a CBM cash fund to investigate and mitigate CBM gas seepage. Adding a new natural gas severance tax and establishing a fund for study and cleanup is a substantive change to the status quo and is further evidence of a policy punctuation in 2007.

Cumulatively, these statutes undermine the pro-development status quo and are the focus of continued political contestation especially during the 2008 COGCC rule-making process. While numerous status-quo-challenging, neutral- and pro-development bills are

³⁴ The 2007 Landowner Protection Act basically codifies *Gerrity v. Magness*, a 1997 Colorado Supreme Court case that laid out the legal framework for mutual accommodation between surface and mineral owners.

passed in 2007, it is important to note that this legislative framing analysis captures these changes. Legislative framing shifts, evidenced by spikes in environmental, land-use, economic, and democracy frames, occur between 2004-07 and peak in 2007 (Figure 3.4). Environmental problem definitions, previously underused, become the dominant frame relating to natural gas development with private-property rights (land-use) and democracy frames also gaining institutional attention and use. Thus, the state legislature completely reframes natural gas development issues using the environment and partially reframes policy along land-use and democracy lines (answering Hypothesis #4). This reframing, once initiated in the legislature, occurs rapidly over 4 years (Hypothesis #5), and uses pre-existing frames (Hypothesis #6). Although the extent of policy adjustment away from the pro-development status quo remains to be seen as the statutes are implemented and tested in the courts, legislative framing analysis is a viable method of measuring framing changes and serves as an indicator of policy change. Arguably, significant and sustained legislative reframing points toward policy change.

The broader political, social, and economic context contributes to natural gas policy changes. Erosion of the pro-development status quo has occurred in Colorado under both unified and divided government, so this cannot be the sole explanation for policy change. Interest groups play a significant role in framing natural gas development and pressuring politicians to accept their preferred policy frames and solutions. As I will discuss further in my analysis of interest group framing, long-time and concerted framing efforts by status quo challengers like SJCA contribute significantly to natural gas issue reframing and policy change. In the next section, I turn my attention to the framing efforts of two representative interest groups, San Juan Citizens Alliance and Williams.

Interest Groups

In this section I examine two competing Colorado interest groups, the San Juan Citizen Alliance (SJCA) and Williams Energy (Williams), by characterizing how they define natural gas development in their public consumption documents during the recent boom (1999-2008). SJCA does not have any public documents available for review prior to 2000, so the analysis begins at that time. The degree of development, age, and natural gas resources of the major geologic basins varies widely, but the analysis is designed to cover the time period of heightened natural gas development and political activity of the two organizations. These organizations are selected for study because of their active and long-standing participation in the legislative, regulatory, and judicial venues at the local, state, and federal levels. Williams is one of Colorado's largest producers of natural gas with substantial holdings in the huge plays of the San Juan and Piceance Basins. The SJCA has been actively involved in natural gas policy issues since 1986 and works to promote the rights of communities and people in the San Juan Basin.

San Juan Citizens Alliance (SJCA)

As a grassroots organization that began in 1986, SJCA articulates its mission as follows (SJCA 2009):

“San Juan Citizens Alliance is a grassroots organization dedicated to social, economic, and environmental justice in the San Juan Basin. We organize San Juan Basin residents to protect our water and air, our public lands, our rural character, and our unique quality of life while embracing the diversity of our region's people, economy, and ecology.”

SJCA is a relatively small community advocacy organization with 9 board members, 10 full- and part-time staff, over 550 members and a small operating budget around \$500,000/year (SJCA 2009). SJCA members represent a diversity of people including environmentalists, ranchers, county commissioners, business owners, outfitters, farmers, and other residents of the San Juan Basin in southwestern Colorado, northwestern New

Mexico, and throughout these two states. This unusual coalition, comprised of historic adversaries like environmentalists and ranchers, is uniting in order to make natural gas development more amenable to the environment, surface owners, and fundamental democratic ideals like transparency, accountability, participation, and equality. From its inception, the SJCA has organized to empower communities and individuals affected by natural gas development in the San Juan Basin. SJCA's long-standing interaction with the natural gas industry, political advocacy, and familiarity with the issues surrounding natural gas development make them a knowledgeable and representative member of the status-quo-challenger coalition in this policy conflict. SJCA also works with a number of like-minded citizen groups, and these advocacy coalitions share resources, knowledge, values, and strategies.³⁵

Williams

Williams is the 13th largest natural gas producer in the United States with primary production areas in the Piceance (CO), San Juan (CO), Powder River (WY), Fort Worth (TX), and Arkoma (OK) basins (Williams 2009). Williams is an expert in developing non-conventional natural gas reserves from tight sands, coalbeds, and shale formations and is one of the largest producers of natural gas in Colorado. In addition to their

³⁵ SJCA lists many environmental organizations that they engage in advocacy work with and they include: American Rivers, Center for Native Ecosystems, Clean Water Network, Colorado Environmental Coalition, Colorado Mountain Club, Earth Friends Wildlife Foundation, Earthjustice, High Country Citizens Alliance, Oil and Gas Accountability Project, Public Employees for Environmental Responsibility, Safe Roads Coalition, Sierra Club – National, Sierra Club – Rocky Mountain Chapter, Sinapu – Returning the Wolf to Colorado, Southern Rockies Conservation Alliance, Trout Unlimited, Western Colorado Congress, The Wilderness Society, and the Wilderness Watch. Although I use SJCA as a proxy for these organizations, I realize that each group may exploit a unique niche that differs slightly from them. Despite these minor differences, SJCA is representative of the broader status-quo-challenging community and is an apt organization for this research.

exploration and production business, Williams operates three major interstate pipelines, including the Northwest Pipeline. This nearly 4,000-mile bi-directional natural gas transmission system crosses Washington, Oregon, Idaho, Wyoming, Utah, and Colorado and provides access to British Columbia, Alberta, Rocky Mountain, and San Juan Basin natural gas (Williams 2009). Finally, Williams is a major midstream processor of natural gas and oil with sizeable natural gas processing facilities in the San Juan and Piceance Basins.

According to Williams, “the Piceance Basin is home to Williams’ most significant volume of natural gas: Production – more than a net 600 million cubic feet of natural gas per day; reserves – 7 Tcf (trillion cubic feet) of proved, probable, and possible; and development activity – 26 rigs operating” (Williams Press Release May 8, 2008).³⁶ To put these numbers in perspective, Williams produces enough energy from the Piceance Basin in northwestern Colorado to heat more than 2.2 million homes each day (Williams 2009). As a major producer, processor, and transporter of natural gas in Colorado, Williams has a vested interest in federal, state, and local natural gas policy. Notably, Williams was named the Hydrocarbon Producer of the Year in 2006 by industry and has received several awards from the BLM, Colorado Conservation Commission, and Colorado Oil and Gas Conservation Commission for its superior management practices, drilling technology innovations, and air and water sampling programs (Williams 2009).

³⁶ Williams’ Piceance basin unconventional proved reserves (3,095 Bcfe = 71% of total proved reserves), production (238 Bcfe), and total producing wells (3,163 gross wells) are largely responsible for the \$1.3 billion exploration and production profit in 2007. Rapid exploration and production in the Powder River basin is contributing increasingly more to this profit and production numbers. See Williams 2008 Annual Report for the statistical information (http://www.williams.com/investors/annual_reports.aspx).

Analysis

Agenda and Interest Group Attention

San Juan Citizens publishes a newsletter, San Juan Citizens Report (Report), which contains a variety of articles related to natural resources, energy, wilderness, water, agricultural, and other community issues. For this research I analyze and code 109 natural-gas-related articles published in the SJCA Report (2000-2008). When analyzing Colorado state legislature natural gas bills, I note the relative percentage of agenda attention given to these bills. Similarly, I calculate the attention given to natural gas issues by the SJCA in its newsletter. Figure 3.5 presents the SJCA's natural gas interest group attention (IGA) score throughout the study period.³⁷ On average, SJCA devotes 28.7% of its attention to natural gas articles, but yearly analysis shows a wider variability and a discernable upward trend (Figure 3.5).³⁸ San Juan Citizens' attention score demonstrates a gradual upward trend (except for 2000) ranging between 23-29% until 2006 where it rises significantly, peaking at 40.9% (Figure 3.5).³⁹

Williams does not publish a monthly newsletter; rather, they frequently publish press releases and fact sheets easily available for public consumption.⁴⁰ Between 1999 and

³⁷ The interest group attention score (IGA) is calculated by dividing the total number of natural gas articles per year by the total number of all articles per year in the San Juan Citizens Report (e.g., in 2006 there are 18 natural gas articles and 44 total articles: $18/44 = 40.9\%$ IGA score).

³⁸ I coded 109 natural gas articles out of 395 total San Juan Citizens Report articles (from 2000-2008) and natural gas articles equal 28.7% of the total.

³⁹ The 40% IGA score in 2000 (Figure 3.5) is an anomaly because the SJCA only published one newsletter that year. During all other years in this study, the SJCA published either two or three newsletters per year.

⁴⁰ Williams regularly publishes press releases and fact sheets, and these documents (1996-2008) are available in Williams' newsroom archives at: <http://www.williams.com/newsroom/>.

2008, Williams published 1,066 press releases and fact sheets of which only 38 are directly relevant in this analysis. Using these public documents, I calculate the degree of attention Williams devotes toward natural gas policy issues. Figure 3.5 presents Williams' natural gas interest group attention (IGA) score throughout the study period. During this time, Williams devotes only 3.6% of its attention to natural gas policy, but yearly analysis shows a wider variability and a discernable upward trend (Figure 3.5).⁴¹ Williams' natural gas attention score is consistently low (around 2%) between 1999 and 2004 and then rises significantly, peaking at 17.3% in 2007.

Figure 3.5 compares state legislative natural gas agenda attention with San Juan Citizens' and Williams' interest group attention scores. As a status quo challenger, SJCA devotes considerably more attention to natural gas issues (mean = 28.7%) than either Williams (mean = 3.6%) or the state legislature (mean = 0.7%). SJCA also increases its focus on natural gas issues earlier than Williams. Both San Juan Citizens and Williams allocate a greater percentage of their attention to natural gas issues as time progresses, but Williams makes a concerted natural gas framing effort beginning in 2005. Note that Williams interest group attention and state legislative agenda attention peak simultaneously in 2007, while SJCA peaks a year earlier (Figure 3.7). SJCA increases their natural gas framing efforts during the 2006 election year in an attempt to direct state level natural gas policy. SJCA framing efforts and attention drop in 2007 because many of their policy preferences are codified during that legislative session.

⁴¹ I coded 38 of 1,066 total press releases and fact sheets (interest group attention mean = 3.6%).

This concurrent rise in state legislative agenda attention and interest group attention is more than coincidence. The SJCA is responding to pending natural gas legislation through their newsletter articles while simultaneously attempting to frame the policy debate in terms supportive of their policy preferences.⁴² Increased agenda attention drives, to a certain degree, the increase in SJCA interest group attention. The degree to which SJCA's framing efforts are driving legislative attention is more difficult to discern and is better explored through framing analysis. Whether interest group attention is driving policy attention or vice versa belies the point that reframing natural gas issues are a top priority for the SJCA. Conversely, Williams remains relatively silent until 2005 when they begin spending considerably more attention on framing natural gas policy issues. After the Democrats gained control of the legislature in 2005, Williams becomes more active in its efforts to support the pro-development status quo.

While agenda attention and interest group attention are general measures of institutional and interest group priorities, they do not provide insights regarding the timing and content of interest group framing efforts. In the next section, I explore the framing strategies employed by each group to determine dominant and secondary frames and how they change through time.

⁴² SJCA regularly publishes newsletters and fact sheets, and these documents (1996-2008) are available in SJCA's archives at: <http://www.sanjuancitizens.org/otherpages/publications.shtml>. Examples of San Juan Citizens articles that respond to and advocate for status-quo-challenging legislation include: Feb 2007, "Colorado Landowner Bill Gains Momentum"; June 2007, "17 Years and Counting – Oil and Gas Reform Long Overdue"; June 2007, "Progress for Landowners: CO, NM Pass Sweeping Oil and Gas Reforms"; Feb 2006, "Surface owner rights: the good, the bad, and the ugly"; March 2005, "Colorado Lawmakers Debate Surface Owner Protection"; etc.

Interest Group Framing
San Juan Citizens Alliance (SJCA)

Table 3.3 presents San Juan Citizen's problem definition statistics for the study period. SJCA uses environmental problem definitions as their dominant argument (37.7%) and land-use frames in a secondary role.

Table 3.3
San Juan Citizens Alliance
Frame Use (2000-2008)

| Frame | Yearly Mean | % of Total |
|----------------------|--------------------|-------------------|
| Environment | 76.8 | 37.7% |
| Land-Use | 47.6 | 23.4% |
| Democracy | 31.0 | 15.2% |
| Federalism | 22.1 | 10.9% |
| Economy | 13.1 | 6.4% |
| Condensation Symbols | 9.4 | 4.6% |
| Policy Surrogates | 3.6 | 1.7% |

While less frequently used, SJCA employs democracy, federalism, and economy frames to express their beliefs and support their policy positions. These aggregate results show SJCA's overall framing priorities but miss framing variability through time. Before delving into the specific environmental, land-use, and democracy arguments SJCA uses to express their beliefs and frame policy issues, I first explore SJCA yearly framing trends. Figure 3.6 presents the framing analysis of San Juan Citizens natural-gas-related articles from 2000-2008.

As the boom progress, SJCA employs environmental frames at high rates, especially between 2002 and 2006.⁴³ SJCA frames natural gas development as problematic by stressing that natural gas development creates human health, habitat, wildlife, and

⁴³ Only two San Juan Citizens Report newsletters are published in 2005, compared to the surrounding years in which three newsletters are published. This lower number of newsletters and natural gas articles biases the sample results and is responsible for the 2005 drop in environmental, land-use, and democracy frames.

pollution concerns that should be more closely regulated. Although SJCA emphasizes different environmental frames depending upon the political context, environmental framing overall remains a central and dominant frame.⁴⁴ For example, in response to proposed natural gas development in Colorado's roadless areas, especially in the San Juan National Forest HD Mountains, SJCA uses a "special places" argument. This "special places" argument emphasizes the negative effects that development could have on human health, habitat, and wildlife. The "special places" argument relating to public lands is both an important and common set of problem definitions and narrative strategies employed by the SJCA and its allies during the early boom time.⁴⁵

Figure 3.6 also shows San Juan Citizens' framing efforts peaking for all categories (except the environment, which is near its peak) in 2006. As previously noted, the change in party control of the legislature in 2005 and the election of Democrat Bill Ritter

⁴⁴ For example, SJCA began using habitat and wildlife frames in response to the Forest Service's Draft Environmental Impact Statement in which nearly 300 coalbed methane wells were proposed in the San Juan National Forest HD Mountains. SJCA ran a series of articles in 2002 arguing against drilling in the HD Mountains, a small area on the northeast corner of the San Juan Basin. SJCA argued that the HD Mountains are a rugged, partially roadless area that is valuable for its wildlife habitat and that the pollution potential poses negative effects on the watershed and nearby ranchers dependent upon spring and surface water in the HDs. See the following articles: SJCA 10/02 Newsletter, "New Study Offers Alternatives to Drilling the HD Mountains"; SJCA 5/02 Newsletter, "HD Mountains Under Fire by Industry"; SJCA 1/02 Newsletter, "Coalbed Methane Development Threatens HD Mountains."

⁴⁵ During an interview with Bruce Baisel, attorney for the Oil and Gas Accountability Project (OGAP) in Durango, CO, on 3/24/09, Mr. Baisel spoke of the "special places" argument as a powerful means of defining natural gas development. "Special places politics" and the accompanying environmental problem definitions serve as a key narrative strategy employed by both SJCA and OGAP when dealing with public lands natural gas development in areas like the HD Mountains. Mark Pearson, Executive Director of the SJCA, also spoke of the HDs as a "special place" with "pristine watersheds, migration corridors, and as the only place where drilling has not occurred" – personal interview in Durango, CO, on 3/20/09.

in late 2006 open several previously closed venues to opponents of natural gas development.⁴⁶ SJCA increases its framing efforts as a response to the 2005 party control shift in the legislature, in an effort to influence policy debate during an important gubernatorial election in 2006 and because the timing and political environment are more amenable to their frames and policy preferences. SJCA also shows fidelity to its values and policy preferences through its accelerated framing efforts. Thus, SJCA speaks more frequently and loudly using a diversity of environmental, land-use, democracy, and federalism frames to promote its natural gas policy agenda (Figure 3.6).

San Juan Citizens employs land-use frames at increasing rates throughout the boom, peaking in 2006 (Figure 3.6). SJCA argues that natural gas development conflicts with alternative land uses such as ranching, farming, recreation, wilderness designation, and surface owner property rights. Private property rights arguments account for nearly one-half of the total land use arguments and are a very strong political theme. Split-estate surface owners desire increased participation and voice by landowners and neighbors in the development process, compensation for surface damages and loss of use, well and infrastructure placement input, and human health impact mitigation and more control over what they view as an unbalanced playing field.⁴⁷

⁴⁶ Mark Pearson, SJCA Executive Director, and Bruce Baisel indicated that the Colorado legislature, Governor Bill Owens (R), and the COGCC were generally opposed to any changes to existing natural gas laws and regulations and that these venues were effectively closed to organizations seeking to alter the pro-development status quo. Information was collected during personal interviews of Mark Pearson (3/20/09) and Bruce Baisel (3/24/09).

⁴⁷ Split-estate surface owners, ranchers, and SJCA members Jim and Terry Fitzgerald (personal interview 3/21/09) assert that surface owners are “largely powerless, with the deck stacked against them” in the face of natural gas development. Jim Fitzgerald

SJCA strategically defines natural gas development in terms of surface issues and consciously cultivates a unique set of allies, including private property rights groups, ranchers, recreationists, and the hunting and angling communities, to expand the scope of the conflict.⁴⁸ For example, SJCA sponsored and led surface landowner workshops to educate and mobilize local communities and members about the issues inherent to natural gas development (SJCA Winter Newsletter 2001, “Landowner Workshops”). This deliberate framing and coalition building helped expand the conflict and catapult surface owner notification, compensation, and input claims onto the institutional agenda. After numerous failed attempts to pass a surface owner protection law, SJCA and its allies like the Oil and Gas Accountability Project successfully persuaded the legislature to pass the Land Owner Protection Act and several other status-quo-challenging acts in 2007. By stressing that natural gas development interferes with other land uses including surface owner rights, SJCA sought to expand the conflict and include groups who were not previously mobilized. This strategic inclusion of ranchers, recreationists, farmers, and surface owners is reflected in SJCA’s land-use and democracy frames and remains a

described natural gas development in the San Juan Basin as a “process of colonization” where surface owners had few rights, no voice, and weak regulatory protection.

⁴⁸ Bruce Baisel (personal interview 3/24/09) asserts that the “first wave” in the struggle to alter the pro-development status quo included defining development using surface issues. Prior to 2000, surface issues were tied to public lands issues and the “special places” arguments. Following 2000 both OGAP and SJCA re-defined surface issues to include private property rights, ranching, farming, and recreation. This deliberate problem re-definition was a strategic act to include groups such as ranchers and private property rights groups in the struggle over development. Mark Pearson (personal interview 3/20/09) reiterates this strategic shift and asserts that ranchers, hunters, and surface owners are not only members of SJCA but share common values with the organization. Pearson argues that the noise, air, soil, and groundwater pollution created by natural gas development directly affects these interest groups and that SJCA’s mission, newsletters, direct and indirect lobbying, and other grassroots efforts reflect these shared values.

central narrative strategy throughout the case study. This unconventional alliance takes advantage of the electoral shift and uses this “window of opportunity” to effectively push the legislature to reframe and substantively change status quo natural gas policy.

Williams

Table 3.4 presents Williams’ framing statistics for the study period. Williams uses environmental problem definitions as their dominant argument (37.3%) followed by economy, land-use, and policy surrogate frames. Interestingly, Williams employs environmental arguments as their main frame but at yearly averages (16.2 per year) well below SJCA’s environmental yearly framing average (76.8 per year). Williams argues that technological innovations enable environmentally responsible energy development. Similarly, Williams asserts that domestic energy development should be a primary land use and that this development provides both diffuse and concentrated economic benefits.

**Table 3.4
Williams (CO) Frame Use (1999-2008)**

| Frame | Yearly Mean | % of Total |
|----------------------|--------------------|-------------------|
| Environment | 16.2 | 37.3% |
| Economy | 11.3 | 26.0% |
| Land-Use | 6.2 | 14.3% |
| Policy Surrogates | 5.8 | 13.4% |
| Federalism | 2.1 | 4.8% |
| Democracy | 1.7 | 3.9% |
| Condensation Symbols | 0.1 | 0.2% |

Figure 3.7 shows Williams’ framing efforts from 1999-2008. This graph shows several trends, notably a “hegemonic silence” from 1999-2004 followed by a significantly elevated use of environmental, economic, and land-use frames. Note that Williams’ environmental framing efforts peak in 2007 along with the state legislative framing peak (Figures 3.7 and 3.4, respectively).

At the beginning of the boom, Williams is not concerned with status quo challenges and exerts little framing effort. With pro-development institutional structures and policies firmly in place and natural gas advocate Governor Bill Owens at the helm, status quo challenges are easily rebuffed. Despite numerous failed attempts to undermine the status quo by groups such as SJCA, the legislative discourse reflects several of these previously excluded frames (environment, land-use, and democracy frames). Arguably, Williams is responding to environmental, land-use, and democracy critiques levied by SJCA and also to changes in legislative framing. After the Democrats gain control of the legislature in 2005, Williams increases their framing efforts. Following Governor Ritter's election in late 2006, Williams, aware of past failed attempts to undermine the status quo and of the potential ramifications of Democratic-controlled, unified party government, aggressively frames natural gas issues.

Williams increasingly defines natural gas development as environmentally responsible by citing how technological innovations and company conservation policies reduce pollution, improve habitat, and minimize the negative effects of development.⁴⁹

⁴⁹ For example, Williams contracted Helmerich and Payne to build 10 new FlexRig⁴ drill rigs using offshore drilling technology that enabled more environmentally responsible drilling and production (reduced drilling footprint, less traffic, quicker reclamation, quicker drilling and completion, etc.) within the Piceance Basin. Williams was the first to implement wellhead automation and solar power using remote telemetry to monitor and control production from a centralized facility. This effectively reduced vehicle traffic to well sites and enabled more efficient wellhead troubleshooting and monitoring. Williams also designed a four-phase separator and flow-back unit used during well completion that eliminated natural gas flaring by 95% and prevented more than 9 Bcf of natural gas from being released to the atmosphere between 2002-05. Finally, Williams and contractor Halliburton implemented a centralized hydraulic fracturing facility with a common pit for returned water that minimized water truck traffic, noise, and dust during the fracturing procedure and enabled multiple hydraulic fracturing procedures simultaneously.

Thus, Williams’ environmental counter-framing efforts cast natural gas in a positive and scientifically defensible position. Williams also argues that natural gas development provides substantial concentrated and diffuse economic benefits with millions of dollars in revenues, taxes, and royalties generated by production in Colorado.⁵⁰ As one of the largest taxpayers and employers in Colorado’s Garfield County, Williams asserts that their “green completions” enabled by technological innovations benefit the environment and local communities.⁵¹ Further, Williams states that production efforts provide concentrated economic benefits to company shareholders and diffuse economic benefits to the U.S. by meeting natural gas demands and reducing greenhouse gas emissions.⁵² Finally, Williams employs land-use and policy surrogate arguments to bring home the point by arguing that natural gas development in Colorado and the Rocky Mountain West is a key source of domestic energy that helps meet U.S. energy needs.⁵³

⁵⁰ Williams Fact Sheet, 9/06, “Exploration and Production – Piceance Basin” offers a good example of the concentrated and diffuse economic benefits from natural gas production.

⁵¹ Williams Fact Sheet, 2007, “Respect for the Rockies – Wildlife Habitat” asserts that their production efforts promote local employment and provide local-needed local tax revenues while protecting wildlife habitat. See also Williams Press Release, 8/20/07, “Federal, State Regulators Recognize Williams for Environmental Best Practices”, and Williams Fact Sheet, 7/05, “Exploration and Production – San Juan Basin”, where Williams asserts that their best management practices benefit (concentrated) local employment, county budgets, and the environment.

⁵² See Williams Press Release, 12/1/06, “Williams Corporate Responsibility, Respect for the Rockies”, for the concentrated economic benefits to shareholders problem definition and diffuse economic benefits to the U.S. See Williams Fact Sheet, 2007, “Williams and Climate Change: Position Statement”, where they argue that “clean burning natural gas is part of the solution to address climate change.”

⁵³ Williams asserts that Rocky Mountain West natural gas development is a vital resource that helps the U.S. meet its energy needs. Williams uses this domestic energy source argument as their primary policy surrogate. For good examples see: Williams

State Legislative and Interest Group Framing

Figure 3.8 presents the environmental framing efforts for the Colorado state legislature, SJCA, and Williams. For the first 6 years of this study period, the state legislature and Williams do not frame natural gas issues for the environment. SJCA, however, consistently employs environmental frames at elevated levels throughout the decade. This noncontradictory argumentation between interest groups (confirms Hypothesis #1) is followed later by direct engagement and frame convergence (confirms Hypothesis #2). Because SJCA frames for the environment first, at elevated levels, and Williams is late to the framing game, SJCA is the framing winner. At first, the state legislature ignores environmental conceptions of natural gas development but it engages this understanding between 2004-07 (Figure 3.8). Environment frames dominate state legislative bills and statutes in 2007 and the natural gas development issue is completely reframed. Many of SJCA's environmental arguments are found within the bills and statutes, and these challengers are instrumental in this legislative reframing.⁵⁴ Although Williams framing efforts peak along with state legislative framing in 2007, this environmental counterframing is ineffective, as four status quo challenging statutes are codified. These statutes include the 2007 Surface Owner's Protection Act, the Colorado Habitat Stewardship Act, a Coalbed Methane Severance Tax Seepage Act, and an act changing membership requirements of the COGCC. All actors ease up on their environmental framing efforts following this environmental reframe. This shows that

Press Release 5/8/08, "Williams Signs \$285 Million Deal to Add Natural Gas Reserves, Facilities in Piceance Basin"; and Williams Press Release 12/1/06, "Williams Corporate Responsibility, Respect for the Rockies."

⁵⁴ OGAP attorney Bruce Baisel (personal interview 3/24/09) asserts that his organization and SJCA were instrumental in providing the language and content for the 2007 Landowner Protection Act.

environmental concerns have been addressed and the legislature and interest groups are concentrating on other agenda items and frames.

SJCA and Williams use economy frames infrequently, and interest group framing trends mirror each other until 2006 when Williams utilizes economy frames more aggressively (Figure 3.9). Interest group framing efforts for the economy refute the noncontradictory argumentation and framing convergence hypotheses for the economy variable. The Colorado state legislature gradually increases their use of economy frames, peaking in 2007. Again, this is a reaffirmation of the historically dominant economy-based, status quo frame.

Williams and SJCA, again, do not engage each other when framing for land-use issues. Williams remains largely silent except for the occasional assertion that energy development should be given priority in land-use decisions. SJCA argues at elevated levels and with increasing frequency that natural gas development is deleterious to all other land uses and significantly infringes upon surface owner rights (Figure 3.10). The Colorado state legislature eventually picks up this land-use critique offered by SJCA and within 4 years it partially reframes natural gas development issues in an attempt to rebalance the split-estate political dynamic (Figure 3.10). The critical and lengthy chorus sung by status quo challengers about the inequity of the split-estate and how other land-uses like recreation, ranching, and habitat preservation are damaged by natural gas development is heard and sung back by the legislature (or at least the refrain is echoed).

Again, SJCA consistently employs democratic arguments relating to participation, transparency, right-to-know, and equality in an effort to gain more voice in the natural gas policy debate (Figure 3.11). Williams does not engage in this dialogue at any point

throughout this decade of study. Thus, the noncontradictory argumentation hypothesis is upheld but the frame convergence hypothesis is refuted. Democracy frames are present in the legislative discourse at several points when the legislature is exploring various iterations of surface owner protection bills, and these frames are codified in the Landowner Protection Act of 2007. The state legislature partially reframes natural gas issues to include these democratic principles over a relatively short 4-year time period using previously existing but institutionally neglected democracy arguments offered by SJCA. Notably, framing efforts by the state legislature drop off considerably for all major framing categories, including democracy, following the 2007 policy shift. The legislature incorporates these different and status-quo-challenging conceptions of natural gas development into policy and moves on.

In sum, the Colorado state legislature completely reframes policy using environmental frames and partially reframes policy using land-use and democracy arguments. Once begun, this reframing occurs quickly and incorporates long existent but previously marginalized frames. Status quo challengers lead this natural gas issue reframing, as their long-time advocacy and framing efforts find an institutional audience and voice of their own.

Conclusion

Interest group attention and framing efforts are dynamic as reflected in changes within both measures throughout the study period. Status quo challengers like the SJCA spend considerably more energy attempting to reframe and change policy than status quo beneficiaries like Williams. Throughout the study period, SJCA employs environment, land-use, and democracy frames to express their values, promote their policy preferences (as a reaction to the political context), and affect policy change. The status quo is not

easily moved and because of this, status quo challengers must sing loud, long, and with increasing pitch for the state legislature to hear them. With numerous competing issues vying for limited agenda space, the state legislature spends minimal time dealing with natural gas issues. However, the legislature pays considerable attention to natural gas issues between 2004 and 2007, as evidenced by spikes in agenda attention and framing efforts. SJCA finds an audience and partner in the state legislature as status-quo-challenging frames resonate within the institution.

Unlike SJCA, Williams remains silent until they feel the status quo is threatened. As the legislature begins to entertain alternative and status-quo-challenging frames, Williams takes notice and embarks upon a quick and concerted counterframing strategy. As environmental frames permeate the interest group and institutional arenas, Williams responds in-kind by arguing that technological innovations and conservation policies enable environmentally responsible drilling and production. With respect to the environment, Williams engages (albeit late in the game) their competition directly. After breaking their silence, Williams also frames with their strength – the economy. Arguing that natural gas development provides diverse economic benefits is a reaffirmation of the historic economy-based status quo, and it is a sound strategy. SJCA does not attempt to engage Williams using economy frames but instead directs their framing efforts to different conceptions of natural gas development including the environment, surface owner issues, and democratic principles. This case confirms that noncontradictory argumentation is the norm and that frame convergence is considerably more unusual.

The Colorado state legislature is a dynamic institution and the variability in agenda attention and in natural gas issue frames through time proves it. The legislature is

responsive to interest group framing efforts while it also serves as a major constraint upon them. In 2007, the legislature embraces environmental frames offered by SJCA and completely reframes natural gas development using this dominant frame. Although the environment supplants the economy (at least for now), land-use and democracy arguments gain institutional acceptance and the legislature partially reframes policy using these previously marginalized, long-time critiques. Once the legislature begins to use these previously ignored frames, it reframes the policy within 4 years. SJCA is responsible, in part, for this institutional reframing – as the four status quo challenging statutes contain many of SJCA’s frames.

Although natural gas policy changes significantly in 2007, the causes and degree of policy movement away from the status quo are difficult to determine. Certainly, unified party government enables greater agenda attention and allows anti-status-quo bills to become law. However, divided government in 1994 also produces status-quo-challenging amendments to the Oil and Gas Act. In 1994, the agricultural community and natural gas industry battle over split-estate property rights and work their political differences out through the legislature. Fast-forward to 2007 where Colorado is under unified party control. One cannot simply argue that unified party control under the Democrats is the sole reason for the 2007 policy change. In 2007, a much larger and unconventional coalition with varying interests battles with the natural gas industry to steer policy. Factors including interest group framing efforts, strategic positioning, and awareness of a “window of opportunity” all contribute to policy change. Additionally, Colorado’s rapidly expanding population, amenity-based economy, competing ideas over appropriate land uses, and split-estate property rights conflicts also contribute to policy

change. Determining causation is problematic, but my institutional measure of framing provides a means to evaluate this policy change.

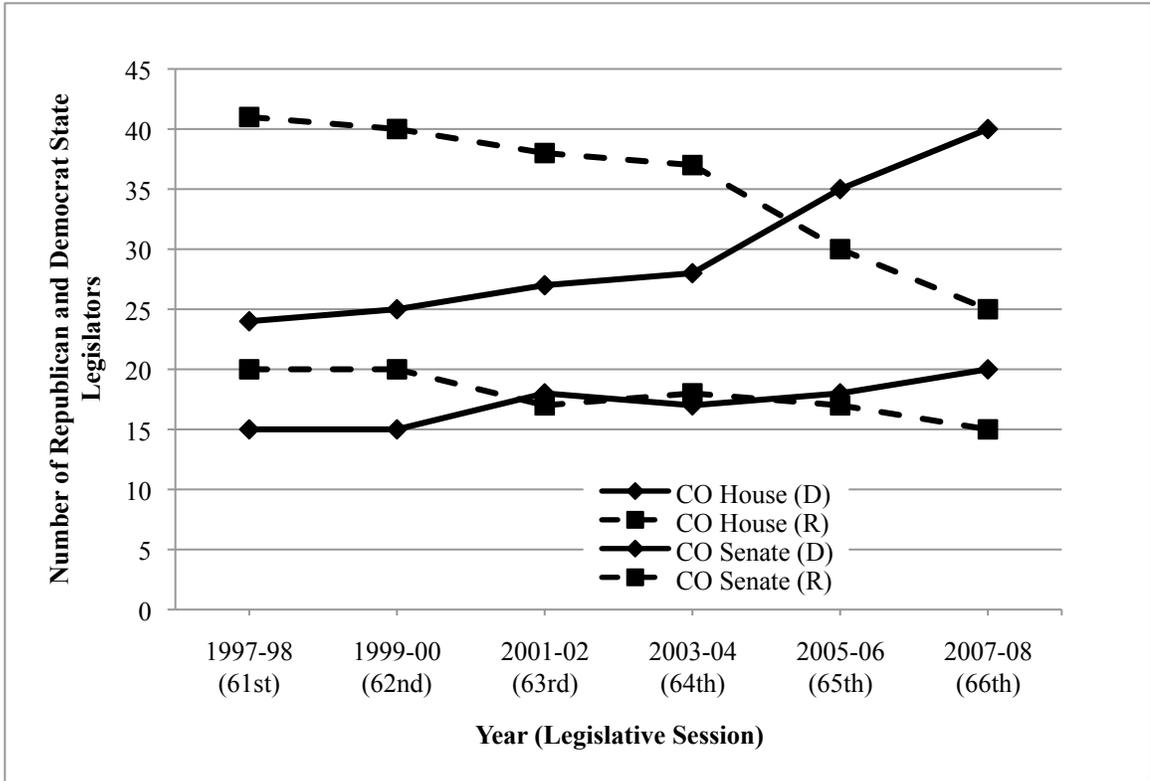


Figure 3.1: Party Control of the Colorado State Legislature

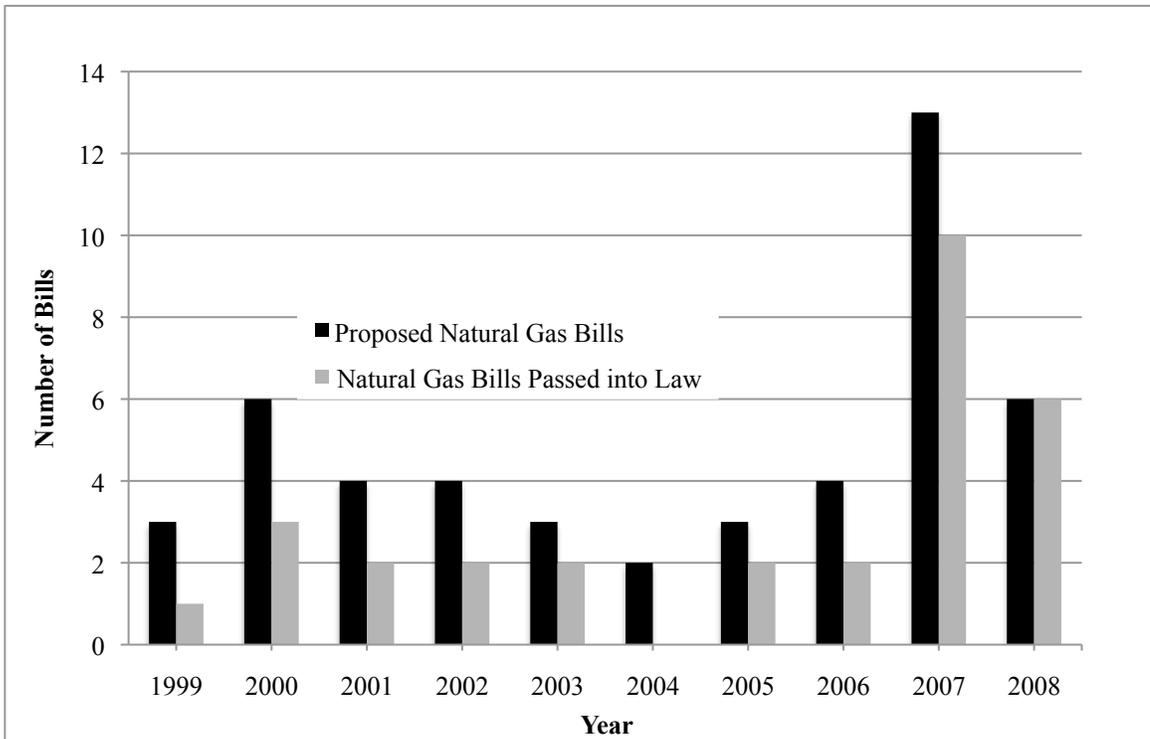


Figure 3.2: Colorado State Legislature Natural Gas Bills

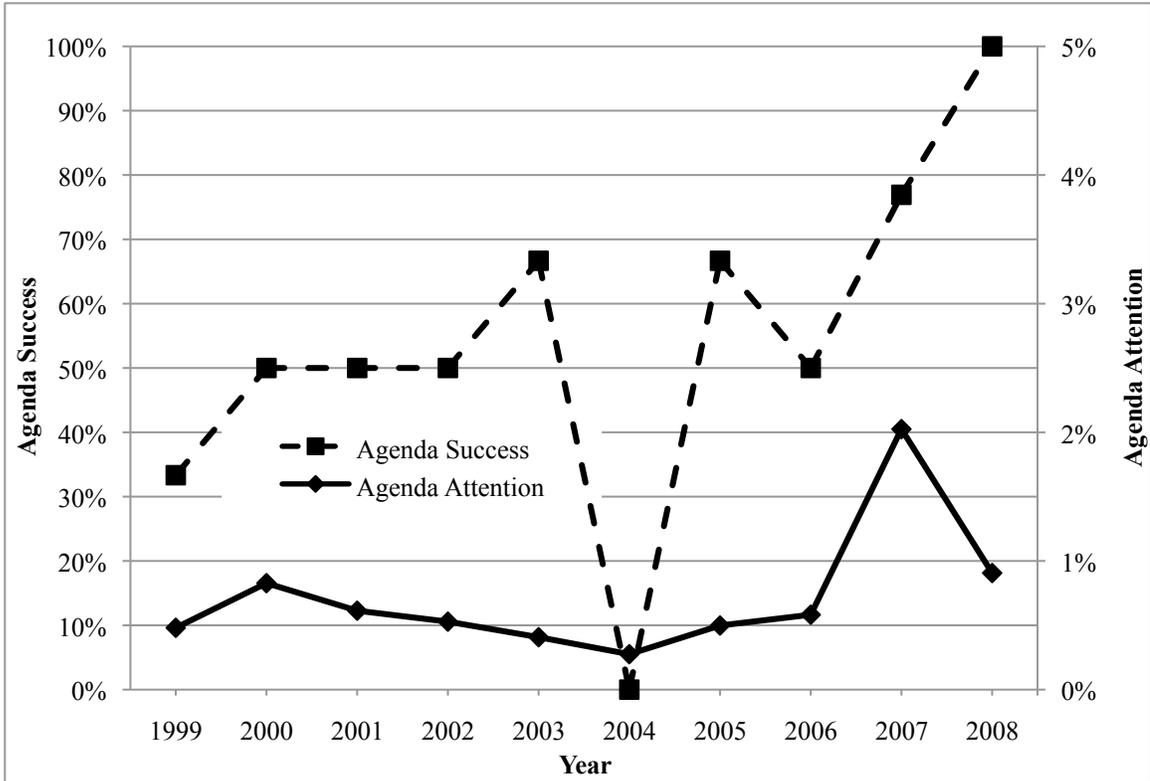


Figure 3.3: Colorado State Legislature Natural Gas Agenda Attention and Success

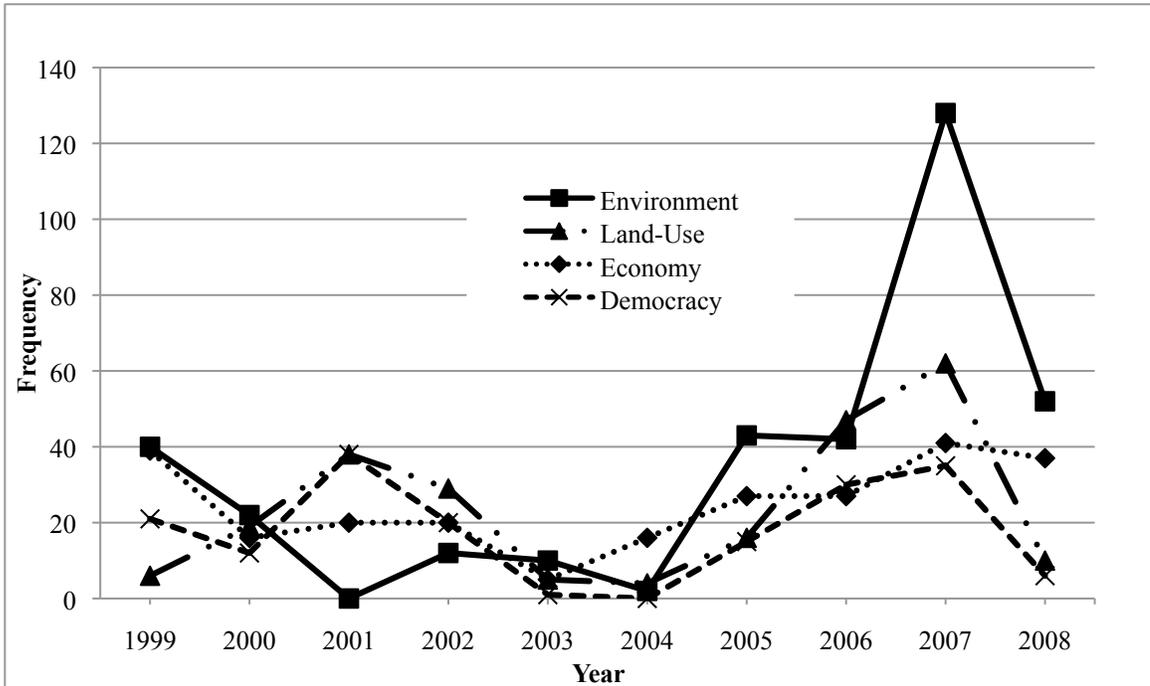


Figure 3.4: Colorado State Legislature Natural Gas Frames

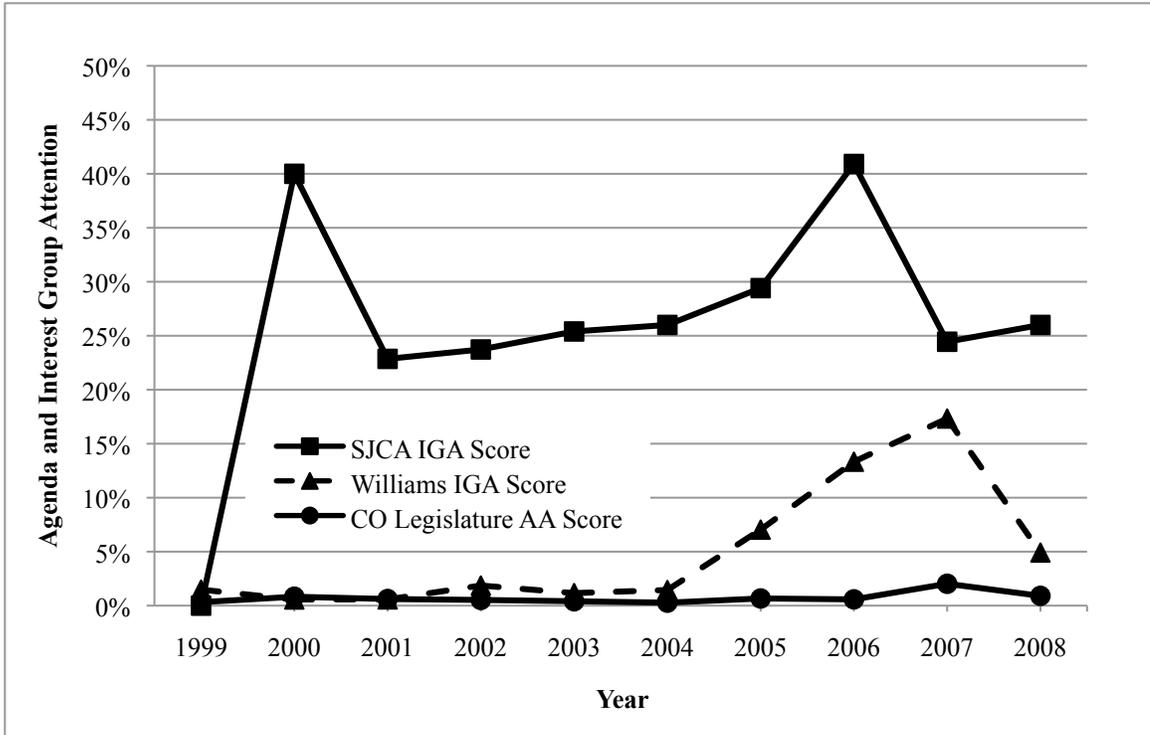


Figure 3.5: Natural Gas Agenda Attention and Interest Group Attention – Colorado State Legislature, SJCA, and Williams

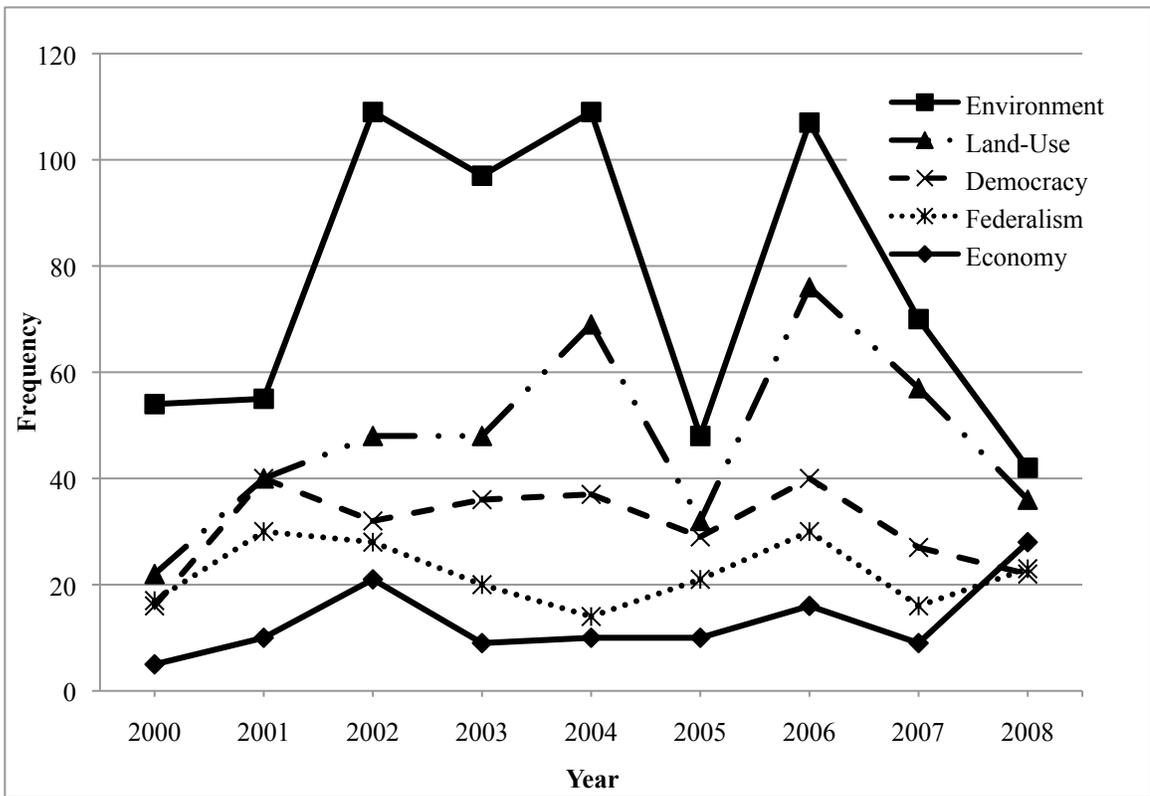


Figure 3.6: San Juan Citizens Alliance Natural Gas Frames

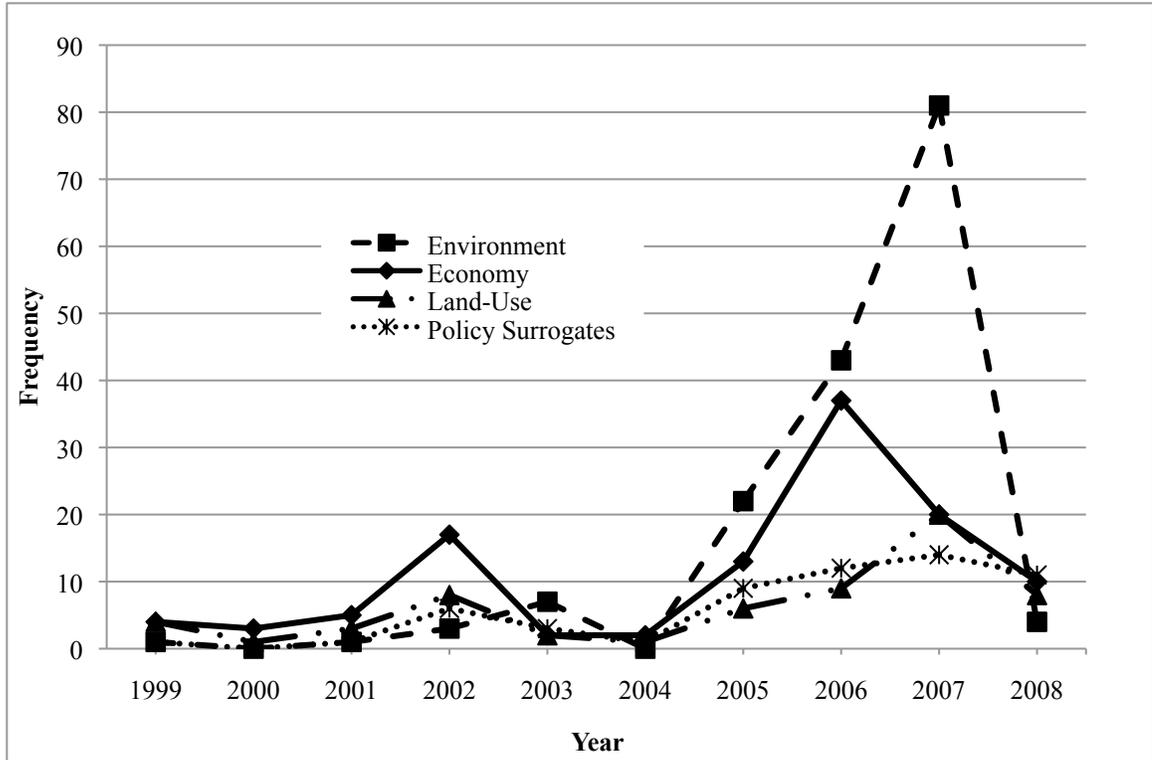


Figure 3.7: Williams (CO) Natural Gas Frames

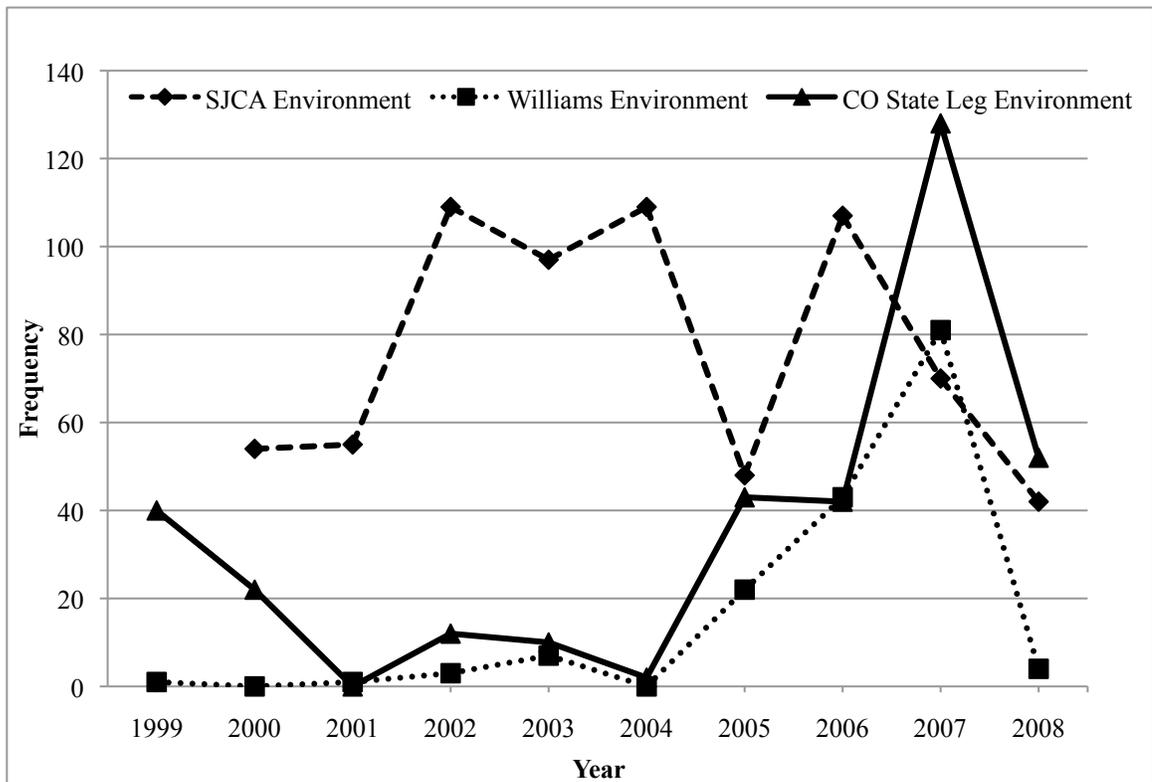


Figure 3.8: Environment Frames – Colorado State Legislature, SJCA, and Williams

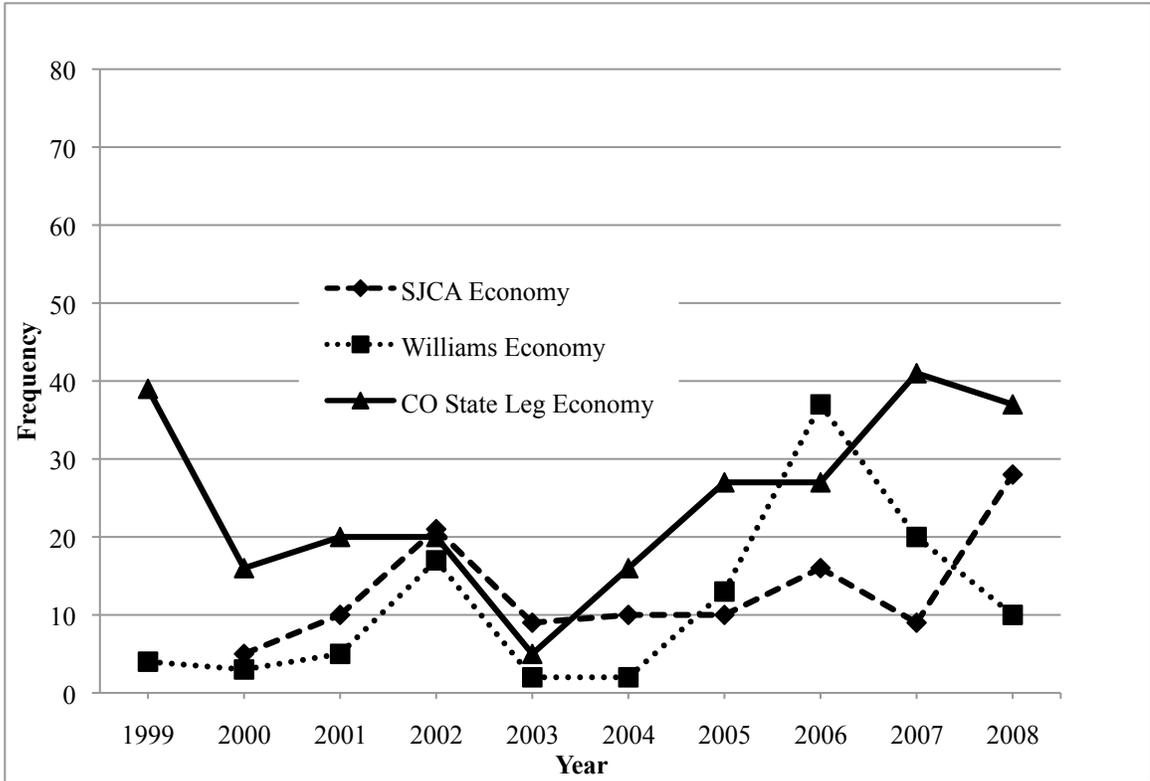


Figure 3.9: Economy Frames – Colorado State Legislature, SJCA, and Williams

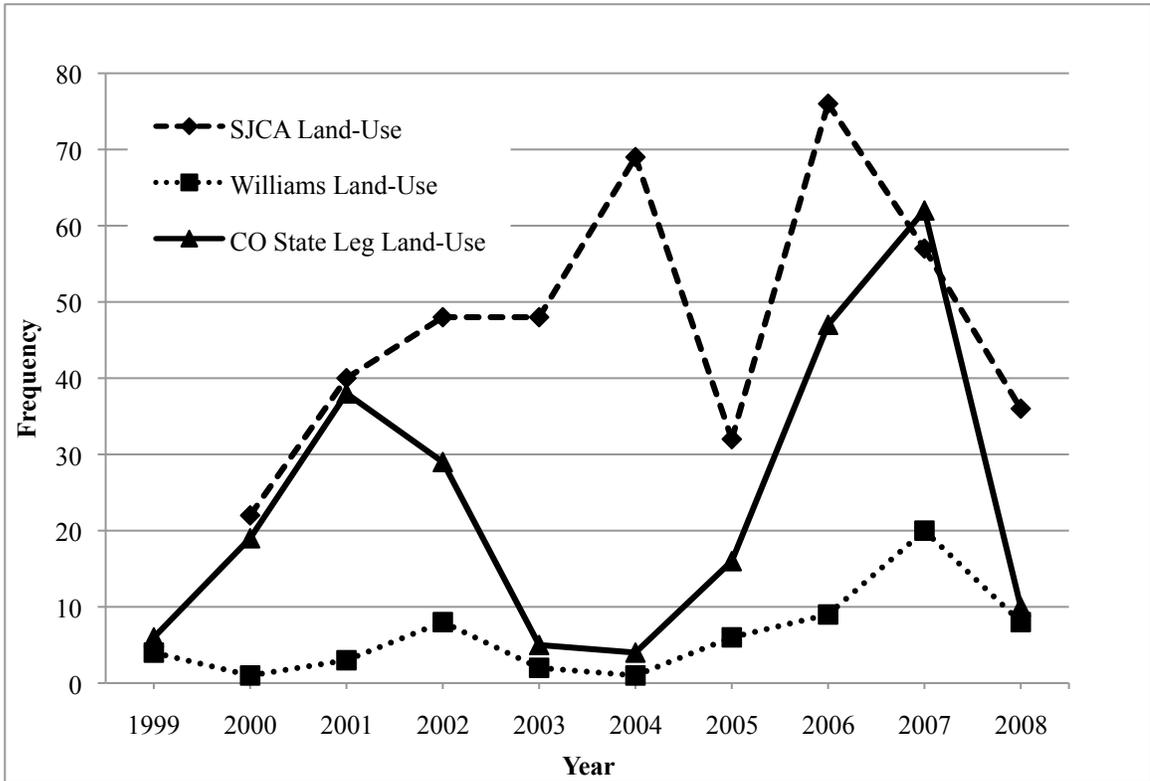


Figure 3.10: Land-Use Frames – Colorado State Legislature, SJCA, and Williams

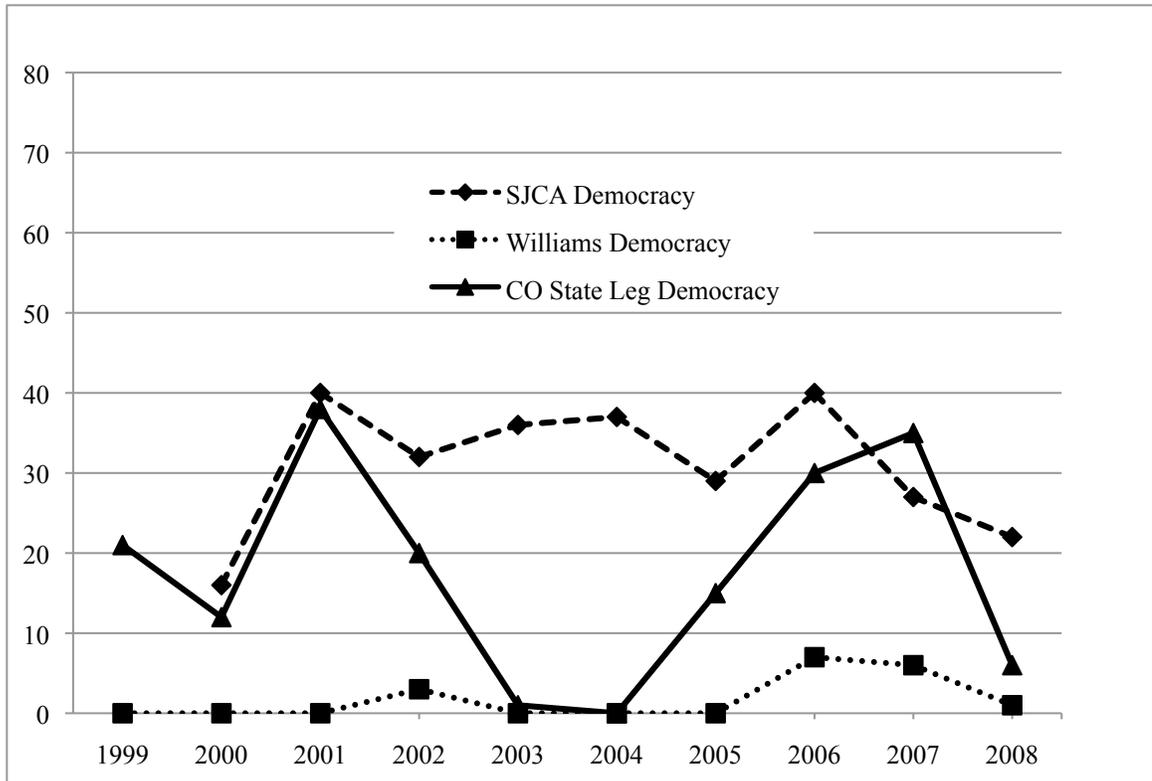


Figure 3.11: Democracy Frames – Colorado State Legislature, SJCA, and Williams

Chapter IV

Wyoming Natural Gas Politics and Policy

“Water and air, the two essential fluids on which all life depends, have become global garbage cans.” Jacques Yves Cousteau

Introduction

In this chapter I explore the contested terrain of Wyoming natural gas politics through the lens of the Wyoming state legislature and two interest groups, the Powder River Basin Resource Council (PRBRC or Powder River) and Williams Energy (Williams). Presently, Wyoming is enmeshed in a natural gas development boom enabled by pro-resource development values, political interests, and institutions. This recent natural gas development boom is one of many “Old West” natural resource boom-and-bust cycles that Wyoming has experienced. Wyoming has a relatively stable but small population, an historically conservative “citizen legislature,” no income tax, and an abundance of natural resources including coal, oil, natural gas, and uranium. Because natural resource development serves as the main economic engine and revenue source for Wyoming, state statutes and regulations are decidedly pro-resource development.⁵⁵

⁵⁵ A 2005 Ruckelshaus Institute of Environment and Natural Resources Report (Water Production from Coalbed Methane Development in Wyoming: A Summary of Quantity, Quality, and Management Options) states that, “In 2003 alone the total value of Wyoming CBM production was about \$1.5 billion, with tax and royalty income of about \$90 million to counties, \$140 million to the state, and \$27 million to the federal government.” The report asserts that “Wyoming’s total recoverable CBM resources is 31.7 Trillion cubic feet which equates to a total value of \$140 billion, based on \$4.40 per mcf, the average 2003 wellhead price. Total tax and royalty income would be \$23.5 billion, with \$12.8 billion to state, \$8.2 billion to county and \$2.5 billion to federal governments, assuming the \$4.40 mcf price.”

Despite this entrenched pro-development-status-quo, community advocacy organizations like the PRBRC are increasingly dissatisfied and actively working to uproot it. The PRBRC offers numerous critiques of the status quo with respect to the environment, land-use and private property rights, and fundamental democratic values. Status-quo-supporters, like Williams, also provide their own understandings of how natural gas policy should be defined. I trace through time how these competing interest groups define natural gas issues in relation to state legislative policy and the changing political context. I will demonstrate that interest group framing efforts are dynamic, responsive to changing political context, and are key to institutional reframing and policy change.

My analysis shows that status quo challengers employ multiple problem definitions at increasing rates and devote greater attention to natural gas issues than pro-development actors. Status-quo-supporters spend considerably less effort attempting to frame the debate and exhibit a hegemonic silence until the policy status quo is threatened. This hegemonic silence is characterized by the absence of any written framing efforts by natural gas companies like Williams who have long benefitted from pro-development state-level natural gas policies. Additionally, I demonstrate that competing interest groups generally talk past each other in framing debates and when they do engage each other it is concerning one issue – the environment.

Interest groups can exploit the multiple political venues afforded by federalism to define and redefine natural gas policy, but the institutions exert equal if not greater control on what frames are promoted or denied. Interest groups attempting to define state-level natural gas policy compete not only against each other but also against other societal problems and actors vying for state legislative agenda attention. Therefore, I

explore how the Wyoming state legislature defines natural gas issues while also noting how much agenda space natural gas policy is given. My analysis reveals that: natural gas issues receive minimal legislative attention with minor exceptions; pro-status quo bills become law more frequently than status quo challenging bills; and the state legislature reframes natural gas development issues. The Wyoming state legislature is not a static institution and my analysis will show institutional frames are also dynamic. Economic frames remain legislative favorites but alternative problem definitions including environment, private property rights, and democracy frames offered by groups like Powder River gain institutional traction as the boom progresses. This investigation is not designed to prove causality – that interest group framing causes legislative framing shifts and vice versa. But, as the policy conflict matures, results show a correlation between state legislative and interest group reframing.

This chapter is organized as follows. First, I explore the political context surrounding this recent natural gas development boom. Because state political institutions create natural gas policy and provide a significant control over what problem definitions are promoted or denied, I detail party control of the legislature and governor's office and their policy orientations. Second, I analyze natural gas bills and statutes (1999-2008) with respect to content, attention, and success. Third, I follow with an in-depth analysis of how Williams and PRBRC have defined natural gas development throughout this time. Finally, I explore the interrelationship between legislative agenda attention and content and interest group framing efforts.

Political Context

Wyoming State Legislature and Governor – Party Control and Policy Positions

Wyoming’s bicameral, part-time “citizen legislature” exhibits a relatively low level of “professionalization” even compared to the “citizen legislatures” of Colorado and New Mexico.⁵⁶ This minimalist approach to state governance does not imply the political battles are small, short-lived, or neglected. Nor does it imply the people and politicians are ill informed and inactive. Wyoming legislators are well aware of the political problems within their state and the number and content of bills offered each session reflect this awareness. When the legislature is not in session, twelve standing committees in the House and Senate unite to form “joint interim” committees to study major policy issues facing the state. These “joint interim” committees introduce a significant number of bills when the legislature convenes for its short sessions.⁵⁷

Geographically, Wyoming is the 10th largest state but it is the least populated. This seemingly wide physical separation of people is juxtaposed by closeness between its citizens and elected representatives. Wyoming poet laureate David Romtvedt (2007, 62) captures this political connectivity by asserting:

“In a state with as few people as Wyoming, it’s pretty common for us to have personal relationships with our elected officials, or at least to have met and be on speaking terms with

⁵⁶ The level of “professionalization” refers to the number of staff and office support, pay, length of legislative session, and expense money paid to legislators. State legislators in Wyoming have no staff, no formal offices, meet only 40 days for the General Session in odd numbered years and 20 days for the Budget Session in even years, and receive minimal pay (\$125 per diem). Note that Wyoming’s state legislature is comprised of a 60 member House (2 year terms) and a 30 member Senate (4 year terms with staggered elections).

⁵⁷ While the ‘joint interim’ committees serve as policy study groups and are responsible for the introduction of many legislative bills, the individual legislators introduce a majority of bills. Each Wyoming state representative can introduce five bills per session, while the state senators are allowed six bill introductions per session. Parliamentary procedures control the business of the Assembly and these rules can be accessed at: <http://legisweb.state.wy.us/rules/rules.htm>.

them. When you've spent the day fixing a windmill and late in the afternoon you finally get to watch the water spill out of the ground and into the stock tank, somebody might say, 'I saw the Governor the other day and asked him what the hell the state's doing about coal bed methane water discharge.' This is not a form of name dropping or bragging about one's connections to important people. We really are a small state."

Romtvedt makes two points that are germane to this research. First, politics and political representation in Wyoming are personal and omni-present. Despite its "citizen legislature" and short legislative sessions each year, political problems are discussed and debated outside the formal institutions and state elected officials are keenly aware of constituent and interest group concerns. Second, the natural gas boom is creating significant economic benefits and growing environmental, social, and personal costs. Williams and the PRBRC frame their understandings of this boom in ways that support and challenge the status quo. This pro-development status quo is linked, in part, to party control of the Wyoming state legislature and governor's office – which I turn my attention to next.

Arguably, Wyoming's political intimacy is unparalleled in the U.S. Equally unparalleled is the Republican party's supremacy within the state legislature. Since Wyoming became a state in 1890, the Republican party has dominated the state legislature with a minor exception during the Great Depression where Democrats held majorities in both houses (1934 and 1936).⁵⁸ Recently, Republican control has been even more pronounced with the party holding supermajorities in both houses and registered Republicans

⁵⁸ The Wyoming Secretary of State maintains records covering party control of the state legislature, state Legislative officers, a Governor's roster, Gubernatorial vote totals, U.S. Senators and Representatives, popular votes for U.S. Presidents, and census figures dating back to 1890. This information is located on the Secretary of state website and can be accessed at: <http://soswy.state.wy.us/SecretaryDesk/SD-HistoricalInfo.aspx>.

outnumbering Democrats by two to one margins.⁵⁹ Figure 4.1 shows party control of the Wyoming state legislature during the recent natural gas boom with Republicans still enjoying wide margins in both houses. Unlike Colorado's legislature that shifted from Republican to Democratic control for the first time in 40 years in 2005, Wyoming remains a Republican stronghold.

Certainly, the pro-business, small government, revenue maximizing, anti-tax, and customer service mantra espoused by Republicans color natural gas policy and state policy, writ large. This political ideology is manifested in pro-development natural gas statutes and regulations that minimize environmental protections. Party control of the state legislature, although a key indicator of policy orientation, is not the sole determinant of state natural gas policy. Wyoming's reliance on natural resources for state revenues and its recent penchant for Democratic governors also influences natural gas policy direction.

Wyoming has elected more Republicans (26) than Democrats (15) as governor since 1890, but three of the last four governors have been Democrats.⁶⁰ The late, three-term Governor Ed Herschler (D) presided over Wyoming during its 1970s and 1980s energy booms and frequently asserted that "growth on our terms" included protection of the land, air, water, and people (Collins 2000). Herschler's rhetoric aside, Wyoming allowed its mineral estate to be aggressively developed during his tenure. Republican Governor Jim

⁵⁹ Since 1990 the Republicans have held a supermajority in both the Wyoming House and Senate and voter registration numbers also reflect this two to one dominance.

⁶⁰ The three Democratic governors include Ed Herschler (1975-1987), Mike Sullivan (1987-1995), and present Governor Dave Freudenthal (2003-2011). Republican Jim Geringer served as governor from 1995-2003. This information is located on the Secretary of State website and can be accessed at: <http://soswy.state.wy.us/SecretaryDesk/SD-HistoricalInfo.aspx>.

Geringer (1995-2003) followed Herschler and declared that Wyoming was “open for business” and that he had little authority to reign in the CBM industry (Collins 2000). In fact, Geringer championed CBM development and saw it as an economic savior for Wyoming.

Wyoming missed out on the housing, technology, and population booms of the 1980s and 1990s and was also punished by cheap energy prices (Hulme 2002). The political fallout of Wyoming’s depressed economy was directed at Governor Geringer. During Geringer’s 1998 re-election bid, fellow Republicans and Democratic challenger, state senator John P. Vinich, blamed the governor for not solving Wyoming’s economic woes.⁶¹ Geringer survived this criticism, was re-elected, and re-focused his efforts to bolster Wyoming’s economy – by promoting natural gas development policies.

For example, in November 1999 the Wyoming Office of State Lands and Investment sent a letter to coalbed methane operators urging them to “go blue” by acquiring and developing leases on state lands, the blue areas on land-status maps (Collins 2000; Darin and Beatie 2001; Duffy 2005). The letter argued that CBM development on state rather than federal lands was preferable because developers would pay lower permitting costs, enjoy less environmental regulation, and “get more bang for the drilling buck” (Collins 2000). Geringer instructed all state regulatory agencies to direct their comments through his office to ensure the state spoke with a “unified voice” on natural gas development (Collins 2000; Krza 2003). This effectively muted any criticisms or concerns state regulators may have voiced to the public. Wyoming’s economic woes, Geringer’s desire

⁶¹ Although Governor Geringer won both the Republican primary and was also re-elected in 1998, he was still blamed for not lifting Wyoming out of its economic downturn. See the New York Times article: Ayers, B. Drummond. “Political Briefing: Surprise Showdown Looms in Wyoming.” *New York Times*. 8/21/98: A16.

and mandate to stimulate the economy and fund state programs, and the state's abundant natural gas deposits all contributed to an aggressive natural resource development policy.

Former Governor Geringer and subsequent Democratic Governor Dave Freudenthal (2003-2011) may represent different parties but both are keenly aware that Wyoming's primary revenue source has been and continues to be mineral production. This singular reliance on natural resource revenues makes Wyoming economically vulnerable and very predictable with respect to natural gas development policy. Whereas Geringer aggressively promoted natural gas development, Governor Freudenthal has attempted to balance development against growing concerns over its side effects. These efforts have been stymied by the conservative state legislature and Freudenthal's realization that the state needs natural gas revenues for economic survival.

Although significant policy change is difficult given the institutional and economic constraints, Governor Freudenthal has attempted to balance the growing concerns of environmentalists, ranchers, farmers, and outdoor enthusiasts with state economic imperatives and industry's mineral rights. During Freudenthal's first year in office, 2003, he: directed the Wyoming Environmental Quality Council to investigate split-estate disputes and develop reforms for CBM permitting; appointed a Wyoming Department of Environmental Quality (WYDEQ) Clean Water Task Force to study CBM water issues; and opposed BLM's plan to lease over 375,000 acres in the Bridger-Teton National Forest for oil and gas development.⁶² On numerous occasions, Freudenthal has criticized

⁶² Governor Freudenthal, although largely supportive of natural gas development, has worked to ameliorate some of the political, social, and environmental problems surrounding this recent boom. Environment and Energy Publishing (E&E) is an online, comprehensive, daily news source that provides in-depth reporting on domestic and international energy, environment, and climate related issues. For a detailed analysis of

BLM decisions to lease and develop environmentally sensitive areas within the Bridger-Teton National Forest and the Pinedale Resource Area. In an unusual move for western governors, Freudenthal formally protested BLM's 2004 Pinedale area natural gas lease arguing the sale "will only serve to further jeopardize sage grouse habitat, [big game] migration corridors, crucial habitat and other important resources."⁶³

Despite Governor Freudenthal's support for some form of split-estate protection and consistent criticism of the BLM for expediting leasing, limiting environmental review, and ignoring state input, Wyoming continues to expand natural gas production. Similarly, Freudenthal's call for increased regulatory oversight of CBM production to ensure state regulations are properly followed has not curtailed CBM water discharges or slowed permitting, drilling, and production.⁶⁴ Freudenthal, the state legislature, and state regulators have refused to directly address CBM water issues. Since the CBM boom

Freudenthal's natural gas policy actions and statements referred to in this section see the following sources from E&E Publishing (www.eenews.net). "Wyoming: Gov. Freudenthal proposes new split estate rules." *Greenwire*. 12/3/03; "Coalbed Methane: Gov. Freudenthal appoints clean water task force." *Greenwire*. 4/18/03; and Natalie M. Henry. "Oil and Gas: New Western Democratic governors throw weight toward anti-drilling efforts." *Land Letter*. 3/20/2003.

⁶³ Freudenthal's quote is found in "Oil and Gas: Gov. Freudenthal asks BLM to halt Wyo. sale until further study." *Greenwire*. 6/9/04. Freudenthal's later objections to BLM natural gas leasing and development within the Bridger-Teton National Forest are well documented: Dan Berman. "Forests: Wyo. strikes deal to delay oil and gas drilling until 2008." *E&E News PM*. 3/24/06; Dan Berman. "Oil and gas: Western governors seek moratorium on NEPA waivers in sensitive habitats." *Land Letter*. 3/1/07; and Eric Bontrager. "Public lands: Wyo. governor to speak for land protection bill." *Environment and Energy*. 2/25/08.

⁶⁴ In late 2005 Freudenthal asked the legislature for an additional \$6 million to fund 50 new regulatory positions. Freudenthal asserted that, "In order to make sure that the development is done right and that it is litigation-proof, we need to step up the state's efforts to manage this growth and its environmental and social impacts." For the quote see: "Coalbed Methane: Wyo. Gov. Freudenthal urges need for more regulators in growing industry." *Greenwire*. 11/30/05.

began in the late 1990s, Montana's downstream farmers, ranchers, and other water users have expressed growing concern over decreased water quality stemming from Wyoming's CBM discharges. Wyoming ranchers, farmers, surface owners, municipalities, and citizen groups like the PRBRC also object to CBM water surface discharges. Notably, Governor Freudenthal has rejected numerous attempts to regulate CBM water discharges and Wyoming and Montana are locked in a court battle over CBM discharge water issues.⁶⁵

Freudenthal's natural gas development strategy is complex and nuanced. He encourages natural gas development on state lands, raises environmental questions and objections regarding development on BLM controlled lands (e.g. Bridger-Teton and Pinedale areas), calls for increased regulatory oversight, and refuses to regulate CBM discharge water in the Powder River Basin despite Wyomingites concerns and pending litigation against Montana. CBM water issues are complex and spill over into other natural gas frames fueling related concerns over private property rights, beneficial use of water, ranching, farming, wildlife and habitat issues, and intra-state water quality regulation. I measure and test these environmental and land-use frames more thoroughly in the next sections.

⁶⁵ In April 2006 Governor Freudenthal asked the U.S. EPA to stop Montana's proposed water quality standards covering CBM water discharges ("Coalbed methane: Wyo. asks EPA to stop Mont. water rules." *Greenwire*. 4/6/06). In September 2006, Wyoming sued the U.S. EPA seeking to force the agency to reject a Montana DEQ water quality standard because it threatened Wyoming's CBM industry. Freudenthal also rejected new rules proposed by the Wyoming Environmental Quality Council that would have restricted CBM surface water discharges in order to prevent flooding and damage to agricultural and ranching lands. Freudenthal argued that he could not sign the rules because they "step outside the powers delegated to the Council and the Department of Environmental Quality by the Legislature." (April Reese. "Coalbed Methane: Wyo. Governor rejects water rules." *Land Letter*. 5/3/07).

Party control of the state legislature and governor's office is a key indicator of natural gas policy direction, but state legislative bills also offer specific and directed policy frames and solutions. Interest group framing efforts, although important in natural gas policy formation, are also subject to state legislative policy precedent and institutionally accepted and promulgated issue frames. In the next section, I explore these issue frames as articulated in the Wyoming state legislature by characterizing natural gas agenda attention, success rates, and problem definition content during the recent boom.

Wyoming State Legislature Results

Natural Gas Agenda Attention and Success

The 1951 Wyoming Oil and Gas Conservation Act (Gas Act) was designed to “provide a comprehensive regulatory program which prevents the waste of Wyoming's oil and gas resources and protects the correlative rights of property owners” (WSA 120 § 30-5-101 through 30-5-119). This statute, amended numerous times since its passage, maintains its original objectives and effectively promotes natural gas development.⁶⁶ Wyoming's Gas Act, pro-development federal statutes, recent technological advances, and tax incentives all contribute to this recent boom (Bryner 2002). The state legislature, like the governor, recognizes the crucial economic role mineral revenues play in state finances and in Wyoming's overall economy. This economic imperative is reflected in historic and present pro-natural gas development statutes and regulations. These pro-development economic frames remain a central focus in the legislature, but my analysis will show that alternative definitions of natural gas development gain institutional traction as the boom progresses. In this section, I examine how the Wyoming state legislature is reacting to the boom. I measure state legislative responses by analyzing

⁶⁶ See Chapter 1 for an analysis of past Wyoming state Legislative natural gas statutes.

agenda attention, success rates, and framing content of natural gas bills between 1999-2008.

The Wyoming state legislature deals with numerous policy areas in each session and natural gas issues occupy a relatively small portion of the legislative agenda. From 1999 through 2008 Wyoming state legislators introduced 54 natural gas bills of which 19 were passed into law (35.2% success rate). Figure 4.2 details this small number of proposed natural gas bills (mean = 5.4/year) and even smaller number passed into law (mean = 1.9/year) each year. Figure 4.3 shows agenda attention and success rates for natural gas bills from 1999-2008.⁶⁷ During this time natural gas agenda attention shows some variation (0.6% to 3.3%) and generally occupies only a small portion of the entire state legislative agenda. Simply looking at natural gas agenda attention relative to the host of other policy issues, one may conclude that natural gas issues are generally not an institutional priority. However, natural gas issues are an institutional priority because of the significant economic contributions its development brings to the state. The relative lack of agenda attention likely indicates the status quo is acceptable to legislators.

Notably, in 2005-06 natural gas bill agenda success rates rise to 66.7% and 50%, respectively, and agenda attention peaks at 3.3% (2006)(Figure 4.3). This abnormal rise in both agenda attention and success rates indicates that natural gas issues are more institutionally salient. Wyoming, well into the boom by this time, is confronted with a

⁶⁷ Agenda success (AS) is calculated as the number of natural gas bills signed into law divided by the total number of natural gas bills per legislative session (e.g., in 2005, 4 natural gas bills became law and 6 natural gas bills were proposed: $4/6 = 66.7\%$). Agenda attention (AA) is calculated as the total number of natural gas bills divided by the total bills per legislative session (e.g., in 2005, 6 natural gas bills were proposed and the legislature proposed 524 total bills: $6/524 = 1.1\%$)

number of economic, environmental, and land-use issues that the legislature cannot ignore. In response, state legislators introduce many bills dealing with taxation, revenues, allocating money to state agencies and local governments, and other economic issues related to natural gas.⁶⁸ Legislators also introduce bills addressing environmental, land-use, and democratic concerns about natural gas development. The elevated agenda success and attention rates in 2005-06 follow shifts in institutional framing of natural gas issues.

Natural gas bills in the Wyoming legislature exhibit an average success rate of 35.2% – with bills failing around two-thirds of the time. Legislators and interest groups seeking to pass any status-quo-challenging natural gas bills face a difficult task. Although most natural gas bills fail, the agenda success rate ranges widely (ranging from 16.7% to 66.7%) throughout the study period (Figure 4.3). This wide variability results from numerous factors including interest group pressures, state economic imperatives, existing statutes, and the content of proposed bills. This broad agenda success measurement does not differentiate among those bills that promote, undermine, or have little effect on the status quo. Appendix 4.1 provides a detailed list of the legislature’s natural gas-related bills, their titles, end result, dominant and secondary problem definitions, and relation to

⁶⁸ Ten natural gas bills were introduced during the 2006 Wyoming General Session with 7 of the 10 bills relating to economic issues. For example, HJ-0004 amended the Wyoming Mineral Trust Fund by imposing an additional 1.5% excise tax on minerals; HB-0031 created a severance tax exemption for oil and gas wells; and SF-0053 increased the Wyoming Pipeline Authority’s bonding capacity and expanded the state treasurer’s investment authority. Also during 2006 the legislature created a School of Energy Resources at the University of Wyoming (SF-0037, Enrolled Act No. 65) to research, teach, and support the development of Wyoming’s energy resources. The agenda attention bump in 2006 is a legislative policy response that allocates and maintains the economic benefits of the natural gas boom.

the status quo (Wyoming state legislature 2009). Table 4.1 details the percentage of pro-, anti-, and neutral-status-quo natural gas bills and their agenda success rates.⁶⁹

Table 4.1
Wyoming Pro-, Anti-, and Neutral-Status-Quo Bills and Agenda Success

| | Natural Gas Bills (% of total) | Agenda Success |
|------------------------------|---------------------------------------|-----------------------|
| Pro-Status-Quo Bills | 35.2% | 47.4% |
| Anti-Status-Quo Bills | 31.5% | 35.3% |
| Neutral | 33.3% | 22.2% |
| All Natural Gas Bills | ----- | 35.2% |

Pro-, anti-, and neutral-status-quo bills each occupy around one-third of the total natural gas bills, respectively. By parsing natural gas bills into these three categories, the agenda success measurement becomes more meaningful. Pro-status-quo bills have a greater chance of becoming law (47.4%) than both anti-status-quo (35.3%) and neutral (22.2%) bills. Thus, the overall agenda success rate (35.2%) does not account for the legislature’s propensity to pass pro-development natural gas bills nearly half the time and its acceptance of status-quo-challenging bills around one-third of the time.⁷⁰

Agenda attention and success rate analysis shows that changes to the natural gas status quo are infrequent but not impossible. However, the variability in both agenda

⁶⁹ An example of a pro-status quo bill would be the 2000 Taxation of Gas Wells bill (HB-0055) that provides exemptions for severance taxes on wells drilled between 1993 and 2003. Prime examples of anti-status quo bills are the 2004 Surface Owners’ Accommodation Act (HB-0070 in the House and SF-0090 in the Senate) that provide for notice, compensation, and remedies to surface owners for losses due to oil and gas development (Appendix 4.1). Bills promoting the status quo loosen regulation, ease the tax burden on natural gas developers, establish or strengthen institutions promoting resource development, and incentivize development. Bills working against the status quo seek greater regulation, more environmental protections, surface owner property rights advancement, higher taxes, and increased penalties for regulatory violations.

⁷⁰ When classifying the bills into the pro-, anti-, and neutral-status-quo categories, I did not measure how far each bill moved natural gas policy away from the status quo. Rather, I looked at the language of each bill to determine if it generally supported, undermined, or had little overall effect on the status quo.

attention and success leads to more questions about how policy content and issue frames evolve through time. Agenda attention and success are broad measures of policy action and institutional priorities; however, they do not address the timing, content, and determinants of success of natural gas bills. Thus, in the next section I analyze natural gas bill content to clarify how the legislature is framing natural gas issues. This institutional framing measure serves as a baseline for evaluating the efficacy of policy reframing and is a useful measure of policy change.

Institutional Framing

As articulated in Chapter II, institutional frames are coded according to problem definitions identified in the literature and from analytically derived categories unique to this natural gas policy conflict. State legislative natural gas problem definitions are traced through time to map changes in framing content. Table 4.2 presents Wyoming state legislative natural gas problem definitions as a percentage of the total frames from 1999 through 2008.

Table 4.2
Wyoming Legislature Frame Use (1999-2008)

| Frame | Yearly Mean | % of Total |
|----------------------|--------------------|-------------------|
| Economy | 30.1 | 38.2% |
| Environment | 21.3 | 27.0% |
| Land-Use | 12.7 | 16.1% |
| Democracy | 10.0 | 12.7% |
| Federalism | 3.7 | 4.7% |
| Policy Surrogates | 1.0 | 1.3% |
| Condensation Symbols | 0 | 0% |

Economic frames are the dominant natural gas problem definition followed by environment, land-use, democracy, federalism, and then policy surrogate frames. The fact that the legislature defines natural gas policy in economic terms is consistent with Wyoming’s reliance on natural gas revenues and the legislature’s past pro-development

policies. It is important to note, however, that these simple percentage calculations do not show the variability in institutional framing between each legislative session. Natural gas economic frames may be the most prevalent but alternative frames also play a role in shaping natural gas policy.

Figure 4.4 presents Wyoming state legislature natural gas bill problem definitions from 1999 through 2008. This figure shows that even though economic frames dominate, alternative problem definitions gain institutional traction through time. There are several framing trends evident in Figure 4.4. First, dominant economic frames show a steady increase between 1999 and 2005 and fall off gradually through 2008. Second, previously neglected environmental, land-use, and democracy frames experience a dramatic spike in 2004 and 2005 followed by a decline through 2008. Legislative natural gas framing variability and these apparent shifts in problem definitions bring about more questions. Why does the legislature frame natural gas differently through time? Is there something significant occurring in the broad political context that these problem definitions are mirroring and/or facilitating? How do these institutional frames compare to interest group framing efforts? To answer these questions I first explore the role that economic framing plays within state legislative natural gas bills. Next, I closely examine the time period from 2003 through 2006 when agenda attention, success rates, and natural gas issue reframing occurs.

Wyoming's recent legislative history clearly reflects the economic importance of natural gas. In fact, the economic imperative is so pervasive that 31 of the 54 natural gas bills (57%) employ economic frames as the primary argument (Appendix 4.1). For example, state legislators introduce numerous bills throughout this study period dealing

with economic concerns including mineral valuation, severance tax rates and exemptions, overpayment credits, and the distribution of revenues.⁷¹ Similarly, state legislators propose and pass numerous bills creating new institutions and enabling existing institutions to promote the economic benefits of natural gas development. A 2001 Senate bill (SF-0185 – Enrolled Act No. 52) establishes the Wyoming Energy Commission with a mission to “facilitate development, production, transportation and marketing of all natural resources . . . to streamline permitting and eliminate barriers to transportation”. The Enhanced and Improved Oil Recovery Act (SF-0061, 2004 – Enrolled Act No. 44) creates a new Oil/Gas Recovery Commission with the goal of advancing research and technology related to oil/gas development. Similarly, a School of Energy Resources and Energy Resource Council is established at the University of Wyoming to research, teach, and support the development of Wyoming’s energy resources (SF-0037, 2006 – Enrolled Act No. 65). Cumulatively, these bills reflect the economic importance of natural gas development and longitudinal framing analysis captures this dominant status-quo frame.

During the early years of the natural gas boom from 1999 through 2001, the legislature employs four frames, economy, environment, land-use, and democracy, at relatively low and consistent levels (Figure 4.4). Although economy frames remain the most prevalent throughout the decade, the legislature employs previously marginalized

⁷¹ Appendix 4.1 summarizes all natural gas bills and identifies the primary and secondary problem definitions articulated in each bill. The following bills provide a snapshot of the economic related natural gas bills introduced and passed by the legislature: SF-0099 (1999) passed into law and specifies rules for allocating costs and payments for gas drilling units; SF-0013 (2000) creates a mineral valuation and taxation committee; HB-0055 (2000) provides exemptions for severance taxes on wells; HB-0087 (2003) attempts to establish natural gas taxation and revenue points; HB-0005 (2005) provides for the distribution of severance taxes; etc. These are only a few examples of the numerous natural gas bills that employed economic frames.

frames including environment, land-use, and democracy frames with increasing vigor through 2004-05. Increased agenda attention, the dramatic increase in use of previously neglected frames, and the passage of three status-quo-challenging acts demonstrate that natural gas policy is reframed and that policy is shifting. These data show that the state legislature is partially reframing natural gas issues using environment, land-use, and democracy frames. Because economy frames dominate, the reframing effort is partial rather than complete. Furthermore, this partial reframing occurs rather dramatically over a quick four-year time period. These data both confirm and refute Hypotheses #4 and #5 identified in Chapter II. Policy reframing is more common than expected, reframing is partial not complete, and it occurs quickly. In order to determine if reframing stems from new or long-neglected frames (Hypothesis #6), I compare legislative framing with interest group framing. Prior to that analysis, however, I delve more deeply into the status-quo-challenging statutes that underlie this partial reframing and policy change.

Coalbed methane development critics opine that this boom infringes not only on wildlife habitat but also on surface owner property rights, especially when development occurs on split-estate lands. The legislature and governor respond to these split-estate issues along several fronts. In 2004, the Joint Judiciary Interim Committee proposes a Surface Owners Accommodation Act (HB-0070) to address split-estate issues but the bill fails. A similar senate bill, the Wyoming Surface Owners' Accommodation Act (SF-0090), also fails.⁷² Governor Freudenthal and the legislature then form a Joint Executive-Legislative Committee on Split-Estates comprised of legislators, industry members, and

⁷² These split-estate bills were designed to protect the surface estate by providing notice, compensation, remedies for loss/damage and financial assurance to the surface owners affected by natural gas development.

surface owners to hammer-out a proposal for future split-estate legislation. According to Select Committee co-chair and state senator Bill Hawks (R) “the Select Committee created a bill that both the landowners and the industry were holding hands on and quite honestly, I was very proud of it. If the bill that they brought forth had been accepted by Judiciary, it would have had an excellent chance of passing” (Donefer 2004).⁷³ However, that bill also fails to garner widespread support and dies in the Judiciary Committee. This failure is unsurprising given the state’s reliance on natural resources for revenues and its dependence on the natural gas industry.

This 2004 institutional framing shift is what Kingdon (1995) would refer to as a “softening-up” period. It takes time for alternative policy proposals to make it on the institutional agenda (split-estate issue had been brewing for awhile), and the legislature experiences this softening-up period before these status-quo-challenging proposals gain institutional success. Following these failed attempts and legislative “softening”, the legislature finally passes the Split Estates Procedures for Oil and Gas Operations in the 2005 legislative session (SF-0060, 2005 – Enrolled Act No. 45 Chpt. 0081).⁷⁴ This 2005

⁷³ The bill offered by the Select Split-estate Committee was subsequently amended by the Interim Judiciary Committee, much to the dismay of the Select Committee including co-chair state senator Bill Hawks (R). Freudenthal, although generally supportive of surface owner protection, reserved comment until the legislature could come to a consensus. For the quotes see: Charles Donefer, “Oil and Gas: Wyo. split estate law faces legislative hurdles.” *Land Letter*. 11/18/04.

⁷⁴ This surface owner protection act established requirements prior to commencing oil and gas operations on split-estates that includes: 30 day notice; good faith negotiation and surface use agreements *or* financial assurance; and compensation to surface owners for damages due to oil/gas operations. Although this act does provide a longer notice of operations (30 days) to the surface owner, if the mineral estate owner cannot get surface owner consent or execute a surface use agreement the mineral owner can execute a surety bond or “other guaranty” to the WOGCC. A minimum bond of \$2,000 per well or blanket bond is all a mineral owner needs to develop the resource, if they follow the notice

Split Estate Act, signed into law by Governor Freudenthal, contains significant modifications from the previous legislative session drafts. Although the Split Estate Act is more amenable to the status quo than previous bills, its passage shows the legislature is responsive to and incorporates alternative definitions of natural gas development policy. In addition to passage of the Split Estate Act, the legislature passes two additional status quo challenging statutes that contain heavy doses of environment, democracy, and land-use frames (Figure 4.4).⁷⁵ In short, the legislature partially reframes natural gas development issues using these long extant but previously excluded frames.

Natural gas agenda attention peaks in 2006 (3.3%) and agenda success remains high (50%)(Figure 4.3). This agenda attention peak and similarly high agenda success rate is an institutional retrenchment (i.e. return to the pro-development status quo) following the 2005 policy changes. During the 2006 Wyoming Budget Session, the legislature passes two-thirds of the pro-development status quo bills into law (4 of 6 bills = 66.7% success) and only one mineral excise tax increase (anti-status quo) bill.⁷⁶ Overall, the elevated

procedure and attempt in good faith to negotiate a land use agreement. Rather than use a regulatory remedy such as mediation or adjudication, the Act directs aggrieved surface estate owners to seek compensation for damages in the District Courts.

⁷⁵ The Split Estates Procedures for Oil and Gas Operations (SF-0060, Enrolled Act No. 45), Water-Rights Penalties Act (SF-0028, Enrolled Act No. 49), and the Wyoming Oil and Gas Conservation Commission Penalties Act (SF-0073, Enrolled Act No. 9) challenge the status quo. The Water-Rights and WOGCC Penalties Acts raise and amend penalties for violating water laws with respect to CBM/natural gas development and increase WOGCC penalties for rule violations from \$500 to \$5000 per violation (Appendix 4.1).

⁷⁶ Six of the 10 proposed natural gas bills worked to further the status quo in 2006 (Appendix 4.1). The Wyoming Pipeline Authority (SF-0084, Enrolled Act No. 6), Sales Tax Exemption for Oil and Gas Wells Act (HB-0031, Enrolled Act No. 26), Natural Gas Valuation bill (HB-0043), Omnibus Water Bill (HB-0145, Enrolled Act No. 54), and the School of Energy Resources Act (SF-0037, Enrolled Act No. 65) reflect the economic

agenda attention and success rates, the decline in environment, land-use, and democratic problem definitions, the continued dominance of economic frames, and the passage of four pro-status-quo bills reflect an institutional retrenchment or reaffirmation of the status quo.

Natural gas problem redefinition in the legislature, increased agenda attention, and unusually high agenda success rates all point toward a responsive legislature. The legislature does not operate in a vacuum and it receives pressure from constituents and interest groups to move or maintain the status quo. Arguably, Powder River is instrumental in framing this split-estate conflict in terms of surface owner property rights and water issues and the status-quo-challenging bills and statutes in 2004 and 2005 reflect these framing efforts. Status quo supporters, including Williams and the legislature itself, acknowledge some of these split-estate development difficulties while also minimizing these competing frames and maintaining the economic imperative. In this next section I turn my attention to the two representative interest groups, Williams and PRBRC, who apply this pressure. Using the same analytical methods, I explore interest group natural gas attention and framing efforts.

Interest Groups

In this section I examine how Powder River and Williams refute or support the policy status quo by analyzing their framing efforts. For this analysis I analyze newsletter articles, press releases, and fact sheets from each organization to determine their relative attention and specific problem definitions throughout the boom (1999-2008). These

imperative and promulgation of the pro-development status quo. Only one anti-status quo bill is passed into law, the Permanent Wyoming Mineral Trust Fund (HJ-0004, HEJR No. 0001). This statute imposes a 1.5% excise tax in addition to the existing severance and ad valorem taxes on coal, oil, and natural gas.

organizations are selected for study because of their active and long-standing participation in the legislative, regulatory, and judicial venues at the local, state, and federal levels. Williams is one of Wyoming largest producers of natural gas with substantial holdings in the huge CBM play of the Powder River Basin. Powder River has been actively involved in community issues since 1973 and works to promote the rights of communities and people in the Powder River Basin and all of Wyoming.

Powder River Basin Resource Council (PRBRC)

The PRBRC a grass-roots organization established in 1973 that articulates its mission through the following statement (PRBRC 2009):

“Powder River is a grassroots organization of individuals and affiliate groups dedicated to good stewardship of Wyoming’s natural resources. Powder River was formed in 1973 and stands for the preservation and enrichment of our agricultural heritage and rural lifestyle; the conservation of Wyoming’s unique land, minerals, water and clean air consistent with responsible use of these resources to sustain the livelihood of present and future generations; and the education and empowerment of Wyoming’s citizens to raise a coherent voice in the decisions that will impact Wyoming residents’ environment and lifestyle. Powder River is a member of the Western Organization of Resource Councils (WORC), which is a regional network of seven grassroots community organizations with 7,000 members and 45 local chapters. WORC member groups are Dakota Resource Council, Dakota Rural Action, Idaho Rural Council, Northern Plains Resource Council, Oregon Rural Action, Western Colorado Congress and Powder River Basin Resource Council.”

This mission statement is unique in that Powder River promotes the responsible use of natural resources while maintaining environmental, agricultural, and rural lifestyle values for present and future generations. As a grass-roots organization promoting a complex set of values, Powder River also counts a diversity of people as its members. Ranchers, farmers, environmentalists, business-people, county commissioners, outfitters, landowners, and other citizens in the Powder River Basin and throughout Wyoming and neighboring Montana and Colorado are members. Throughout its history, this unusual coalition has organized to empower communities and people affected by natural resource development issues whether they are uranium mining, coal, or natural gas development.

Their long-standing promotion of “good natural resource stewardship”, familiarity with CBM development issues in the Powder River basin, and well-documented activism make them a representative and knowledgeable organization in this unconventional natural gas policy conflict.

Williams

Williams is the 13th largest natural gas producer in the United States with primary production areas in the Piceance (CO), San Juan (CO), Powder River (WY), Fort Worth (TX) and Arkoma (OK) Basins (Williams 2008). Williams is an expert in developing unconventional natural gas reserves from tight sands, coalbeds, and shale formations as evidenced by its CBM production in the Powder River and San Juan Basins and tight sands production in the Piceance Basin. Although Williams is not the largest natural gas producer in Wyoming, they are the largest CBM producer in the Powder River Basin and their drilling and production numbers are expanding rapidly.⁷⁷ Williams summarizes this unconventional natural gas exploration and production growth in their 2008 Annual Report by stating (Williams 2008, 2):

“Most of this growth has occurred organically, through a strategic drilling program focused on the Piceance Basin in western Colorado and the Powder River Basin in northeastern Wyoming. Our volumes in the Piceance Valley increased 14 percent last year, while Piceance Highlands production grew 24 percent. Volumes in the Powder River Basin increased by 34 percent. We continue to work with tremendous efficiency and ingenuity, utilizing innovative technology to produce more gas from a smaller environmental footprint.”

⁷⁷ Williams’ Powder River basin unconventional reserves (390 Bcfe – billion cubic feet equivalent = 9% of total proved reserves), 5,407 producing wells, and 84 Bcfe of natural gas production make them Wyoming’s largest unconventional natural gas producing company. See Williams’ 2008 Annual Report for drilling, production, and proved reserve numbers (http://www.williams.com/investors/annual_reports.aspx). According to the WOGCC, Williams has been Wyoming’s largest CBM producer since record keeping began in 2005 (<http://wogcc.state.wy.us/>).

In addition to their exploration and production business, Williams operates three major interstate pipelines including the Northwest Pipeline. This nearly 4,000 mile bi-directional natural gas transmission system crosses Washington, Oregon, Idaho, Wyoming, Utah and Colorado and provides access to British Columbia, Alberta, Rocky Mountain, and San Juan basin natural gas (Williams 2008). Finally, Williams is a major midstream processor of natural gas and oil as evidenced by its massive Opal, WY plant that processes up to 1.45 Bcfd (billion cubic feet per day) of natural gas per day.⁷⁸ As the largest CBM operator in the Powder River basin that operates Wyoming's largest natural gas midstream processing facility and controls three major interstate pipelines, Williams serves as an excellent proxy for the pro-development status quo.

Analysis

Agenda and Interest Group Attention

The PRBRC publishes a bi-monthly newsletter, Powder River Breaks (Breaks), which contains a variety of articles related to natural resource, agricultural, and other community issues. For this research I analyze and code 271 natural gas related articles published in the Powder River Breaks newsletter (1999-2008). When analyzing Wyoming state legislature natural gas bills, I note the relative percentage of agenda attention given to these bills. Similarly, I calculate the attention given to natural gas issues by the PRBRC in its newsletter. Figure 4.5 presents the PRBRC's natural gas

⁷⁸ Williams' Opal, WY TXP-5 (cryogenic gas processing facility) is the 3rd largest of its kind in the continental U.S. with natural gas processing capacity of 1.45 Bcfd ("Williams Boosts Processing Capacity at Opal, Wyo., Facility by 30%." Williams Press Release. 3/7/07). The Opal facility processes gas from the massive Pinedale Anticline and Jonah Fields on the eastern margin of Wyoming's Green River basin where operators like Encana, Exxon-Mobil, Chevron, BP, and Shell all have considerable exploration and production operations.

interest group attention (IGA) score throughout the study period.⁷⁹ On average, PRBRC devotes 34% of its attention to natural gas articles, but yearly analysis shows a wider variability and a discernable upward trend (Figure 4.5).⁸⁰ Powder River's attention score hovers around 30% between 1999 and 2003 and then rises significantly, peaking at 51.1% in 2006 (Figure 4.5).

Williams does not publish a monthly newsletter, rather they frequently publish press releases and fact sheets easily available for public consumption.⁸¹ Between 1999 and 2008, Williams publishes 1,074 press releases and fact sheets of which only 46 are directly relevant in this analysis. Using these public documents, I calculate the degree of attention Williams devotes toward natural gas policy issues. Figure 4.5 also presents Williams' natural gas interest group attention (IGA) score throughout the study period. During this time, Williams devotes only 4.3% of its attention to natural gas policy, but yearly analysis shows a wider variability and a discernable upward trend (Figure 4.6).⁸² Williams' natural gas attention score is consistently low (around 2%) between 1999 and 2003 and then rises significantly, peaking at 17.3% in 2007.

⁷⁹ The interest group attention score (IGA) is calculated by dividing the total number of natural gas articles per year by the total number of all articles per year in the Powder River Breaks (e.g., in 2006 there are 46 natural gas articles and 90 total articles: $46/90 = 51.1\%$ IGA score).

⁸⁰ I coded 271 natural gas articles out of 793 total Powder River Breaks' articles (from 1999-2008) and natural gas articles equal 34% of the total.

⁸¹ Williams regularly publishes press releases and fact sheets and these documents (1996-2008) are available in Williams' newsroom archives at: <http://www.williams.com/newsroom/>.

⁸² I coded 46 of 1,074 total press releases and fact sheets (4.3% average agenda attention).

Figure 4.5 also compares state legislative natural gas agenda attention with Powder River's and Williams' interest group attention scores. As a status-quo-challenger, Powder River devotes considerably more attention to natural gas issues than either the state legislature or Williams (both status quo supporters). PRBRC also increases its focus on natural gas issues much earlier than Williams. Although Powder River and Williams allocate a greater percentage of their attention to natural gas issues as time progresses, Williams lags behind in both relative attention and the timing of that attention (Figure 4.7). PRBRC attention peaks along with legislative attention in 2006 (51.1% and 3.3%, respectively), whereas Williams' agenda attention peaks in 2007 at a relatively lower rate (17.3%) than Powder River.

This similar rise in agenda attention and interest group attention is more than coincidence. The PRBRC is responding to pending natural gas legislation through the Breaks' articles while simultaneously attempting to frame the policy debate in terms supportive of their policy preferences.⁸³ Increased agenda attention drives, to a certain degree, the increase in PRBRC interest group attention. However, PRBRC ratchets up their relative attention and framing efforts throughout this decade in a strategic effort to reframe the debate and change the status quo. Arguably, their efforts are also driving increased legislative attention. The degree to which PRBRC's framing efforts influence legislative framing is better explored through longitudinal framing analysis. Whether interest group attention instigates increased policy attention or vice versa belies the point

⁸³ Examples of Powder River Breaks articles that are responding to and pushing for legislation that alters the status quo include: Sept/Oct 2004, "Select Committee Meets to Draft Split Estate Legislation"; May/June 2005, "Amid the Controversy, Split Estate Law Undergoes Rulemaking for July 1st Implementation"; Mar/April 2006, "Budget Session Orders Study of CBM Water"; and Sept/Oct 2006, "Powder River Convinces DEQ to Set Protective Water Standard," etc.

that reframing natural gas issues are a top priority for the PRBRC and considerably less for Williams and the state legislature.

As the boom progresses and many environmental, land-use, and democratic-related problems grow in magnitude, the PRBRC increasingly emphasizes these unresolved issues and pressures the legislature to act. It is not surprising that status quo challengers must expend considerable time and effort to reframe the policy debate – and this attention measure reflects just such an effort. In short, this data shows that status-quo-challenging interest groups must pull hard to move the state legislature even a little. Williams, well aware of the pro-development statutory history and state economic reliance on natural gas revenues does not need to expend the effort to reframe and change policy. Williams' hegemonic silence reflects their implicit and explicit acceptance of the pro-development status quo – and the attention measure reflects this effort. The low agenda attention granted to natural gas issues is also an indicator of the Wyoming state legislature's acceptance and promotion of the status quo. Even during 2006 when agenda attention peaks, the legislature is responding to several 2005 status-quo-challenging acts and re-affirming historic pro-development policy.

While agenda attention and interest group attention are general measures of institutional and interest group priorities, they do not provide insights regarding the timing and content of interest group framing efforts. In the next section I explore the framing strategies employed by each group to determine if the groups engage in noncontradictory argumentation (Hypothesis #1), to identify instances of frame convergence (Hypothesis #2), and to delineate framing winners (Hypothesis #3).

Interest Group Framing
PRBRC

Table 4.3 presents Powder River’s framing statistics for the study period. PRBRC uses environmental problem definitions as their dominant argument (56.2%) and at levels greater than all other categories combined. Land-use frames rank second followed by democracy, federalism, and economy frames.

Table 4.3
Powder River Basin Resource Council
Frame Use (1999-2008)

| Frame | Yearly Mean | % of Total |
|----------------------|--------------------|-------------------|
| Environment | 301.9 | 56.2% |
| Land-Use | 103.0 | 19.2% |
| Democracy | 45.2 | 8.4% |
| Federalism | 39.0 | 7.3% |
| Economy | 38.9 | 7.2% |
| Condensation Symbols | 6.3 | 1.2% |
| Policy Surrogates | 2.6 | 0.5% |

This table clearly shows Powder River’s reliance on environmental arguments to frame natural gas development. Land-use frames, especially private property rights, rank a distant second but are still a priority issue for Powder River. Again, these calculations do not show the variability in interest group framing from year to year, nor do they show the specific environmental and land-use arguments Powder River employs to frame natural gas development.

Figure 4.6 presents the longitudinal framing analysis of Powder River Breaks natural gas related articles from 1999-2008. Several framing trends are apparent in this figure. Environment and land-use problem definitions, the dominant frames, peak in 2001 and then again in 2006. During 2001 Montana and Wyoming are battling over CBM water disposal and many Powder River Breaks natural gas articles address these water and

related human health, pollution, and regulatory issues.⁸⁴ Environment and land-use problem definition use returns to normal levels in 2002 and then trends upward through 2006 (Figure 4.6). Powder River employs federalism and economic frames consistently throughout the boom but at rates well below its central environment and land-use frames.

Powder River frames natural gas issues in environmental terms (a key value and strategy) throughout the study period, even though economic frames remain institutional favorites. As the boom progresses, Powder River increasingly employs its dominant (environment), secondary (land-use) and tertiary (democracy) frames to shape and expand the debate. Figure 4.7 shows Powder River's most important environmental sub-category problem definitions, water issues, human health/pollution, and regulatory issues. Powder River describes the harmful effects of CBM water discharges and ties regulatory failures and human health issues directly to these water issues. Note that all three sub-categories follow the same trajectory through time, but water issues remain the most prevalent environmental frame. CBM development requires pumping enormous quantities of groundwater to release the gas (Wyoming State Geological Survey 2009).⁸⁵ In Wyoming, CBM water is commonly discharged to ephemeral draws, creeks, or surface

⁸⁴ All of the 2001 Powder River Breaks bi-monthly newsletters (6 total) were available for analysis, but not all of the newsletters for the surrounding years (5 newsletters in 1999; 4 newsletters in 2000; and 5 newsletters in 2002) were available for analysis. This difference could slightly bias the sample results.

⁸⁵ A 2009 Wyoming State Geological Survey report of the groundwater effects of Powder River basin CBM development speaks directly to water quantity, quality, and even political issues. The report states, "Between 1987 and 2006, CBNG production in the Wyoming PRB has withdrawn a cumulative total of 4.1 billion barrels (174 billion gallons) of groundwater at total pumping rates up to 77.3 million gallons per day (mgd). Based on the BLM deep monitoring well data, water levels in some of the monitored CBNG wells have declined up to 625 feet within the CBNG production areas of the Wyoming PRB." At these rates, CBM water discharges exceeded 230 billion gallons by 2008.

ponds and this causes flooding, erosion, soil and crop damage, and hampers ranching, farming, wildlife, and other land uses. As noted, Montana and Wyoming continue to battle over the appropriate degree of regulation of CBM discharge water and the U.S. Supreme Court will hear this case sometime in 2010-11. The 2001 spike in water issue framing reflects this intrastate battle and the increased framing effort through 2006 also reflects the growing issues surrounding CBM water disposal (Figure 4.7).

Powder River employs land-use frames as their secondary argument to reframe natural gas development. Figure 4.8 presents land-use frames and also the main sub-category of land-use issues, private property rights. Natural gas development requires considerable infrastructure build-up and use of the surface estate. The surface estate must accommodate roads, pipelines, compressor stations, power lines, well pads, discharge water retention ponds, and drainage ditches for natural gas to be developed. CBM water disposal directly affects the surface estate, and with the massive quantities being discharged this singular issue drives both environmental and land-use frames. Not only are private property rights advocates bothered by CBM water discharges, but ranchers, farmers, and wildlife habitat protectionists are also highly critical of the industry because natural gas development frequently precludes other land uses. Powder River echoes these environmental and land-use critiques in their Breaks issues.

Since the boom began, surface owners and private property rights advocates have demanded advance notice of operations, detailed planning and notification, good faith negotiations for surface use agreements, compensation for loss of surface value and use, increased bonding for reclamation, and a more balanced playing field between both estates. Powder River articulates the split-estate and private property rights complaints at

fairly consistent rates throughout the boom (Figure 4.8). This property rights critique of natural gas development policy culminates in the Split Estate Act of 2005. Although surface owners may not be completely satisfied, passage of this act shows the effectiveness of this private property rights frame. The Wyoming legislature, historically silent with respect to environmental, land-use, and democracy frames, began using them more frequently and actually codified these previously marginalized frames in 2005 and 2006. Through their long-term framing efforts and advocacy, interest groups like PRBRC are instrumental in this partial legislative reframe of natural gas issues.

Williams

Table 4.4 presents Williams’ framing efforts for the study period. Williams uses environmental problem definitions as their dominant argument (34.7%) followed by land-use, economy, and policy surrogate frames. Interestingly, Williams employs environmental arguments as their main issue frame but at yearly averages (16.6 per year) well below PRBRC’s environmental yearly framing average (301.9 per year). Predictably, Williams argues that energy development should be a primary land-use and that natural gas development provides both diffuse and concentrated economic benefits.

**Table 4.4
Williams (WY) Frame Use (1999-2008)**

| Frame | Yearly Mean | % of Total⁸⁶ |
|----------------------|--------------------|--------------------------------|
| Environment | 16.8 | 34.7% |
| Land-Use | 11.2 | 23.1% |
| Economy | 10.0 | 22.5% |
| Policy Surrogates | 5.3 | 11.0% |
| Democracy | 2.3 | 4.8% |
| Federalism | 1.5 | 3.1% |
| Condensation Symbols | 0.4 | 0.8% |

Figure 4.9 presents the framing analysis of Williams' natural gas publications from 1999-2008. This figure shows several noteworthy trends. First, Williams remains largely silent between 1999 and 2003. As previously discussed, this hegemonic silence is an implicit nod to the status quo. Second, environmental problem definitions gradually increase between 2002 and 2006, spike to an all-time high in 2007, then return to obscurity. Why would Williams use environmental arguments as their dominant frame and what accounts for the spike in 2007?

I assert that during the early boom period, Williams is not overly concerned with status-quo-challenges and therefore exerts little effort in framing natural gas issues. Conversely, Powder River exerts increasing pressure on the legislature to include environmental, land-use, and degree democracy frames. Despite numerous failed attempts to undermine the status quo by groups such as PRBRC, the legislature eventually incorporates these previously excluded frames. Williams is responding to these environmental and land-use criticisms levied by status-quo-challengers and also responding to changes in legislative natural gas framing. Williams counters that scientific innovation and technological advances enable environmentally responsible natural gas production.⁸⁷ As a major natural gas producer in Colorado and New Mexico (in addition to Wyoming), Williams is also responding to changes in the political context in these two states. The 2007 spike in environmental framing is a lagged response to

⁸⁷ Williams published numerous fact sheets and press releases touting technological innovations that reduce pollution, minimize the drilling footprint, allow more space for habitat and wildlife protection, and are more environmentally responsible. See 2007 Fact Sheets: "Williams Produces More Energy Using Less Space"; "It's Called Green Completions"; "Williams Sets the Standard for Environmental Stewardship"; "Respect for the Rockies – Wildlife Habitat"; etc.

institutional reframing, a rebuttal of environmental critiques, and a delayed response to state legislative natural gas policy action in Wyoming, Colorado, and New Mexico.

Williams and PRBRC are talking past each other early in the conflict, as evidenced by Williams' silence and PRBRC's use of environment, land-use, democracy, and federalism frames. Framing analysis confirms Hypothesis #1 that interest groups will not engage each other directly. Even as the conflict evolves, these groups only engage each other using environmental framing and counter-framing and this largely refutes the frame convergence identified in Hypothesis #2. PRBRC is the framing winner as Williams is compelled to refute the environmental criticisms offered by PRBRC.

State Legislative and Interest Group Framing

Figure 4.10 presents the Wyoming state legislature, PRBRC, and Williams' environmental framing efforts for the study period. PRBRC, the status-quo-challenger, uses environmental frames at levels much greater than Williams and the state legislature for a majority of the study period (Figure 4.10). Competing interest groups talk past each other (i.e. noncontradictory argumentation) until Williams gradually increases its environmental counter-framing and, in 2007, dramatically increases environmental framing leading to frame convergence. Although the Wyoming state legislature partially reframes natural gas issues with an eye toward the environment, the legislature uses economy frames as their primary argument. Arguably, PRBRC's extensive and increasingly frequent environmental critique is, in part, responsible for environmental reframing responses by the legislature and Williams. Simply because there is a strong

qualitative correlation between PRBRC environment framing and legislative framing does not prove a direct causal relationship.⁸⁸

Competing interest groups and the Wyoming legislature employ economy frames with increasing frequency until 2005-06 (Figure 4.11). PRBRC economy framing mirrors the state legislature very closely throughout the entire time period of study. The Wyoming state legislature reaffirms the dominant, economy status quo frame and there is no reframing (i.e. stable framing). Interest group framing efforts in Wyoming refute the noncontradictory argumentation and framing convergence hypotheses for the economy frame.

Figure 4.12 presents the land-use framing trends for the Wyoming legislature, PRBRC, and Williams. Competing interest groups in Wyoming do not engage each other using land-use frames throughout this time period. PRBRC argues at elevated levels and with increasing frequency that natural gas development prohibits any other land-uses by interfering with surface owner private property rights, harming ranching and farming operations, hindering outdoor recreation, and damaging wildlife habitat. When Williams does engage in this debate, they do so infrequently by arguing that energy development should be the preferred land-use.

The Wyoming legislature partially reframes natural gas issues by including surface owner property rights frames in their legislative bills over a four-year span (Figure 4.12). Status-quo-challenger framing efforts are instrumental in this rather dramatic legislative reframing. Status-quo-challengers speak longer, louder, and with increasing frequency

⁸⁸ However, establishing a correlation is a necessary precursor to establishing causation. In short, this would be a strong starting point for more quantitative testing of the data to determine causal relationships.

about the unbalanced split-estate playing field and the state legislature responds as evidenced by increases in their land-use framing and passage of surface owner protection laws.

Status quo challengers in Wyoming use democracy frames to steer the policy debate but Williams does not spend any time framing in this way (Figure 4.13). The Wyoming state legislature initially ignores democracy frames but partially reframes natural gas using this frame over a four-year time span. Status quo challengers are the impetus behind this partial reframe by the legislatures for several reasons. First, status-quo-challengers argue with greater frequency and consistency for greater participation, transparency, equality, and liberty in natural gas policy. Second, status-quo-supporters remain silent and silence cannot drive this framing change. And third, the legislatures demonstrate significant democracy framing shifts (inattention, attention, then inattention) that correlate with the loud calls of the policy challengers. Status-quo-challenging statutes passed by the legislature also reflect this concern for increased participation, transparency, equality, and liberty with respect to split-estate and surface owner issues. A drop off in framing consistently follows increased legislative attention to democracy frames. This most likely indicates that the legislature has included this new frame in natural gas policy and has moved on to other agenda items.

By comparing institutional with interest group framing efforts I am able to address the framing related hypotheses identified in Chapter II (Hypotheses 4-6). Framing analysis indicates that the Wyoming state legislature reframes natural gas issues using environment, land-use, and democracy frames, but this reframing is only partial and economy frames remain dominant. Further, the legislature incorporates long extant and

previously marginalized frames rather than entirely new frames into their bills and statutes. Finally, once these marginalized frames gain an institutional voice, the legislature incorporates them rather quickly.

Conclusion

Competing interest group political strategies are dynamic as reflected in both the relative attention given and how each group defines natural gas issues through time. Powder River's increasing use of environment (water issues), land-use (private property rights), and democracy frames is both a reaction to the political context and a concerted effort to shape the debate. Status-quo-challengers must attempt to reframe the debate using multiple problem definitions, at increasing rates, and for long time periods to alter the status quo. Challengers are constrained by pre-existing institutional frames but that does not prevent them from cajoling the legislature into re-thinking, re-framing, and re-writing policy. Importantly, changes in legislative framing occur around the same time as Powder River ramps up its environment, land-use, and democracy framing efforts. Challenger framing efforts prove effective as the state legislature partially reframes natural gas development using environmental, land-use, and democracy frames in a dramatic (four-year) fashion. This reframing mirrors and is driven, in part, by PRBRC as evidenced by the state legislature's incorporation of these pre-existing and formerly marginalized frames.

Status-quo-supporters like Williams can and do remain silent until they feel the status quo is threatened. When the legislature codifies alternative frames such as the environment when defining natural gas development, status-quo-supporters take notice. Williams breaks its silence and alters its narrative strategy in response to both legislative and challenger framing efforts. Williams' use of environmental frames is at first

surprising but then seems like a logical response to changes in institutional framing and as a counter to the environmental critique of its challengers. Williams' strategic and dynamic framing efforts can be characterized as hegemonic silence followed by increased attention, environmental counter-framing efforts, affirmation of the economic imperative, and confirmation of energy development as a legitimate and preferred land-use. Their lagged attention and framing efforts indicate they are not immediately concerned with status quo challenges. However, changes in legislative framing evidenced by numerous status-quo-challenging bills and stinging critiques over environmental and private property rights levied by groups like Powder River facilitate a response from Williams. However, Williams only engages PRBRC with respect to environmental frames, the groups mostly talk past each other, and there is minimal frame convergence.

Natural gas issue framing within the Wyoming state legislature changes through time and is responsive to interest group framing efforts. Similarly, interest groups are responding to institutional problem definitions while also attempting to frame policy in ways amenable to their policy preferences. Although the legislature incorporates several status quo challenging frames, the economic imperative remains the dominant legislative frame supporting the pro-development status quo. The larger political and economic contexts in Wyoming further support the status quo. A Republican legislature and pragmatic governors from both parties who realize the economic benefits of natural gas development ensure pro-development policy dominance. The legislature and governor both privilege natural gas development and economic arguments over more critical environmental, private property rights, and water issues. While these previously marginalized frames achieve some institutional recognition and success, water issues

remain largely unaddressed. Water issues are the driver of many environment, land-use, and democracy problem definitions and will continue to be a priority for Powder River and other status-quo-challengers.

Longitudinal interest group and institutional framing analysis shows that state legislative reframing is more common than assumed, partial reframing is the norm, and that reframing is a matter of increased legislative attention and acceptance of long-time neglected frames. Once the legislature begins to use long-time neglected frames, like those espoused for years by PRBRC, it reframes natural gas development relatively quickly. Partial reframing is also an indicator of policy change. Framing analysis, agenda and interest group attention, and legislative reframing all point toward a policy shift in 2005 and 2006. Slight erosion of the status quo in 2005 is followed by legislative retrenchment and support of the pro-development status quo in 2006. By developing an institutional measure of framing, I am also providing one metric to evaluate this policy change.

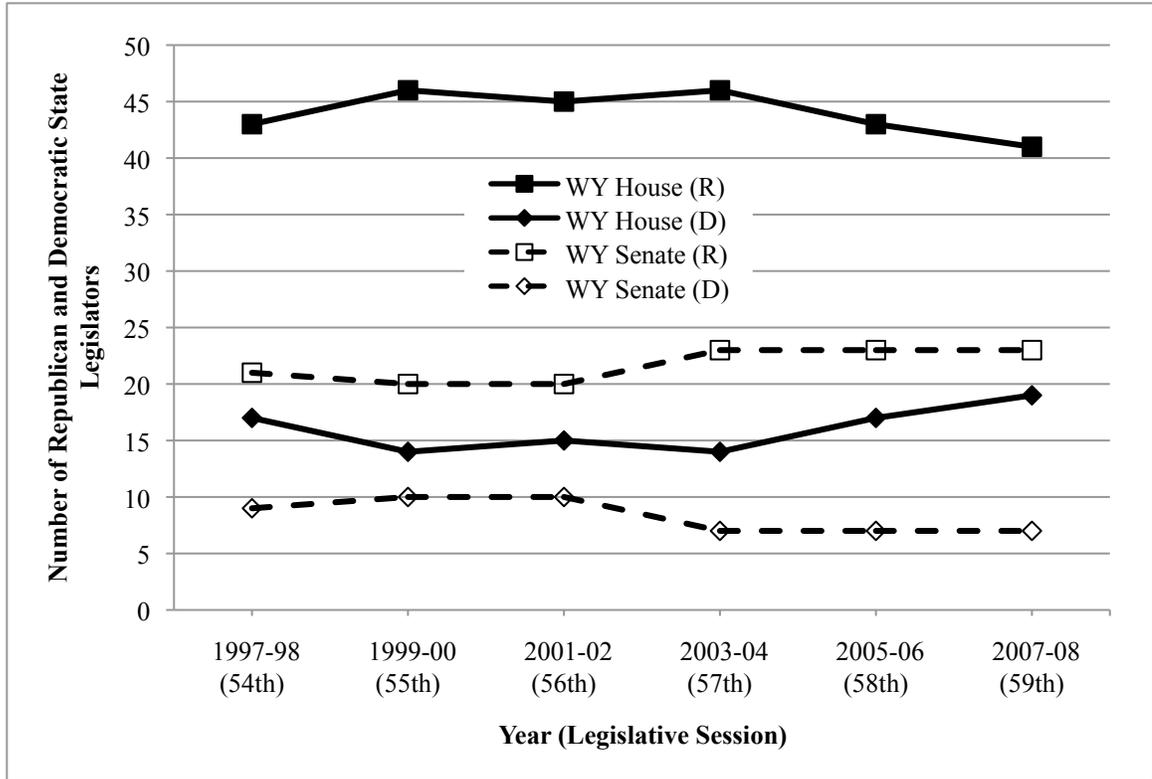


Figure 4.1: Party Control of the Wyoming State Legislature

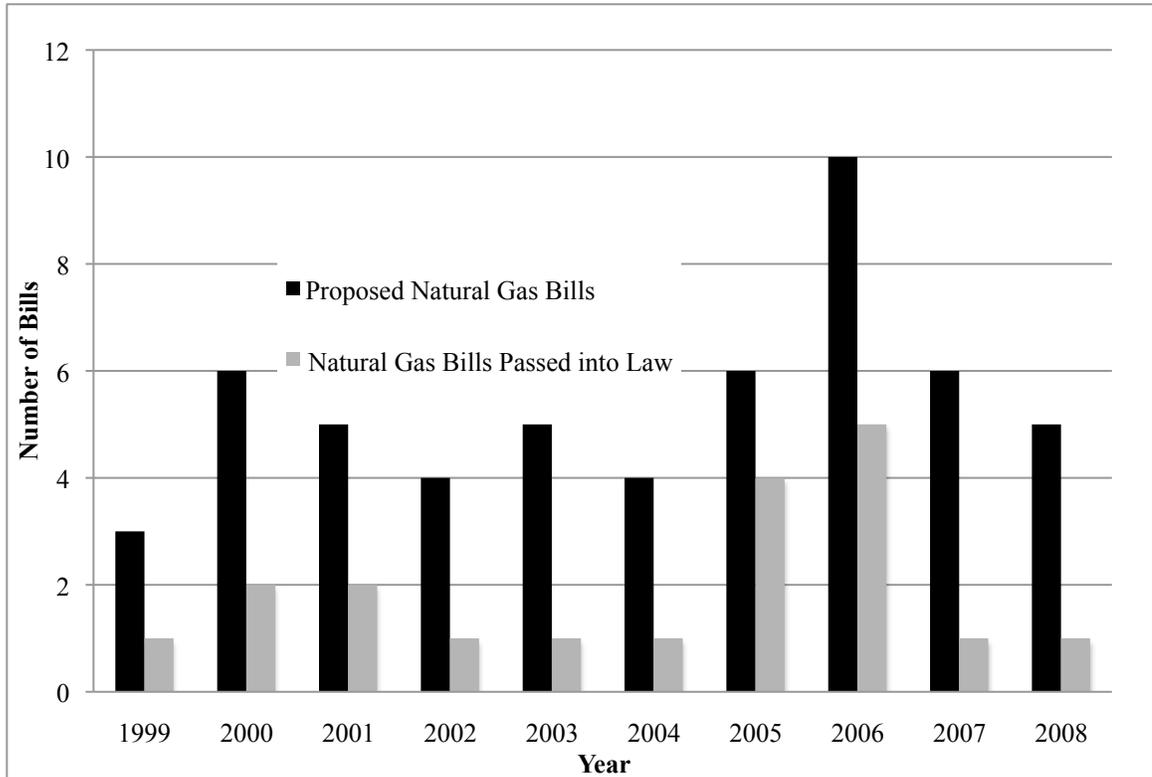


Figure 4.2: Wyoming State Legislature Natural Gas Bills

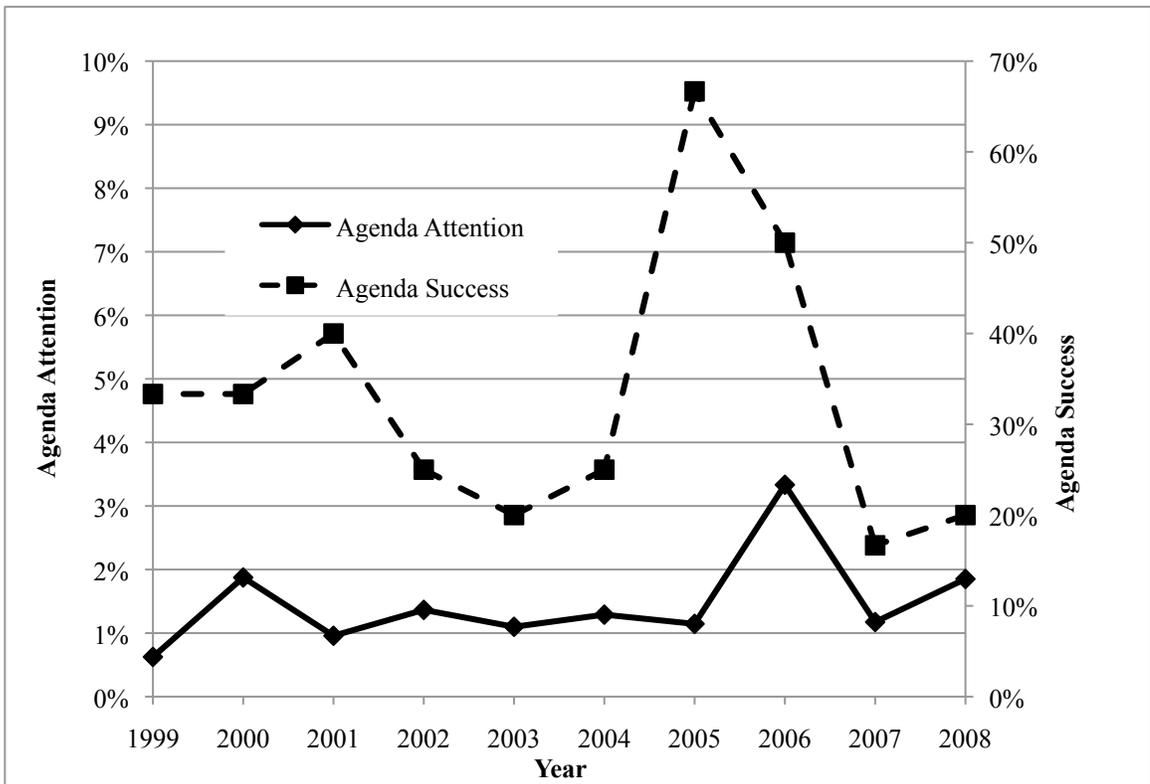


Figure 4.3: Wyoming State Legislature Natural Gas Agenda Attention and Success

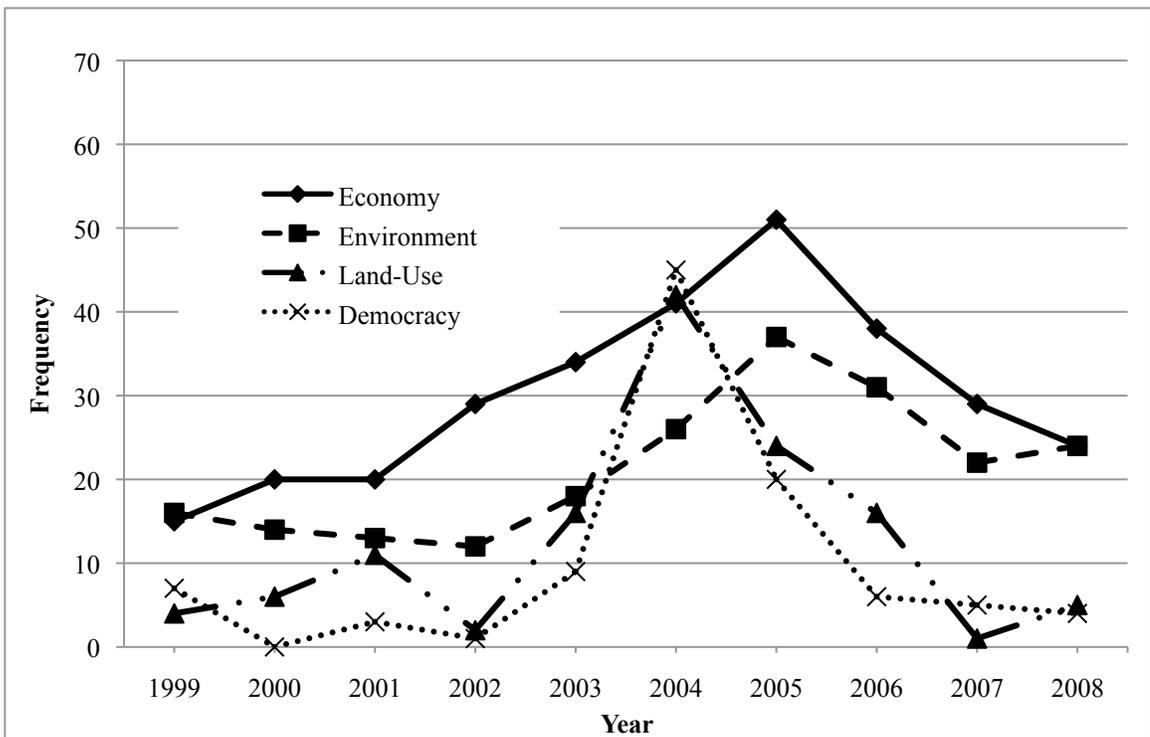


Figure 4.4: Wyoming State Legislature Natural Gas Frames

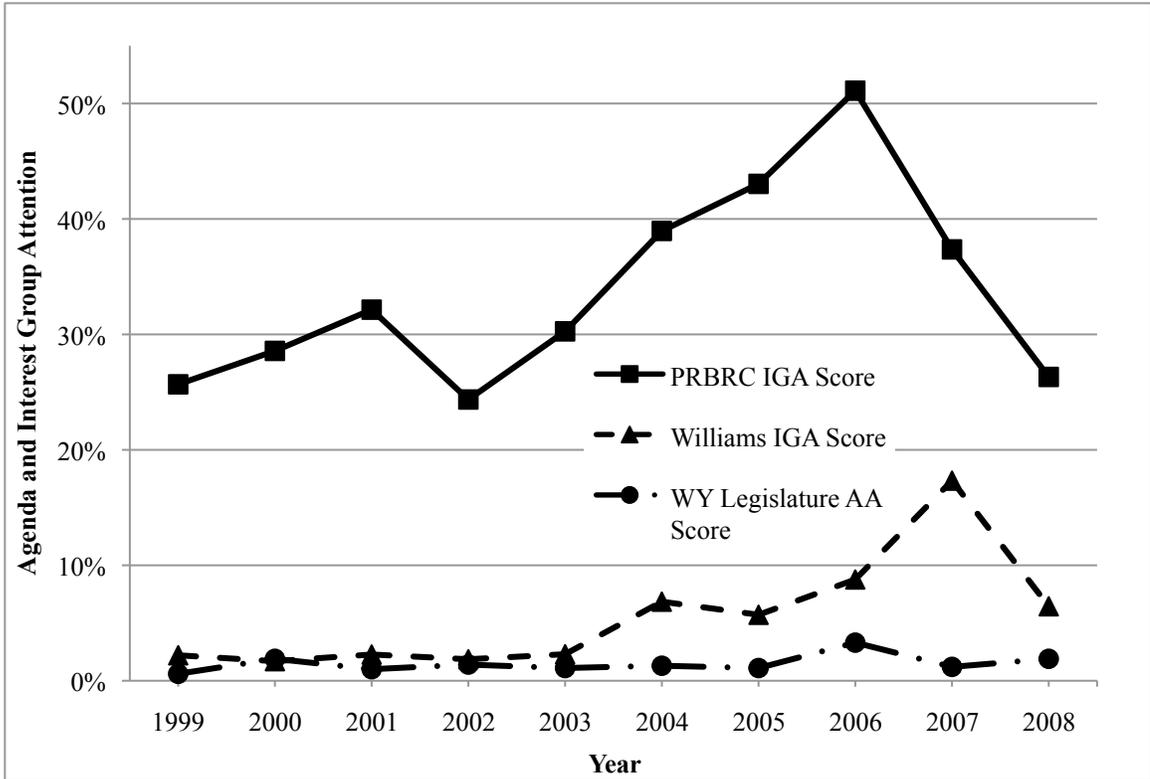


Figure 4.5: Natural Gas Agenda Attention and Interest Group Attention – Wyoming State Legislature, PRBRC, and Williams

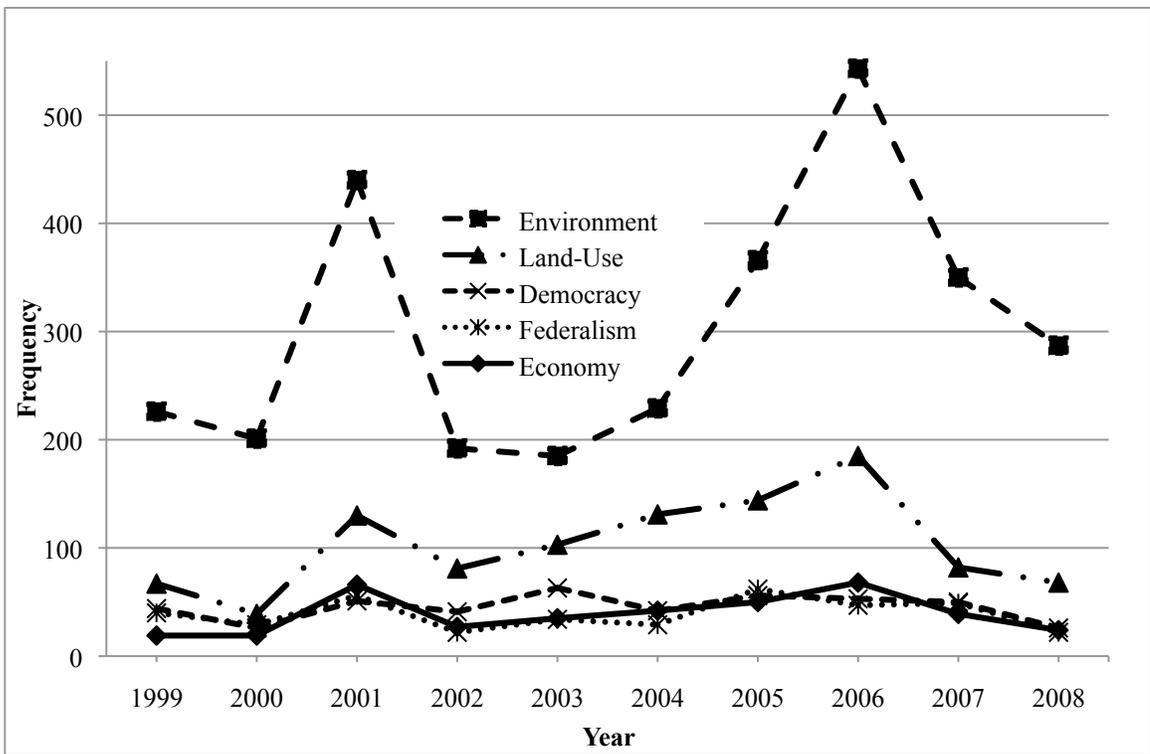


Figure 4.6: Powder River Basin Resource Council Natural Gas Frames

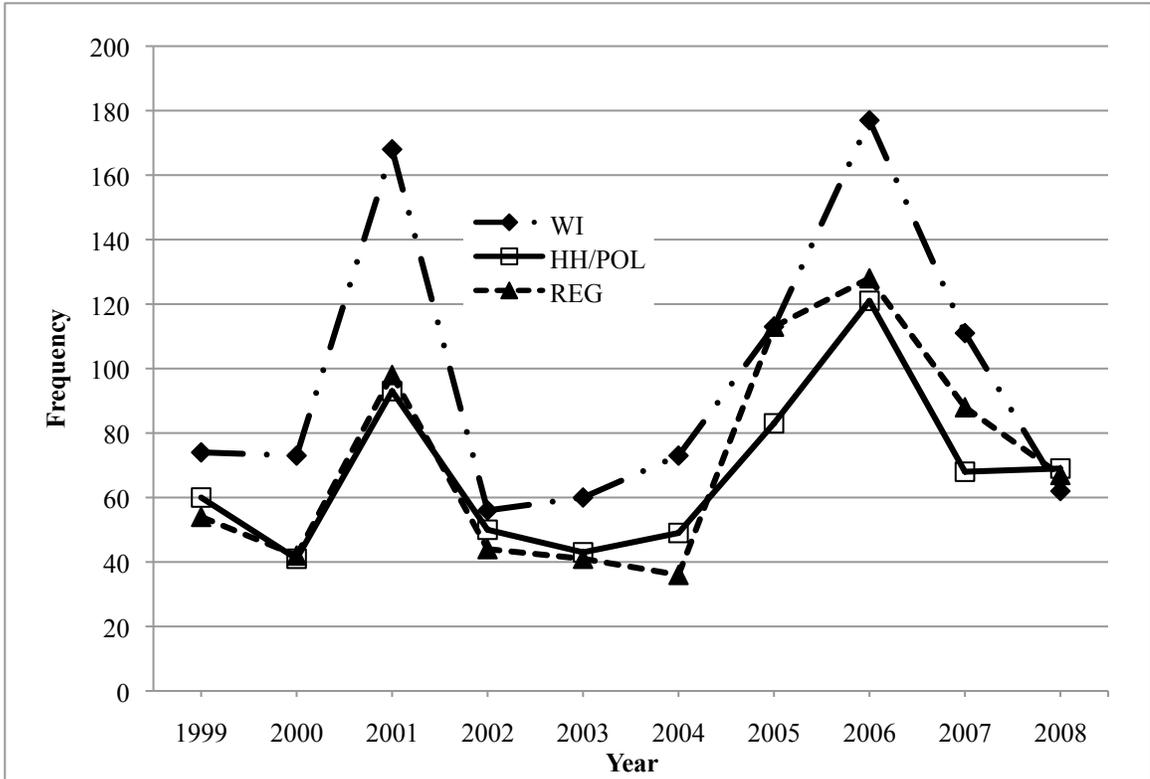


Figure 4.7: Water Issues, Human Health/Pollution, and Regulation Frames – Powder River Basin Resource Council

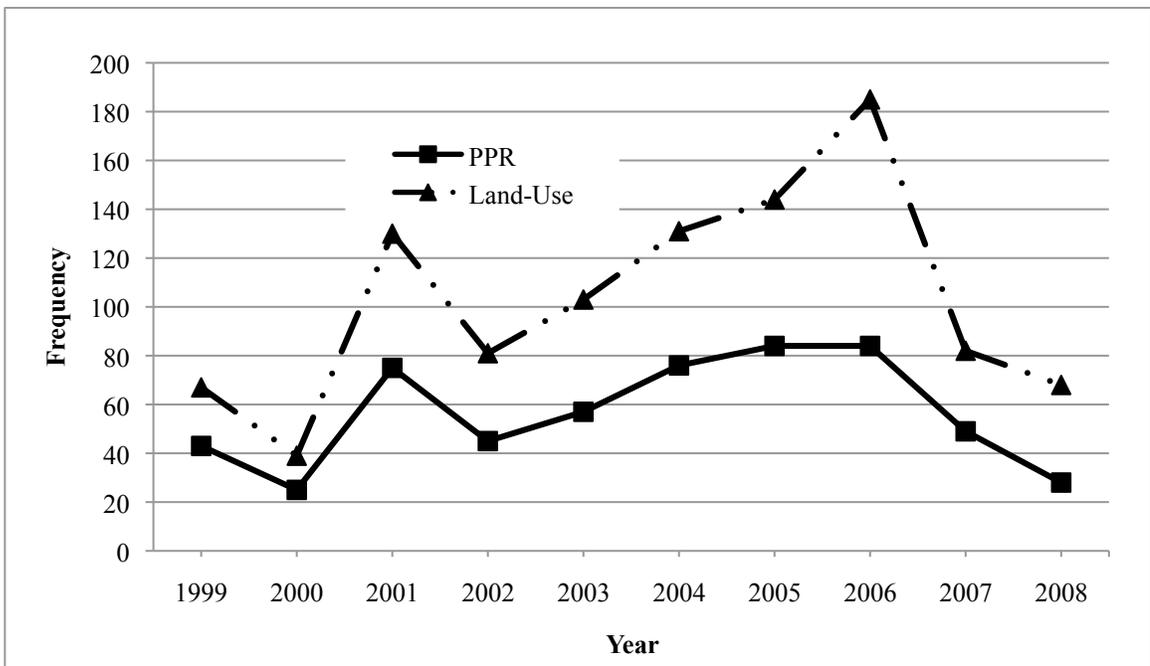


Figure 4.8: Total Land-Use and Private Property Rights Frames – Powder River Basin Resource Council

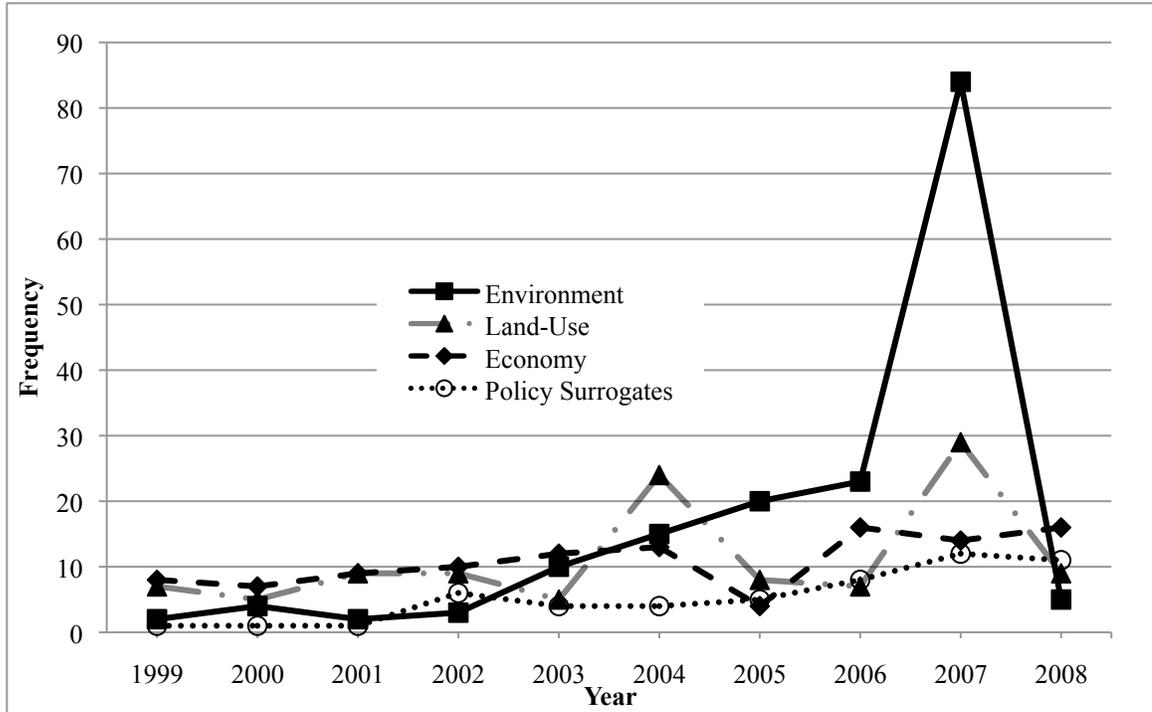


Figure 4.9: Williams (WY) Natural Gas Frames

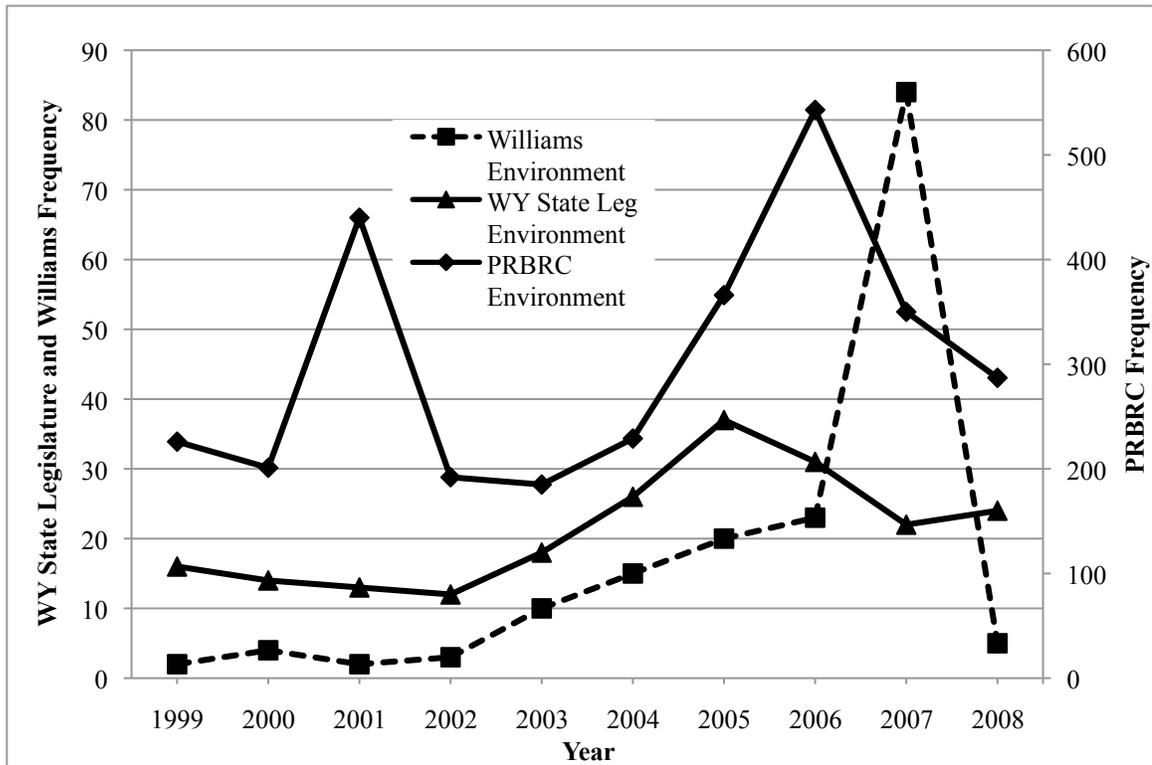


Figure 4.10: Environment Frames – Wyoming State Legislature, PRBRC, and Williams

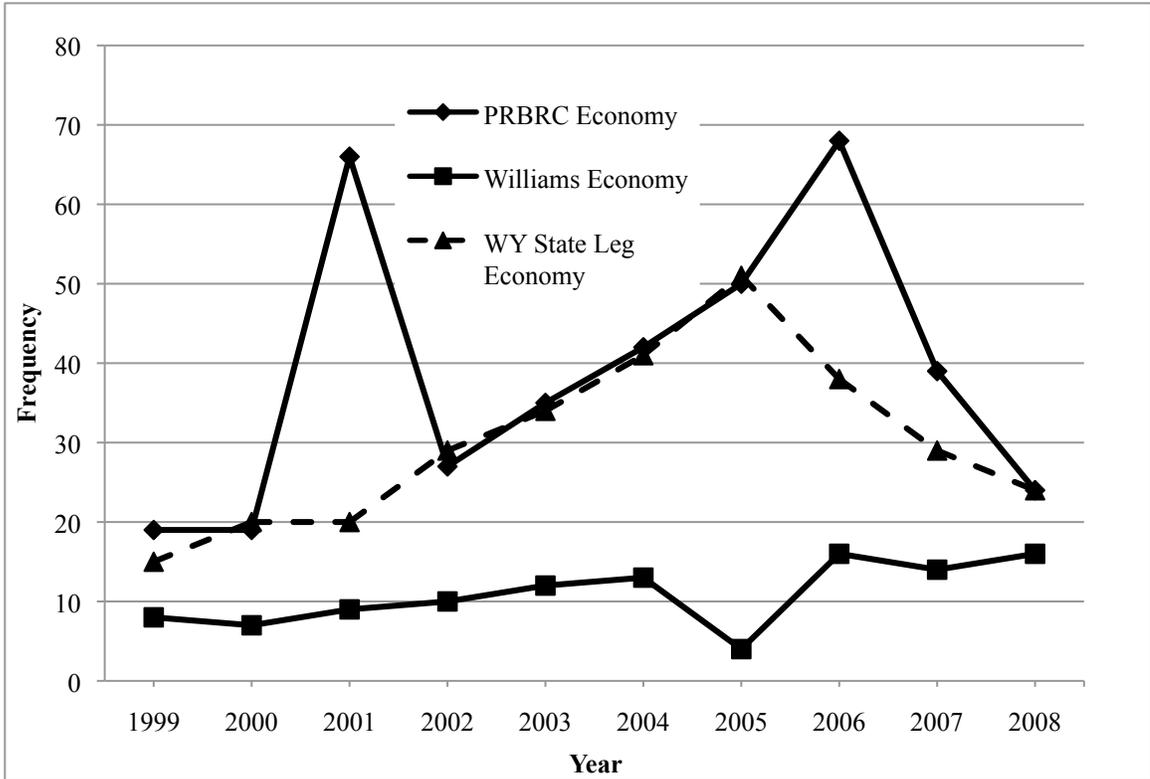


Figure 4.11: Economy Frames – Wyoming State Legislature, PRBRC, and Williams

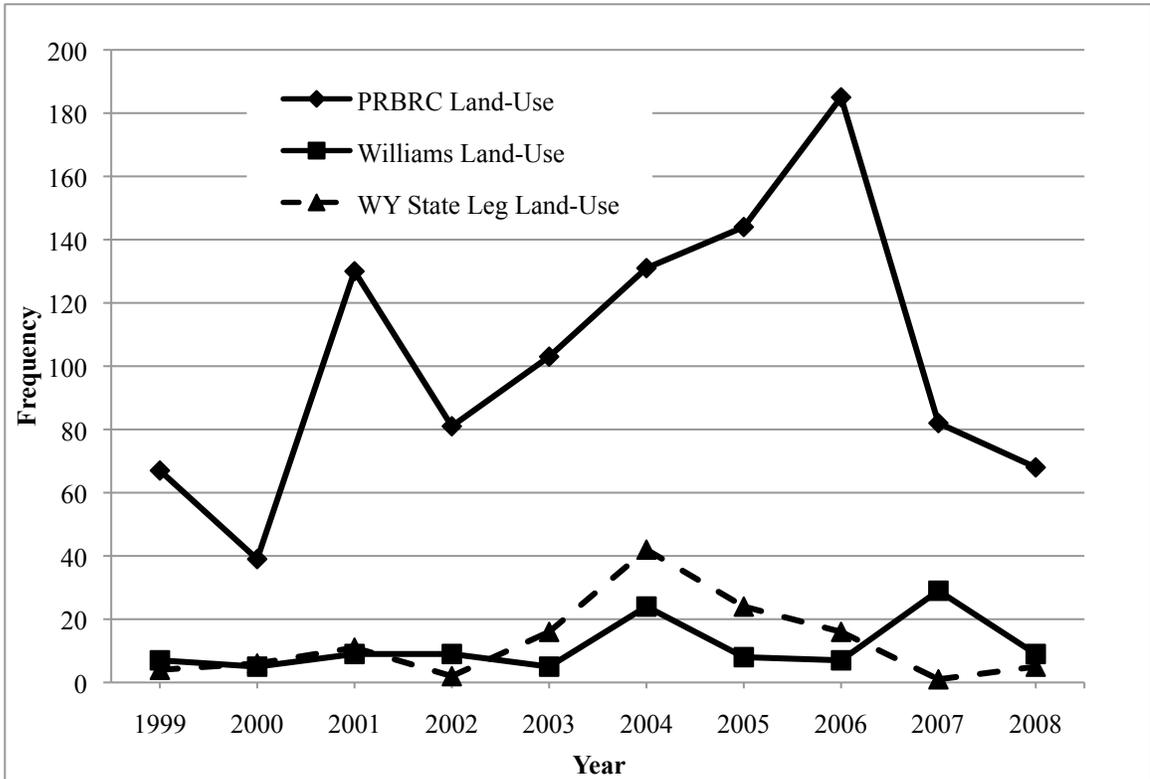


Figure 4.12: Land-Use Frames – Wyoming State Legislature, PRBRC, and Williams

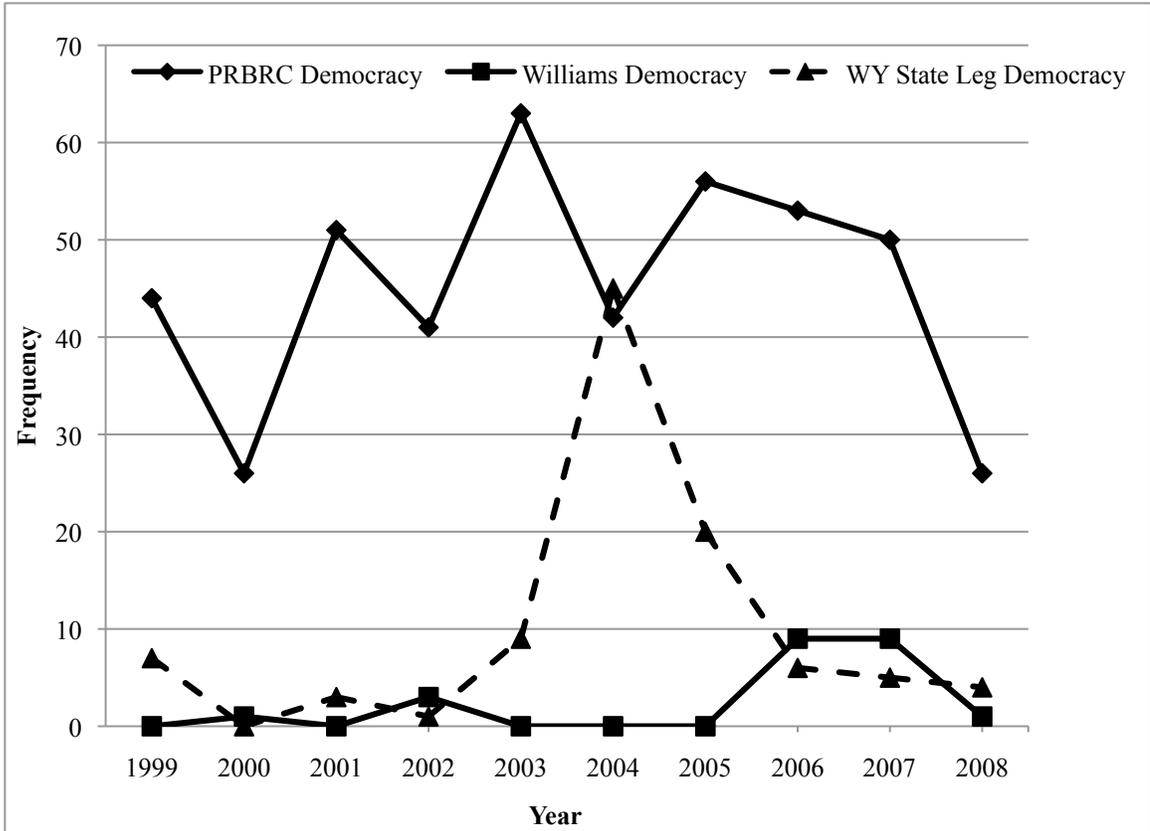


Figure 4.13: Democracy Frames – Wyoming State Legislature, PRBRC, and Williams

Chapter V

New Mexico Natural Gas Politics and Policy

“The time has come to turn our region’s energy policy around. The states are the true innovators in creating a strong, sustainable energy policy.” Governor Bill Richardson

Introduction

This chapter explores natural gas policy in New Mexico through the lens of the state legislature and two competing interest groups, Devon Energy Corporation (Devon) and the New Mexico Wilderness Alliance (NMWA). New Mexico’s pro-development status quo has an extended history dating back to the U.S.’s first real oil rush in the Permian Basin of western Texas and southeastern New Mexico during the late 1920s (Christiansen 1989). Exponential development of this first ‘oil patch’ was followed decades later by discovery and development of the San Juan Basin’s rich natural gas deposits. Since the late 1980s, the San Juan Basin has been the most prolific natural gas producing basin in the U.S. and companies like Devon have been instrumental in its development. Extensive natural gas development in both basins has led actors on all sides of the natural gas debate to declare these areas as “national sacrifice zones.” The central debates do not concern continued development in these basins, as this is considered a given by the legislature and both interest groups. Rather, NMWA fights to keep natural gas development out of potential wilderness areas, like the Valle Vidal and Otero Mesa that fall under federal jurisdiction. NMWA is also active at the federal, state, and local level in their grassroots mobilization and coalition building efforts to combat new natural gas development on previously untapped public-lands. Devon, a major producer in the

Permian and San Juan Basins, seeks to protect its interests and the pro-development status quo at both the federal and state levels.

New Mexico state laws and regulations governing natural gas development are extraordinarily supportive of the industry. Historic natural gas revenues and continued contributions to state coffers are so significant that the state would lose at least 20% of its General Fund money if the industry shut down today (Christiansen 1989; EMNRD 1999, 2008). New Mexico's economic dependence on this industry remains a driving force behind the pro-development status quo. Oil and natural gas revenues remain important to New Mexico's state budget but they are not the primary revenue source like the extractive industries are in Wyoming. Thus, New Mexico falls between Colorado and Wyoming in terms of overall economic diversity and contributions that oil and gas make to the state's general fund.

Although the pro-development status quo remains largely intact, interest group pressure and state legislative framing shifts indicate that the status quo has been recently threatened. As the policy conflict evolves the state legislature continues to frame natural gas issues using economic arguments, but also partially reframes the issue using environmental, land-use, and democracy frames. This institutional framing shift or partial redefinition reflects a new challenge to the status quo. In response to this institutional reframing, Devon breaks its hegemonic silence and begins a concerted effort to reframe natural gas development in a more environmentally friendly light. NMWA adjusts its framing content and frequency following federal land-use decisions regarding the Valle Vidal and Otero Mesa. However, NMWA also attempts to reframe natural gas development using policy surrogates such as energy efficiency, conservation and

renewables in response to Governor Richardson and the New Mexico state legislature's renewable energy policy activity. This point is important because it shows that natural gas policy and renewable energy policy overlap and that changes in one policy arena (renewable energy) may affect change in a related policy arena (natural gas policy). Framing analysis picks up this policy arena overlap and can be used as an indicator regarding the timing, content, and effect of one policy arena on another.

This chapter is organized as follows. First, I explore the political context surrounding natural gas development in New Mexico. Because state political institutions create natural gas policy and provide a significant control over what problem definitions are promoted or denied, I detail party control of the legislature and governor's office and their policy orientations. Second, I analyze natural gas bills and statutes (1999-2008) with respect to content, attention, and success. Third, I follow with an in-depth analysis of how NMWA and Devon define natural gas development. Finally, I explore the interrelationship between legislative and interest group framing efforts – drawing several important conclusions regarding framing and policy change.

Political Context

New Mexico State Legislature and Governor – Party Control and Policy Positions

Similar to Colorado and Wyoming, New Mexico's bicameral, part-time "citizen legislature" is characterized by a low level of professionalization.⁸⁹ The 70-member state

⁸⁹The level of professionalization refers to the amount of pay, staff, office support, and legislative session length. New Mexico state legislators are not compensated for their service. Rather, legislators receive a per diem mileage and expense reimbursement for their activities. The New Mexico Legislative Council Service (LCS) provides year round support for legislators and is responsible for drafting all bills, providing research, staffing interim committees, organizing committee agendas and helping legislators carry out all of their duties. This information is located on the New Mexico State Legislature (New Mexico State Legislature 2010) website and can be accessed at: <http://legis.state.nm.us/lcs/reports.aspx>.

House of Representatives (2-year terms) and 42-member Senate (4-year terms) meet for 60 days in odd years and 30 days in even years (New Mexico State Legislature 2010). The New Mexico Constitution limits the short session to fiscal issues, bills vetoed by the governor in the previous session, and special issues initiated by the governor. State legislators are not term limited, but the governor may only serve two consecutive four-year terms and then regain eligibility after a four-year hiatus. When the legislature is adjourned, three permanent interim committees including the New Mexico Legislative Council and Legislative Council Service, the Legislative Education Study Committee, and the Legislative Finance Committee meet to direct state affairs. While New Mexico can be considered a legislatively dominated state, the governor and the Legislative Finance Committee both propose comprehensive state budgets to the state legislature (New Mexico State Legislature 2010). A politically astute governor can also exercise important administrative and agenda setting powers that guide and if effective, dictate policy direction.

State-level politics in New Mexico leans decidedly Democratic (49.5% of registered voters) with Republicans (32.9%) and Independents (17.6%) comprising the minority.⁹⁰ Despite these registration differences, New Mexicans have an extended history of electing Republicans as governor, to federal offices, and they have controlled the state House of Representatives at times. Figure 5.1 shows party control of the New Mexico State Legislature from 1997 through 2008. Democrats have consistently held near super-majorities in both the House and Senate throughout the past decade. This consistent

⁹⁰ Voter registration information is provided by the New Mexico Secretary of State and can be accessed at: <http://www.sos.state.nm.us/sos-bluebook.html>. Note the voter registration numbers cited here are from the 2006 elections.

Democratic majority is important to my analysis because party reflects policy orientation, with Democrats generally favoring more environmental and energy regulation than Republicans. Also, any changes in state legislative framing of natural gas issues cannot be attributed to changes in legislative party control. Despite the Democrats' monopoly on power in the legislature, natural gas policy in New Mexico has an extended pro-development history.⁹¹ Although generalizations can be drawn from analysis of legislative party control, my research results indicate that legislative and gubernatorial party control are important to but not the sole determinants of natural gas policy direction.

Republican Governor Gary E. Johnson served two terms from 1995 through 2003. Johnson, a successful New Mexico businessman, was a political unknown until his run for governor in 1994. Riding the anti-Washington D.C. wave spurred by the Republican led "Contract with America," his own libertarian style Republicanism, and \$500,000 of his own money, Johnson surprisingly defeated incumbent Democratic Governor Bruce King in the 1994 election. Upon entering office, Governor Johnson espoused three legislative priorities relating to crime, education, and economic development.⁹²

⁹¹ As previously noted, New Mexico's historic pro-resource development natural gas policies are built on local and national development desires, state and federal statutes, political culture, and natural resource abundance. New Mexico has a lengthy natural resource development history engrained in its political institutions and expressed via pro-development policies.

⁹² Following Governor Johnson's successful re-election in 1998 he gained national attention for his stance on drug policy reform and specifically, his clear and repeated advocacy for the legalization of marijuana. As part of this national attention, Playboy Magazine interviewed Johnson and published the interview on January 1, 2001. In this interview Johnson talked extensively about drug policy reform, campaign finance reform, excessive government spending, unnecessary taxation, and how through his veto he slowed state government growth (Playboy 2001).

Governor Johnson angered party regulars from both sides of the aisle by vetoing a record 200 out of 424 bills passed by the legislature in 1995 (47% veto rate) (Eichstaedt 1995). During his two term tenure as governor Johnson vetoed 750 bills and became known as “Governor No” (Stanage 2010). This extraordinary use of the veto coupled with Johnson’s political inexperience made for strained relations with state legislators and the media and even occasionally undermined his own agenda.⁹³

Natural gas policy was not immune to Governor Johnson’s veto. Between 1999 and 2002 Governor Johnson vetoed three of the eleven natural gas bills sent to him by the state legislature (Appendix 5.1). Johnson vetoed a new program calling for a Natural Gas Pipeline study (HB99-770), a severance tax bonding restriction bill (HB01-379), and a bill attempting to increase regulation and penalties for improper oil and gas proceeds payments (HB01-926). A majority of the natural gas bills passed into law during

⁹³ Governor Johnson argued that his veto pen slowed the 10 percent annual government growth to five percent. However, the heavy use of the veto angered state legislators from both parties. Republican representative Jerry Lee Alwin of Albuquerque complained after several of his bills were axed that Johnson, “needs to have respect and consideration for legislators’ opinions. He’s not listening. He’s playing a dangerous game and is causing people to hate government. Perhaps he’ll grow up some.” House Speaker Raymond Sanchez (Democrat) concurred asserted that, Johnson, “had difficulty understanding that governing the state is a collaborative process. His [Johnson's] ability to communicate with the Legislature was hampered by his lack of knowledge of what the process is all about . . . and (that) some of the vetoes made no sense” (Eichstaedt 1995). Upon leaving office the Albuquerque Journal published an editorial (Gary Johnson: Boy Governor, December 26, 2002: A-12) arguing that Johnson’s “sharp veto pen restrained growth in the state budget though it still expanded by an average of 6 percent annually. While the vast majority of states contemplate deficit spending, Johnson's frugality leaves New Mexico on tight, but solid fiscal footing. The jury is split on style. Bracketed by a couple of senior statesmen, Johnson, who learned government from the top executive state office, seems almost a boy governor . . . In April of 2001, Johnson vetoed a compromise income-tax relief bill that didn't give him everything he wanted. It would be his last opportunity for cutting income taxes. Johnson later said he regretted not signing the bill.”

Governor Johnson's last term (7 of 8 statutes) maintained the pro-development status quo. Term limits ended Johnson's tenure and Democrat Bill Richardson succeeded him.

Prior to his election as New Mexico's governor in 2002, Bill Richardson had an extended history of public service. As a long-time Democratic party activist and leader, Richardson was first elected to the U.S. House of Representatives for New Mexico's 3rd District where he served from 1983 through 1997. In 1997 Richardson served as the Democratic Chief Deputy Whip in the House and worked closely with Democratic House leaders and President Clinton. Following this stint in the House, Richardson served under the Clinton administration as the U.S. Ambassador to the United Nations (1997-98) and then as Secretary of the U.S. Department of Energy (1998-2001).⁹⁴ Richardson ran for Governor of New Mexico in 2002 and defeated Republican John Sanchez (56% to 39%)(New Mexico Secretary of State 2010).

Governor Richardson used his political acumen and experience to champion a more diverse energy policy agenda than his predecessor. As chair of the Western Governor's Association (WGA) during their 2004 'North American Energy Summit' Richardson argued that, "the time has come to turn our region's energy policy around. The states are the true innovators in creating a strong, sustainable energy policy" (Burnham 2004). The WGA Energy Summit developed a comprehensive energy plan for the Western U.S. calling for states to coordinate energy policy with respect to oil, gas, renewables, and energy efficiency. Specifically, the WGA called for regional fossil fuel consumption reduction (15% by 2020) and increased energy efficiency (20% by 2020); integration of

⁹⁴ For a more comprehensive examination of the long political career of Bill Richardson see the following sources: Project Vote Smart (2010) at http://www.votesmart.org/bio.php?can_id=H2505103 and On the Issues (2010) at http://www.ontheissues.org/bill_richardson.htm.

state level natural gas policies; regional time-limits for approving natural gas permits to drill (46 days); state adoption of individual and regional Renewable Portfolio Standards; renewable energy policy coordination with respect to taxes, subsidies, and research and development; and western state development of 30,000 megawatts of renewable energy by 2015 (Burnham 2004; Reese June 15, 2005). Richardson brought many of these regional WGA energy policy goals to life in New Mexico by promoting and signing several important statutes, administering numerous executive orders, and by actively guiding the regulatory rule-making process especially concerning the “waste pit rule.”⁹⁵

A Pit Rule Task Force that included industry, environmental groups, cities, cattle growing association members, and the general public developed the “pit rule” in collaboration with the New Mexico Energy, Minerals, and Natural Resources Oil Conservation Division (EMNRD-OCD). Development of the “pit rule” was so contentious that the public rule-making hearing conducted by EMNRD-OCD took an astounding 18 days (EMNRD 2008; OGAP 2011). The Oil and Gas Accountability Project, (OGAP) founded in 1999 to help communities deal with the effects of oil and gas development, details New Mexico’s “pit rule” as follows (OGAP 2011).

“The new rule addresses contamination problems by banning unlined pits, requiring a buffer zone between pits and sensitive areas, and requiring thicker liners to help reduce the likelihood of torn liners. Oil and gas operators must obtain a pit permit, which enables the operator and New Mexico Oil Conservation Division (OCD) to assess potential concerns before any damage is done. In cases where groundwater is less than 50 feet below the surface, pits are not allowed, but closed-loop systems (steel tanks) can be used. In other cases, wastes can be buried on site, but that waste must not exceed a certain levels of contaminants. If the waste is too toxic, it must be excavated and hauled to a certified landfill, and sampling must be done to ensure that the soil and groundwater beneath the pit location have not been contaminated.”

⁹⁵ The EMNRD-OCD provides a comprehensive description of the waste pit rule (19.15.17 NMAC) that can be found at: http://www.emnrd.state.nm.us/ocd/documents/PitRuleHighlights_001.pdf.

This “pit rule” is a significant departure from its predecessor and its passage in 2008 and subsequent implementation continue to be a hotly contested natural gas issue within the state. Natural gas industry representatives like Devon argue that the “pit rule” regulation is excessive, not based on sound science, curtails natural gas development, and drives business out of the state. Conversely, groups like OGAP and NMWA assert that, over 400 known cases of groundwater contamination have been caused by leaking waste pits (OGAP 2011). They further argue that the revised rule is necessary to protect human health, prevent public and private land contamination, provide industry with “reasonable safeguards” during and after drilling, and rebalance the playing field to ensure industry cleans up its wastes appropriately (OGAP 2011). Governor Richardson’s involvement with and promulgation of the “pit rule” speaks to his “cleaner and greener” energy policy position.

Richardson also sought to make New Mexico the ‘Clean Energy State’ by signing Executive Order 2004-019 that created a Clean Energy Council and directed state agencies to assist the council in developing and promoting renewable energy development. This ‘Clean Energy State’ executive order saw statutory approval, in part, when Governor Richardson signed the 2007 Renewable Portfolio Standard (RPS) Act requiring public utilities to increase renewable energy use to 20% by 2020.⁹⁶ In 2005, Richardson created a Renewable Energy Transmission Authority that focused on energy infrastructure, financing, transmission line siting, and interstate coordination (Greenwire 1/21/05). In his 2005 State of the State address Richardson asserted that, “We have an

⁹⁶ The Renewable Portfolio Standard statute (SB-418) passed in 2007 is regulated by the New Mexico Public Regulation Commission and the bill and regulatory rules can be accessed at: <http://legis.state.nm.us/lcs/locator.aspx> and <http://www.nmprc.state.nm.us/renewable.htm>, respectively.

incredible opportunity in New Mexico to build a high-wage renewable energy industry. New Mexico has the potential to produce more than triple our energy needs in wind and solar energy. If we can export that energy to neighboring states, we can create good jobs – particularly in rural New Mexico” (Greenwire Staff January 21, 2005). Governor Richardson furthered this renewable energy transmission agenda by signing the 2007 Renewable Energy Transmission Authority Act (RETA).⁹⁷ RETA mandates that the state plan, finance, and operate new energy transmission infrastructure that receives at least 30% of its power from renewable energy.

This push for renewables was only one piece of Richardson’s larger ‘Clean Energy’ policy agenda. Expanded renewable energy production, increased energy efficiency, and reduced fossil fuel consumption were all key policy goals that also addressed global climate change. Richardson signed three separate executive orders dealing directly with climate change and New Mexico was the first state to join the Chicago Climate Exchange (O’Donnell 7/18/06).⁹⁸ Richardson also penned three energy efficiency related executive

⁹⁷ Governor Richardson and the New Mexico State Legislature attempted to pass similar RPS legislation in 2006 (HB06-111 and SB06-317) that would make the existing Renewable Energy Transmission Authority an official agency with the power to locate new energy transmission corridors to enable and transmit new renewable energy sources including wind and solar.

⁹⁸ Executive Order 2005-033 (E.O. 2005-33) titled Climate Change and Greenhouse Gas Reduction established the Climate Change Advisory Group that coordinated their efforts with the Climate Change Action Council created previously by E.O. 04-19 (‘Clean Energy State’). E.O 2006-069 titled New Mexico Climate Change Action set aggressive greenhouse gas reduction goals of 10% below 2000 levels by 2020 and 75% reductions by 2050. E.O. 2009-047 titled New Mexico Climate Change Action directed the Climate Action Council to implement 20 of the 69 greenhouse gas reduction recommendations made by their group. New Mexico’s entry in to the Chicago Climate Exchange where prices are placed on carbon emissions further solidified New Mexico’s commitment to address climate change. Governor Richardson’s energy policy accomplishments and

orders (E.O. 2005-49, E.O. 2006-01, E.O. 2007-53) requiring increased state government use of renewable fuels, green building efficiency standards for state buildings, and increased energy efficiency (i.e. reduced consumption) by the state government. In sum, these climate change and energy efficiency executive orders show a concerted effort by Governor Richardson to diversify New Mexico's energy policy beyond its traditional fossil fuel production and consumption model.

Despite the notable energy policy shift toward renewables, energy efficiency, and reduced consumption, New Mexico contains vast quantities of oil and natural gas and their continued development is supported by existing policy. Substantial reserves of Permian Basin oil in the southeast and San Juan Basin natural gas in the northwest remain and the fossil fuel industry continues to supply over 20% of general fund revenues for the state (EMNRD 2009). In 2008, New Mexico state revenues from oil and gas production topped \$2.25 billion (EMNRD 2009). While these two basins are huge industrialized areas that have been called 'national sacrifice zones', many of the battles regarding continued fossil fuel development in New Mexico are pitched over development on federal lands.⁹⁹ Governor Richardson acknowledges the complexity of balancing fossil fuel development with environmental protection by stating (McNamee 2008):

“Since my days in Congress, I have believed that economic growth and environmental protection are not mutually exclusive – that policy makers can produce a win-win situation by striking a reasonable balance between them. New Mexico depends on oil and gas drilling to produce jobs and revenue for the state, and we need to ensure that this important part of the

executive orders are found on the New Mexico State Governor's website and accessed at: <http://www.governor.state.nm.us/governor.php>.

⁹⁹ Quote from personal interview with Nathan Newcomer, NMWA Associate Director, in Albuquerque, NM on 3/18/09.

state economy continues to flourish. As I had in Congress, when I entered the statehouse, I told oil and gas people that my door would always be open. But I also said that drilling wasn't an unfettered right, even in a business-friendly administration, and that there were lines I would not cross. One of them was on Otero Mesa.”

Otero Mesa is the largest (1.2 million acres) Chihuahuan Desert grassland in North America. The Department of Interior's Bureau of Land Management (BLM) is responsible for regulating and controlling this massive swath of public land located in south-central New Mexico between the Hueco and Guadalupe Mountains. The Department of Interior's Bureau of Land Management, at the direction of President George W. Bush worked to aggressively develop our domestic oil and gas resources – in places such as Otero Mesa. This proposed leasing and development drew the ire of groups like the New Mexico Wilderness Alliance, ranchers, property rights activists, several members of New Mexico's federal congressional delegation, and Governor Richardson. This unconventional coalition argued that opening Otero Mesa to natural gas development would harm the unique grassland, contaminate the massive Salt Basin aquifer, damage wildlife habitat, place endangered species at risk, and produce only a small amount of natural gas. Upon discovering the Bush administration's plan to open Otero Mesa for natural gas development, Governor Richardson spearheaded the charge against any development.

Richardson worked to protect Otero Mesa using a variety of bureaucratic tools and lawsuits, by coordinating with the New Mexico federal congressional delegation, and by shaping public opinion via the 'bully pulpit'. Richardson said, “This administration's approach to energy is drill, drill, drill. They pander to their core base: the energy and oil industry. We are an oil and gas state. But Otero Mesa deserves to be protected, and I intend to make that clear to the administration” (Greenwire Staff June 6, 2005).

Richardson worked with New Mexico Representative Tom Udall (D) and Senator Jeff Bingaman (D) to initiate legislation designating Otero Mesa as a National Conservation Area. This designation would have effectively prohibited any natural gas development. Senior New Mexico Senator Pete Domenici, the ranking Republican in the Energy and Natural Resources Committee until his retirement in 2009, wanted Otero Mesa opened to energy development and obstructed any efforts to close it. Undeterred by this failure, Governor Richardson signed an executive order (E.O. 2005-005) recognizing the significant ecological importance of this Chihuahuan grassland and directed the applicable state agencies to support the protection of Otero Mesa. Because Otero Mesa is federally controlled public land, this executive order was generally more symbolic than effective. However, state regulatory agencies do control permitting, drilling, waste disposal and other related energy development activities and they could potentially delay federal energy development plans.

After the BLM rejected Richardson's petition to ban leasing and drilling on the Mesa in early 2005, New Mexico sued the BLM to stop development because the agency did not take into account alternative proposals as required by the National Environmental Policy Act (NEPA) (Geeman 2005; Greenwire Staff April 25, 2005). Although the state of New Mexico lost this case in N.M. District Court, the Denver-based 10th U.S. Circuit Court of Appeals reversed the ruling in 2009 based on BLM violations of NEPA and the Endangered Species Act (Reese May 7, 2009). The court remanded the Otero Mesa energy development plan back to the BLM so they could complete a full Environmental Impact Statement (EIS) as required under NEPA. While the fight over energy

development in Otero Mesa is ongoing, the fight over energy development in the Valle Vidal has been settled through federal legislation.

In 2002 the El Paso Corporation asked the U.S. Forest Service (Department of Agriculture) to open the eastern section of the Valle Vidal to natural gas development.¹⁰⁰ Governor Richardson, environmental groups including NMWA, outdoor and recreation enthusiasts, and local businesses vehemently opposed development and worked to protect the 102,000 acre Valle Vidal in New Mexico's Carson National Forest. The circumstances surrounding federal prohibition of energy development in the Valle Vidal are unique and the New Mexico Wilderness Alliance and its coalition, including Governor Richardson, played an integral part in its protection. Governor Richardson fought to protect the Valle from energy development in his roadless rule petition to the U.S. Forest Service in June 2006 (Reese June 1, 2006). In the end, this petition failed and did not protect the Valle, but federal legislation (H.R. 3817) supported by the entire New Mexico federal congressional delegation and signed into law by President Bush prohibited any future energy development in the Valle Vidal.

The 2006 Valle Vidal Protection Act, sponsored by Representative Tom Udall (D) received broad public support because the area had long been northern New Mexico's recreational playground. Local governments, hunters, anglers, outdoor enthusiasts, and environmentalists all valued and used this area. Thus, a strong and unified coalition supported by responsive federal legislators enabled permanent protection of this unique area. Even Senator Domenici caved into public sentiment by voting for the bill.

¹⁰⁰ The New Mexico Wilderness Alliance worked together with the Coalition for the Valle Vidal to protect this relatively small area in Carson National Forest. For greater detail see the Coalition for the Valle Vidal's website at: <http://www.vallevidal.org/overview.php>.

Conversely, Otero Mesa has no such broad supporting coalition and it is not located near a large population center that uses it for recreation. Schattschneider's (1960) adage that the scope and outcome of any conflict is controlled by the "size of its contagion" fits nicely with these two cases. Thus, coalition diversity, size, high numbers of users, and sympathetic federal politicians all contributed to the protection of Valle Vidal, while the absence of these factors has worked against protection of Otero Mesa.¹⁰¹

Governor Richardson also used his powers over state regulatory agencies to steer natural gas policy. The New Mexico Oil Conservation Division (OCD) located within the Energy, Minerals, and Natural Resources Department (EMNRD) is the primary regulatory body responsible for rule-making and implementation of the Oil and Gas Act. The New Mexico Oil Conservation Division, at the direction of Richardson, re-wrote several oil and gas drilling regulations during 2007-08. The New Mexico "waste pit rule" required natural gas and oil operators to store waste generated during drilling in lined pits or by using a closed loop system. Operators would have to haul the waste to an appropriate solid and/or hazardous waste landfill for disposal (Reese October 25, 2007). Before and after the "pit rule" was implemented, industry complained about the exorbitant costs associated with disposing of the drilling wastes. Responding to these complaints, the OCD and Governor Richardson subsequently re-examined the regulations to determine if they could be more cost effective for industry (Reese April 9, 2009).

¹⁰¹ During an interview with Nathan Newcomer, New Mexico Wilderness Alliance Associate Director, on 3/18/2009, Mr. Newcomer spoke of the political circumstances surrounding both the Valle Vidal and Otero Mesa. He asserted that the well-established and diverse user community surrounding the Valle Vidal was instrumental in procuring federal protection for that area.

Finally, Governor Richardson signed seven natural gas related bills into law during his tenure with one law supporting the status quo, three laws that had relatively little effect, and three status quo challenging laws (Appendix 5.1). Most notably, the legislature passed and Governor Richardson signed the 2007 Surface Owner's Protection Act (HB07-827) that attempts to level the playing field between operators and surface owners. This act attempts to balance surface owner rights with mineral rights by: requiring notice of operation to surface owners; establishing bonding limits; providing for compensation and liability of operator to surface owners; proposing surface use agreements; and providing for an award of damages to surface owners when operators fail to follow the statute.

Governor Richardson has been an exceptionally active governor with respect to energy policy using all of the tools at his disposal. Indeed, Richardson has moved New Mexico closer to becoming a 'Clean Energy State', but natural gas remains a significant contributor to the state's economy. Even Governor Richardson does not want to disrupt this policy formula. However, Richardson's promulgation of the "pit rule" and passage of the Surface Owner's Protection Act show that he is willing to modify the pro-development status quo. While the industrialized and developed basins continue to produce energy according to existing policy, development in new areas such as Otero Mesa and the Valle Vidal are hotly contested. As evidenced by the actions of Governor Johnson and Governor Richardson, the policy orientation, experience, and goals of the governor can significantly affect energy policy. Similarly, party control of the legislature remains an important control on natural gas policy direction, but this variable can be held constant in this case. Any changes to the status quo are not the result of changes in

legislative party control. This is not to say that legislative understandings of natural gas policy issues are immutable and that altering the status quo is impossible. Thus, in this next section I examine state legislative framing efforts and agenda attention as two measures of policy change.

New Mexico State Legislature Results

Natural Gas Agenda Attention and Success

New Mexico passed the Oil and Gas Act in 1949 to “prevent the waste of oil and gas reserves and protect the correlative rights of operators” (NMSA § 70, Articles 1-12).

Although the Oil and Act has been amended numerous times, the original language promoting oil and gas development remains largely intact. New Mexico’s two prolific oil and gas producing basins, statutory support through the 1949 Oil and Gas Act, and the substantial state revenues generated through resource exploitation all favor continued natural gas production in the well-developed basins. Presently, major natural gas political battles concern development in previously undeveloped areas like Otero Mesa and over the viability of tightened environmental regulations like the “pit rule”.

In this section, I examine the New Mexico State Legislature’s natural gas policy narrative by looking at agenda attention, success rates, and legislative bill content from 1999-2008. The New Mexico State Legislature proposes a staggering number of bills each session (mean = 1,625 per session) despite their limited duration. Between 1999 and 2008 New Mexico state legislators passed and the governors signed 15 of 69 natural gas related bills into law (21.7% success rate). Figure 5.2 shows the small number of proposed natural gas bills (mean = 6.9/year) and relatively low number of bills passed into law each year (mean = 1.5/year). Note that 1999 and 2007 are slightly busier years for natural gas bills. Many of the 1999 natural gas related bills deal with revenue

distribution, tax incentives, and infrastructure development. Also during 1999, a Surface Rights bill (SB-637) mandating surface owner notification, bonding, and surface use agreements failed (Appendix 5.1). This was one of the first attempts at balancing the playing field between mineral and surface owners. While most of the 2007 natural gas bills deal with economic concerns, New Mexico also passes the status-quo-challenging Surface Owner's Protection Act (HB-827).

Figure 5.3 shows agenda attention and success rates for natural gas bills from 1999-2008.¹⁰² Natural gas issues occupy a tiny percentage (mean = 0.42% per year) of the entire legislative agenda. Given the extraordinarily large number of proposed bills each session, the agenda attention measure is relatively uninformative. Natural gas bill agenda success rates vary between 0 and 50% with a yearly mean of 21.7%. Agenda attention and success rate analysis indicates that natural gas issues are a tiny piece of the massive legislative agenda and that four out of five proposed natural gas bills will fail. This relative inattention and natural gas bill failure rate implies that the legislature is relatively comfortable with the pro-development status quo.

Appendix 5.1 provides a detailed list of the legislature's natural gas related bills, their titles, end result, primary and secondary issue frames, and the bill's relation to the status quo. Table 5.1 details the percentage of pro-, anti-, and neutral-status quo natural gas bills and their agenda success rates.¹⁰³ Nearly two-fifths of proposed natural gas bills support the status quo while anti- and neutral-bills comprise nearly one-third each. Even

¹⁰² See Chapter II Policy Theory and Research Design for agenda attention and agenda success rate calculations.

¹⁰³ See Chapters IV and V for descriptions of pro-, anti-, and neutral-natural gas bills. I applied the same classification method for this case study.

when natural gas bills do make it onto an over-crowded legislative agenda, their chance of success is relatively low (21.7% success rate).

Table 5.1
New Mexico Pro-, Anti-, and Neutral-Status-Quo Bills and Agenda Success

| | Natural Gas Bills (% of total) | Agenda Success |
|------------------------------|---------------------------------------|-----------------------|
| Pro-Status-Quo Bills | 37.7% | 11.5% |
| Anti-Status-Quo Bills | 30.4% | 19.0% |
| Neutral | 31.9% | 36.4% |
| All Natural Gas Bills | ----- | 21.7% |

Both status-quo-supporting and challenging bills fail to become law most of the time. Neutral natural gas bills are slightly more successful as over one-third of these bills are codified. Between 1999 and 2008, eight neutral bills, four anti-status quo bills, and three pro-development bills became law. Based on these statistics, natural gas policy is not a significant institutional priority and changes to the status quo are uncommon. The entrenched pro-development status quo, supported by a Democratic controlled legislature and Governors Richardson and Johnson remains largely intact. However, anti-status quo bills occasionally receive agenda attention and they have a one in five chance of success. Agenda attention and success rates are broad measures of policy action and institutional priorities, but they do not address the minutiae within the policy proposals. Thus, in the next section I explore the nature of legislative framing with respect to content, timing, and relationship to the status quo.

Institutional Framing

Table 5.2 presents New Mexico State Legislature natural gas problem definitions as a percentage of the total frames from 1999-2008. Environment and economy frames dominate, comprising nearly two-thirds of the frames, while federalism, land-use, and democracy frames constitute the remaining one-third.

Table 5.2
New Mexico Legislature Frame Use (1999-2008)

| Frame | Yearly Mean | % of Total¹⁰⁴ |
|--------------|--------------------|---------------------------------|
| Environment | 57.8 | 31.2% |
| Economy | 55.7 | 30.1% |
| Federalism | 22.6 | 12.2% |
| Land-Use | 22.4 | 12.1% |
| Democracy | 19.4 | 10.5% |

These data show that economic issues remain an institutional priority but environmental frames are equally important to the legislature. Thus, status quo supporting economic frames are tempered against a growing environmental protection narrative. This framing analysis shows the major and minor frames used by the legislature, but it does not show the variability in framing between each legislative session. Figure 5.4 presents just such a framing analysis. While New Mexico State Legislature natural gas policy frames retain a strong economic, pro-development emphasis, my analysis indicates that discernable legislative framing shifts occur. Alternative frames including environmental, land-use, and democratic problem definitions are increasingly employed.

Several institutional framing trends appear in Figure 5.4. First, the legislature's silence between 2000 and 2004 indicates little policy activity and implicit acceptance of the status quo. Second, the legislature actively frames natural gas issues in 1999 using environmental, economic, and to a lesser degree democracy frames (Figure 5.4). As previously noted, many of the 1999 bills deal with economic concerns but a failed Surface Rights bill (SB-637) containing environmental, land-use, and democracy frames

¹⁰⁴ Note the problem definition percentages of total do not equal 100% because I excluded the policy surrogates and condensation symbol categories that only account for 3.9%.

adds to the elevated and unique framing efforts. Despite the 1999 spike in framing, no status quo challenging bills are passed into law. Third, the legislative discourse changes drastically between 2004 and 2007 as evidenced by increases in framing frequency for all problem definition categories (Figure 5.4). Federalism, land-use, and democracy frames peak in 2007 while environment and economy frames are near their all-time highs. To summarize, the 1999 elevated framing efforts are followed by relative inactivity that, in turn, is followed by a drastic increase in framing efforts between 2004 and 2007. The inattention and paucity of frames in 2008 following the unprecedented peak in 2007 implies the legislature had, in part, reframed natural gas development issues, addressed immediate concerns through the 2007 Surface Owner's Act, and moved on to other agenda items.

This analysis shows that legislative framing is dynamic and that framing analysis can be used to determine the relative degree of policy attention, map trends in framing content, and also serve as an initial indicator of policy change. Arguably, the dramatic framing changes between 2004 and 2007 constitute a partial institutional redefinition of natural gas policy issues using environment, land-use and democracy frames. Previously marginalized frames gain institutional traction and are codified as evidenced by the dramatic increase in framing efforts and passage of the Surface Owner's Protection Act. By framing natural gas issues using these previously neglected frames, the legislature is expressing a different understanding of natural gas development. The fact that environmental frames are used slightly more than economic frames is another indicator that the legislature's conception of natural gas development has expanded and the policy issue has been partially redefined. Although this is not a complete redefinition because

economic frames are still important to the legislature, the dramatic increase and institutional use of competing frames clearly shows a more diverse and inclusive legislative articulation of natural gas development issues.

Given Governor Richardson's 'Clean Energy' track record and his opposition to natural gas development in the Valle Vidal and Otero Mesa, one might expect that natural gas issues would receive increased agenda attention. Indeed, the legislature was increasingly active between 2004 and 2007 both in the proposed number of natural gas bills (37 proposed bills) and the number of bills challenging the status quo (15 anti-status quo bills) (Appendix 5.1; Figure 5.2). During this time the legislative discourse intensified and diversified – but how are these framing shifts reflected in the statutory outputs? How does this partial institutional redefinition (or expanded articulation of natural gas issues) relate to the status quo and policy change? To answer these questions, I delve into the specifics of the natural gas bills that became law during this time period.

Between 1999 and 2008, only four status quo challenging bills are signed into law. These bills include, the 2001 Interstate Pipeline Safety Act (HB01-279), the 2003 Oil and Gas Reclamation Fund Distribution Act (HB03-321), the 2006 Assurance for Plugging Gas Wells Act (HB06-22), and the 2007 Surface Owner's Protection Act (HB07-827)(Appendix 5.1). The Interstate Pipeline Safety Act challenges the status quo by strengthening the regulatory requirements for pipeline safety. Although this law increases regulations, it places no restrictions on exploration and production and is likely to have little effect on policy direction. Similarly, the 2003 Oil and Gas Reclamation Fund Act and 2006 Assurance for Plugging Gas Wells Act tie changes to natural gas tax rates based on the amount of money in the Reclamation Fund and requires operators to

provide financial assurance to cover well abandonment, respectively. Minor adjustments to natural gas taxes and requirements forcing operators to provide minimal well abandonment financial assurances hardly constitute significant policy change. Of all the status quo challenging statutes, the Surface Owner's Protection Act has the greatest potential to alter the status quo.

The 2007 Surface Owner's Protection Act attempts to strike a balance between the oil and gas owners and surface owners. Because the federal government severed subsurface mineral rights from surface ownership and a great deal of the west consists of these split-estate lands, heated conflicts have arisen between the two estate owners.¹⁰⁵ New Mexico's Surface Owner Protection Act provides for surface owner compensation if their lands are damaged by energy development and requires energy developers to reclaim the affected lands.¹⁰⁶ Also, energy developers must develop and provide the surface owner with a surface use and compensation agreement that includes 30 day notice to surface owners regarding proposed activity, detailed operation and mitigation plans, and instructions for arbitration and mediation (Section 5). If the surface owner rejects the surface use and compensation agreement, then the mineral owner may commence operations providing they provide the state with a financial assurance in the form of a

¹⁰⁵ For a detailed examination of split-estate natural gas politics in the western U.S. relating to ranching and public lands see Robert Forbis Jr.'s 2010 dissertation titled "Drill Baby Drill: An Analysis of How Energy Development Displaced Ranching's Dominance Over the BLM's Subgovernment Policymaking Environment."

¹⁰⁶ Section 4A of the Surface Owner's Protection Act reads, "an operator shall compensate the surface owner for damages sustained by the surface owner, as applicable, for loss of agricultural production and income, lost land value, lost use of a lost access to the surface owner's land and lost value of improvements caused by oil and gas operations. The payments contemplated by this section only cover land affected by oil and gas operations."

\$10,000 bond per well or \$25,000 blanket bond for all energy exploration activities in New Mexico (Section 6). Finally, the act allows for either estate owner to seek further damages in court if any part of the act has been violated (Section 7). Although the act provides for advanced notification and good faith negotiations between mineral and surface owners, drilling opponents claim that the bonding requirements are grossly insufficient and that redress through the courts was already an option. The act provides surface owner protections not previously articulated via statute (notification, mitigation planning, right to sue), but continues to allow natural gas development even when surface owners object.

This act is intended to protect and minimize the harm done to both estates while fostering reasonable development of natural gas and oil. Energy developers and their respective trade associations argue that this act will be economically disastrous to future natural gas development and that it is a state infringement on federal law (Forbis 2010; Associated Press 2005; Farquhar 2002).¹⁰⁷ Subsequent natural gas permitting, drilling, production, and revenue numbers do not reflect this alleged economic harm.¹⁰⁸ I surmise that status-quo-supporters are fearful of any challenge to their policy dominance and view this threat as a first step toward reducing their hegemonic control. Although the implementation of this law both from a regulatory and litigation perspective remains to

¹⁰⁷ I will provide a more detailed analysis of the specific pro- and anti-development issue frames from an industry and citizen group perspective, respectively, in the next section.

¹⁰⁸ Chapter I provides a detailed examination of the history of natural gas development throughout New Mexico. That chapter provides information concerning not only the natural gas industry's economic contributions to the state but also the permitting, drilling, and production numbers. These data show that despite industry's claims that the 2007 Surface Owner's Protection Act would be economically disastrous, natural gas activities remain near record highs.

be played out, legislative framing analysis reflects this partial environmental, land-use, and democracy redefinition and challenge to the status quo.

The broader political, economic, and statutory context effectively promotes the pro-development status quo, but at least one statutory challenge via the Surface Owner's Protection Act has emerged. It is too early to determine the degree of policy shift away from the status quo, but analysis of legislative framing shifts provides one initial indicator of policy change. When the legislature begins to use previously marginalized frames at elevated levels (as they do between 2004 and 2007), this is an indicator that the legislature is re-conceptualizing and reframing natural gas development. This reframing indicates that the status quo policy may be shifting. I am then able to characterize and evaluate this policy shift by analyzing framing data within in natural gas statutes. I present this evaluation in the concluding section of this chapter. In the next section I explore how two interest groups, the New Mexico Wilderness Alliance and Devon Energy Corporation, frame natural gas development in order to alter or maintain the status quo.

Interest Groups

The New Mexico Wilderness Alliance (NMWA) and Devon Energy Corporation (Devon) represent interest groups working to frame natural gas policy debates. I characterize how much attention each group devotes to natural gas issues as well as the content of their framing messages by analyzing their public documents during the past decade (1999-2008). Devon does not have any press releases available on-line prior to 2001, so the analysis for their attention and framing efforts begins then. Each interest group is selected based on their lengthy and active participation in natural gas development politics at the local, state, and federal levels. Devon pioneered

unconventional natural gas development techniques from coal seams in the San Juan Basin during the late 1980's and has been a leading producer of natural gas in New Mexico since that time. The New Mexico Wilderness Alliance, a grassroots organization that began in 1997, has actively worked to protect New Mexico's wild lands from any type of development, including oil and gas.

New Mexico Wilderness Alliance (NMWA)

The New Mexico Wilderness Alliance (NMWA) articulates its mission as follows (NMWA 2010):

“The New Mexico Wilderness Alliance is a non-profit 501(c)3, grassroots, environmental organization dedicated to the protection, restoration, and continued enjoyment of New Mexico's wildlands and Wilderness areas. The primary goal of the New Mexico Wilderness Alliance is to ensure the protection and restoration of all remaining wild lands in New Mexico through administrative designations, federal Wilderness designation, and on-going advocacy.”

NMWA is a small community advocacy organization with 12 board members, a six person advisory council, 15 full and part-time staff, and over 5,500 members across the state and country (NMWA 2010). NMWA members represent a wide diversity of people including wilderness preservation advocates, hunters, anglers, ranchers, local and state politicians, business owners, outdoor enthusiasts, outfitters, environmentalists, and regular citizens sharing a common interest of wilderness protection. Associate Director, Nathan Newcomer, asserts that NMWA's primary goal is wilderness area identification, promotion, and federal designation and that “our mission is not to fight oil and gas industry wherever they are.”¹⁰⁹ Rather, NMWA is concerned with oil and gas development as it relates to potential wilderness areas, like Otero Mesa and the Valle Vidal.

¹⁰⁹ Quote from personal interview with Nathan Newcomer, NMWA Associate Director, in Albuquerque, NM on 3/18/09.

The well-developed San Juan Basin natural gas play and the Permian Basin oil and gas plays are heavily industrialized and well beyond any wilderness consideration. Although these basins may fall outside of NMWA's immediate purview, NMWA members, especially San Juan Basin ranchers are directly affected by natural gas development.¹¹⁰ Lessons learned from member experiences in the San Juan Basin inform NMWA's efforts when dealing with proposed development in Otero Mesa and other potential wilderness areas. NMWA's experience with the issues surrounding natural gas development and their diverse membership make them a representative and important member of this policy conflict. Finally, NMWA is part of a larger advocacy coalition that shares resources, values, and strategies related to environmental policy conflicts (including natural gas) and they spearhead the Coalition for New Mexico Wilderness (NMWA 2010).¹¹¹

¹¹⁰ A prime example of the relationship between San Juan Basin ranchers and NMWA is presented in their Summer 2002 newsletter (*An Interview with 6th Generation Rancher Tweeti Blancett*) where Nathan Newcomer interviews rancher Tweeti Blancett. In this interview, Blancett argues that natural gas development has done the following: destroyed their ability to ranch; harmed wildlife and livestock; infringed upon their private property rights; polluted the land and water; has been poorly regulated by the federal government; was environmentally irresponsible; and the entire policy process lacked appropriate democratic controls for transparency, participation, and accountability.

¹¹¹ NMWA has a number of conservation coalition partners that include: Amigos Bravos, Coalition for Otero Mesa, Dona Ana County Wilderness Coalition, Forest Guardians, Gila Conservation Coalition, Great Bear Foundation, Great Old Broads for Wilderness, New Mexico Search and Rescue Council, New Mexico Wildlife Federation, New Mexico Volunteers for the Outdoors, Prairie Dog Pals, Rio Grande Chapter of the Sierra Club, Southwest Environmental Center, UNM Student Chapter – New Mexico Wilderness Alliance, Upper Gila Watershed Alliance, and the National Forest Foundation.

Devon Energy Corporation

Devon Energy Corporation (Devon), established in 1971 by John and Larry Nichols, has grown into one of the largest independent energy companies in the U.S. employing 5,400 people worldwide and holding over \$29 billion in assets (Devon 2010). According to their website:

“Devon Energy Corporation is a leading independent energy company engaged in the exploration, development and production of natural gas and oil. Devon pioneered the commercial development of natural gas from shale and coalbed formations, and the company is a proven leader in using steam to produce oil from the Canadian oil sands. The company’s operations are focused onshore in the United States and Canada. Devon is a dedicated steward of the environment and is committed to being a good neighbor in the communities where it operates. Devon’s primary goal is to build value per share by: exploring for undiscovered natural gas and oil reserves; purchasing and developing natural gas and oil properties; enhancing the value of production through marketing and midstream activities; optimizing production operations to control costs; and maintaining a strong balance sheet.”

Devon’s Rocky Mountain operations span from New Mexico’s Permian Basin to Montana (Devon 2010). Devon pioneered coalbed methane (CBM) production in the San Juan Basin in 1989 and has applied its unconventional natural gas development procedures in Wyoming’s Powder River Basin, Oklahoma, and Canada (Devon 2010). As a major producer in the San Juan Basin, Devon expects its coalbed methane production to eventually top 1.3 Tcf (trillion cubic feet)(Devon 2008 Fact Sheet – New Ideas Unlock Unconventional Resources). Additionally, Devon holds and continues to develop nearly 850,000 net acres of oil and gas in the Permian Basin (Devon 2010). According to EMNRD-OCD 2009 production statistics, Devon produced over 80 Bcf (billion cubic feet) of natural gas ranking it as the third largest natural gas producer in New Mexico (EMNRD 2010). Devon’s entire North American operations also provide around 2.5 Bcf of natural gas each day that equates to around 4 percent of daily U.S. consumption (Devon 2010). As a major producer and midstream operator of natural gas in New Mexico and throughout North America, Devon has considerable interests in

maintaining the pro-development status quo at the state and federal levels. This analysis seeks to characterize the relative degree of attention and content of their pro-development framing efforts.

Analysis

Agenda and Interest Group Attention

NMWA publishes a newsletter, *New Mexico Wild!*, that covers a variety of issues related to wilderness, mining, oil and gas development, endangered species, water, and public lands. Wilderness designation requires an act of Congress as established by the Wilderness Act of 1964 and NMWA spends considerable effort talking about federal policies and policy-makers in their newsletter. However, as a grassroots organization NMWA also writes frequently about state and local politics as it relates to their overarching wilderness and environmental mission. From 1999 through 2008 NMWA published 29 newsletters containing 99 natural gas related articles. Figure 5.5 presents the degree of attention NMWA pays to natural gas issues in their newsletter. Natural gas articles comprise 17% (yearly mean) of NMWA's total attention throughout the study period (1999-2008). As evidenced by Figure 5.5, natural gas issues become increasingly salient to NMWA through time, garnering more of their attention and peaking at 26.3% in 2005.¹¹²

¹¹² The interest group attention score (IGA) is calculated by dividing the total number of natural gas articles per year by the total number of *New Mexico Wild!* newsletters per year. Throughout the time period of this investigation, NMWA published around 3 newsletters per year, but in 2005 they published four newsletters. During the preceding and following years, NMWA published three newsletters per year (except for 1999 when they published two). Most of the NMWA publications are available at: <http://nmwild.org/>.

Devon does not publish a monthly newsletter but they regularly send out press releases and publish fact sheets that are available online.¹¹³ Between 2001 and 2008, Devon published 299 press releases and fact sheets. I coded 51 press releases and 20 fact sheets that were directly relevant to natural gas policy. Figure 5.6 presents Devon's interest group attention score throughout the study period. Devon devotes 23.7% (yearly mean) of its attention toward natural gas policy issues and these numbers remain fairly consistent until 2008 when attention peaks at 36% (Figure 5.6).

Figure 5.5 compares New Mexico State legislative natural gas agenda attention with NMWA's and Devon's interest group attention scores. Because the New Mexico state legislature proposes and deals with a staggering number of bills each session, the institutional agenda attention score is relatively uninformative. Unlike the status quo challengers in Colorado (SJCA) and Wyoming (PRBRC), the New Mexico Wilderness Alliance devotes slightly less attention to natural gas issues (mean = 17%) than the status quo supporter, Devon (mean = 23.7%). Given NMWA's wilderness protection mission, its focus on public lands protection, and the extensive development of the San Juan and Permian Basins (that could not be considered wilderness areas), this slightly lower attention score is logical. However, NMWA allocates a greater percentage of its attention to natural gas issues as time progresses (Figure 5.5). As industry and the George W. Bush administration attempt to open up both the Valle Vidal and Otero Mesa to energy development, NMWA ramps up their framing efforts as well. There is a concerted push at the federal level by several members of the New Mexico congressional

¹¹³ Devon's press releases and fact sheets (2001-2008) are available on their website under their news releases tab at: <http://phx.corporate-ir.net/phoenix.zhtml?c=67097&p=irol-news&nyo=0>. Note that Devon press releases and fact sheets were only available beginning in 2001.

delegation to protect the Valle Vidal in 2005 and this protection is granted via the Valle Vidal Protection Act in 2006. NMWA's increased framing efforts reflect their response to this debate and their desire to shift the terms of debate toward environmental protection and wilderness designation. Because the 2006 Valle Vidal Protection Act address many of NMWA's concerns, their natural gas framing efforts subsequently decline.

NMWA began working to gain federal protection for Otero Mesa in 2001 and devoted greater attention to this issue as time progressed. In 2005, the BLM leased 1,600 acres on Otero Mesa to the Harvey E. Yates Company, much to the consternation of NMWA and Governor Richardson. As previously noted, in 2005 the state of New Mexico sued the BLM over the Otero Mesa lease – the first time New Mexico had ever sued the federal government over an oil and gas lease on federal land.¹¹⁴ NMWA responded to this increased federal and state policy activity in its newsletter and simultaneously tried to steer the debate away from drilling and toward wilderness designation. Thus, NMWA devoted considerably more attention to the issues surrounding both the Valle Vidal and Otero Mesa in 2005 – in short the issues were peaking at the same time. Although natural gas development on the Otero Mesa still remains an open question and NMWA devotes considerable attention (in their newsletters) to the issue, NMWA does not need to devote any more print space to the Valle Vidal – hence the drop in interest group attention.

¹¹⁴ Nathan Newcomer stressed that this was the first time New Mexico had sued the federal government (and BLM) over its oil and gas development plans. Personal interview (3/18/09).

Devon's attention to natural gas policy issues remains fairly steady except for a minor peak in 2001 and a significant peak in 2008. Devon is not a player in either the Valle Vidal or Otero Mesa conflicts and their press releases and fact sheets make no mention of either. However, Devon owns considerable leasing rights and produces large quantities of oil and gas from both the San Juan and Permian Basins. Arguably, their 2008 attention spike is in part a response to both the 2007 "pit rule" and the 2007 Surface Owner's Protection Act. Prior to 2008, Devon does not publish any fact sheets talking about environmentally responsible natural gas development. Following heightened state level natural gas policy activity in 2007, Devon ramps up its framing efforts. Because Devon also operates in Colorado and Wyoming and these states are simultaneously addressing natural gas issues from 2004-07 at elevated levels, Devon responds by elevating its framing efforts. For example, in 2008 Devon publishes twenty fact sheets touting their green completions, methane emission reductions, wildlife protection activities, safe hydraulic fracturing techniques, benefits of CBM for livestock and wildlife, reduced drilling footprints, and environmentally responsible drilling (Devon 2010). The confluence of increased status quo challenging legislation and regulations in New Mexico plus elevated status quo challenging activity in Colorado (and to a much lesser degree Wyoming) is reflected in Devon's increased framing efforts (Figures 5.5).

Figure 5.5 shows that competing interest group framing efforts peak at different times. NMWA's framing efforts peak in 2005 while Devon peaks in 2008. NMWA, although concerned with state and local natural gas policy is primarily focused on wilderness designation and that is done at the federal level. Thus, NMWA is responding to heightened federal legislative attention to the Valle Vidal in 2005 and the BLM issuing

a natural gas lease for Otero Mesa during that same year. Conversely, Devon has no desire to pursue development in these two areas as they already have extensive and highly productive holdings in the San Juan and Permian Basins. Devon is responding to increased state level natural gas policy activity during 2007. Both the 2007 Surface Owner's Protection Act and the New Mexico Oil Conservation Division (OCD) "pit rule" have a potentially negative effect on Devon's operations. Thus, Devon publishes 20 fact sheets in 2008 attempting to reframe the debate by arguing that natural gas development is being done in an environmentally responsible manner. NMWA is responding to federal natural gas policy action while Devon is responding to state level policy activity – hence the difference in timing of their framing peaks.

Institutional and interest group agenda attention scores highlight *what* issues the legislature and interest groups deem important. The degree of institutional and interest group attention varies with time as natural gas issues become more (or less) salient and political conflicts are addressed (or ignored). In this next section, I switch my focus from *what* these actors are focusing on to *how* they are defining natural gas development through time. By analyzing the content of interest group framing efforts, I provide a more comprehensive understanding of their message and how they relate to the institutional frames offered by the state legislature.

Interest Group Framing *NMWA*

Table 5.3 presents NMWA's problem definition use for the study period. NMWA uses environmental frames as its dominant line of argumentation and employs them one-third of the time (33.4%). One-fifth of the frames relate to land-use issues, while policy

surrogates, condensation symbols, federalism, democracy, and economy frames are used at significantly lower rates.

Table 5.3
New Mexico Wilderness Alliance
Frame Use (1999-2008)

| Frame | Yearly Mean | % of Total |
|----------------------|--------------------|-------------------|
| Environment | 91.7 | 33.4% |
| Land-Use | 61.9 | 22.6% |
| Policy Surrogates | 31.3 | 11.4% |
| Condensation Symbols | 26.0 | 9.5% |
| Federalism | 25.3 | 9.2% |
| Democracy | 21.4 | 7.8% |
| Economy | 16.9 | 6.2% |

These statistics highlight NMWA’s major and minor frames but they do not show variation through time nor do they provide the specific environmental, land-use, policy surrogate, etc. frames that NMWA uses. Figure 5.6 presents NMWA’s natural gas framing efforts from 1999-2008 and several framing trends are apparent from this analysis. First, environment and land-use frames follow a similar path throughout the study period. NMWA argues that wilderness designation is the appropriate land-use for areas like the Valle Vidal and Otero Mesa and that natural gas development cannot be done in an environmentally responsible manner without harming wildlife habitat and wild lands. As the battle over drilling in Otero Mesa escalates, NMWA ties the wilderness designation theme to other related environmental frames. NMWA calls for more stringent federal and state regulations, uses scientific evidence to support wilderness designation and refute natural gas industry claims, and highlights the need to protect the massive Salt Basin aquifer that underlies Otero. NMWA refutes the natural gas industry’s assertion that the areas contains significant natural gas deposits by citing New

Mexico BLM Director Rundell who called Otero Mesa's oil and gas potential "small potatoes" (Newcomer 2007)

Second, NMWA's environment and land-use frames peak in 2002 and then again in 2005. These specific land-use and environmental frames are used in tandem throughout their framing efforts. NMWA is making its first concerted effort in 2002 to frame the Otero Mesa debate using wilderness designation and environmental protection language. Similarly, the U.S. Forest Service was entertaining offers to develop part of the Valle Vidal during 2002. NMWA increased their 2002 framing efforts in response to these events. As previously noted, the 2005 framing peak is a direct response to federal legislative and regulatory activity concerning the Valle Vidal and Otero Mesa, respectively. The fact that NMWA employs land-use and environmental frames as their dominant arguments when the federal policy battle is at its peak is consistent with their mission, ideology, and historic use of these frames. NMWA, however, does not employ private property rights arguments to undermine natural gas development. Again, NMWA is concerned with public lands and wilderness designation and not the battle over private property rights. NMWA makes alliances with ranchers and the New Mexico Cattleman's Association based on shared concerns over the use of public lands and the desire to keep oil and gas from dominating. Unsurprisingly, NMWA neither frames natural gas development as harmful to private property rights nor does it actively work for passage of the Surface Owner's Protection Act.¹¹⁵

¹¹⁵ When discussing wind energy potential in New Mexico, Nathan Newcomer also reflects on private property rights and the split-estate battle. Newcomer states, "In New Mexico the predominant wind generation potential is in eastern part of the state. Predominately private land and there is some state land scattered in between. We are not going to be engaged in that because that's private property issues and state land issues."

Third, NMWA uses policy surrogate, condensation symbol and federalism frames at consistently low levels and their framing trends are similar. As time progresses, NMWA begins to employ policy surrogate frames relating to renewable energy, energy efficiency, and conservation with greater frequency. NMWA is responding, in part, to Governor Richardson's push for a 'Clean Energy' economy through his multiple executive orders, the passage of the 2007 RPS and RETA Acts. Although both the federal and state governments address energy policy individually and regulate it according to energy source, both levels of government are beginning to address energy policy more holistically.¹¹⁶ Governor Richardson recognizes that natural gas policy is just one facet in the larger energy picture and his push for renewable energy reflects this. The governor and state legislature are opening the energy policy umbrella to include renewables and interest groups like NMWA are taking notice. Thus, NMWA is also adding previously unused policy surrogate frames like energy efficiency and renewables to its discourse. Importantly, NMWA's change in framing efforts reflects the assertion that renewable energy policy is interrelated with natural gas policy. NMWA's change in framing

There was an effort to stop drilling up in the Galisteo Basin up in Santa Fe; they came to us very early on, years ago, wanting us to help them. I said look I can't, that is private property you are talking about up there. I said there is a small, tiny section of BLM land up there. But there is no Wilderness potential. I can give advice and I can tell you what I have done. But we are not going to lend support to the effort because that is not our mission. Our mission is not to fight the oil and gas issue wherever they are . . . We do not have any interaction with the split-estate."

¹¹⁶ Despite the aggressive development of the mineral estate promulgated by the 2005 Energy Policy Act, the statute does include provisions (albeit with much less emphasis) for renewable energy development. The rhetoric and action of the Barack Obama administration reflects this increased push for a 'Green Energy Economy'. The 2008 American Reinvestment and Recovery Act includes \$80 billion in tax incentives, grants, and stimulus for renewable and 'clean energy' development. Former Colorado Senator and present Secretary of the Interior, Ken Salazar, is actively promoting renewable energy development on public lands through a variety of administrative tools.

reflects this policy overlap while it simultaneously reflects broader state and federal energy policy framing changes.

NMWA, like most grass roots organizations, continues to develop and maintain a powerful coalition promoting wilderness designation in Otero Mesa (and previously, the Valle Vidal). A large and diverse coalition was successful in protecting the Valle Vidal, while Otero Mesa has been a tougher sell to the federal government. NMWA strategically builds coalitions and employs frames supporting their policy positions in an attempt to expand the conflict. Prior to NMWA's involvement with Otero Mesa, the area was largely unknown to most New Mexicans and there was no significant political conflict.¹¹⁷ Following NMWA's involvement, Otero Mesa had become an agenda item at both the state and federal level.

Regardless of which geographic location NMWA is trying to protect, they show fidelity to their mission. NMWA employs wilderness protection and designation frames that are supported by an environmental protection narrative throughout their newsletters. The threat to wildlife habitat, the call for increased state and federal regulation and protection, the use of scientific information to refute industry's frames, and the call to protect the Otero Mesa's Salt Basin aquifer from natural gas contamination are central to NMWA environmental frames. Their elevated use of policy surrogate problem definitions with respect to energy efficiency, conservation, and renewables reflects the dynamic nature of natural gas policy and its broader relation to state and federal energy

¹¹⁷ Nathan Newcomer makes this assertion in our interview (3/18/09) and is proud of NMWA's effective grass roots organizing, coalition building, and attention getting campaign surrounding Otero Mesa. Although Newcomer does not directly state it, NMWA's efforts have expanded the conflict and brought both state and federal attention over Otero Mesa.

policy, writ large. This analysis also shows that NMWA’s framing efforts are dynamic and related directly to the changing political context.

Devon

Table 5.4 presents Devon’s problem definition statistics for the study period (2001-2008).

**Table 5.4
Devon Frame Use (2001-2008)**

| Frame | Yearly Mean | % of Total¹¹⁸ |
|----------------------|--------------------|---------------------------------|
| Economy | 53.4 | 36.4% |
| Environment | 37.5 | 25.6% |
| Land-Use | 34.4 | 23.4% |
| Policy Surrogate | 8.8 | 6.0% |
| Condensation Symbols | 8.5 | 5.8% |

Devon frames natural gas development using economic arguments to support continued exploration and production. Economic framing fits well with Devon’s mission of building value for its shareholders by maximizing oil and gas development throughout all facets of exploration, development, production and transportation. Even though the economic imperative reigns supreme, Devon also employs environmental and land-use frames around one-quarter of the time, respectively. Policy surrogates, condensation symbols, federalism and democracy frames comprise only a minor fraction of Devon’s discourse. Although environmental frames rank second in frequency, Devon rarely uses them until 2008. These statistics can be misleading because they do not show the variation in problem definition use through time nor do they provide the specific frames Devon employs.

¹¹⁸ Note the problem definition percentages of total do not equal 100% because I excluded the federalism (2.5%) and democracy (0/3%) categories that only account for 2.8% of the total.

Figure 5.7 shows Devon's framing efforts from 2001-2008. Notably, Devon uses economic and land-use frames with consistent frequency until 2008 when they ramp their framing efforts up for every category, especially the environment (Figure 5.7). Devon uses its press releases (during the first seven years) to promote its economic agenda by focusing on the concentrated costs and benefits of natural gas development. In fact, all of the press releases stress how much positive revenue natural gas development adds to the corporation and its shareholders. The press releases also emphasize the costs associated with production including those related to taxation, infrastructure investment, and other operating costs. With respect to land-use frames, Devon unilaterally argues that energy development is and should be the primary use for the land. Devon remains relatively silent with respect to all other potential frames during this time.

In 2008, Devon embarks upon a significant reframing effort by releasing 20 fact sheets related to natural gas development. This spike in framing is evident for all categories but is most pronounced for the environment. As previously noted, Devon has extensive holdings and production in both the Permian and San Juan Basins and the elevated state level policy activity in 2007 is, in part, a driver of Devon's changed discourse. Through these fact sheets, Devon uses science and technology to show that natural gas development can be accomplished in an environmentally responsible manner.¹¹⁹ For example Devon's 2008 *Green Completions* fact sheet asserts:

¹¹⁹ For example, Devon published and number of fact sheets in 2008 highlighting their technological innovations and environmentally responsible development. These fact sheets include: *Green Completions*; *New Ideas Unlock Unconventional Resources*; *Hydraulic Fracturing – 'Fracking' a Safe, Tested Step Toward Energy Independence*; *Everyday Energy*; *Natural Gas Star (energy efficiency)*; *Low Emissions Valve*; *Corporate Social Responsibility – Multi-well Pads*; *Greenhouse Gases – Emissions Inventory Statement*; *Innovative Measures – Water Conservation*; and *Clean Air Accountability*.

“Using a process known as green completion, Devon has reduced methane emissions by nearly 13 billion cubic feet in the Barnett Shale area of north Texas. Green completions have been Devon’s standard practice in the Barnett Shale since 2004. The company uses the same process to complete wells in New Mexico, Wyoming, Oklahoma and south Texas . . . Our green completions practice stems from our voluntary participation in the EPA’s Natural Gas Star Program. We do it because of two core values that are key to Devon’s success: Always do the right thing and be a good neighbor. In the case of our green completions practice, it is the right thing for the environment, for the community, and for our shareholders.”

Similarly, Devon argues in its 2008 *New Mexico* fact sheet that:

“Devon is committed to conducting its business lawfully, ethically, and in a socially and environmentally responsible manner. This commitment resulted in national acclaim in 2008, when both the U.S. Department of Interior and the U.S. Bureau of Land Management singled out Devon for environmental stewardship. The Interior Department presented its Cooperative Conservation Award to the New Mexico Bureau of Land Management and to Devon as a partner for a collaborative effort to restore critical wildlife habitat to southeast New Mexico. The BLM award, also presented in 2008, honored Devon for its environmental leadership and creativity in minimizing the impact of oil and gas development on the state’s public lands . . . Devon reduces its environmental impact by drilling multiple wells from single pads and by using a closed-loop drilling system, which eliminates the need to dig pits for drilling mud.”

Devon also touts its continued commitment to the protection of wildlife habitat for the lesser prairie chicken and the sage grouse through its government/industry partnership.¹²⁰

Detailed framing analysis (Figure 5.7) clearly shows Devon is aggressively trying to frame natural gas development in a positive manner in 2008. Why did the corporation embark upon such a concentrated and unique framing effort than anytime before? The pro-development status quo at the state level remained largely intact until 2007 when state legislative and regulatory policy activity increased. With little challenge to the

¹²⁰ The corporation argues in its 2008 *Sage Grouse* fact sheet that, “Devon recognizes the bird’s importance and the need for actions to preserve it. That is why we are engaged in a government/industry partnership aimed at preventing the species from being placed on the endangered species list. Among our specific initiatives, Devon helped fund a state-led initiative in Wyoming to update maps detailing the sage grouse’s habitat. Also for three straight winters the company has aided the Bureau of Land Management’s efforts to restore sagebrush in Wyoming.” Additionally, Devon donated \$50,000 “toward a federal-private partnership aimed at restoring habitat for the rangeland bird (lesser prairie chicken), as well as antelope, deer, and other grassland-dependent wildlife” in New Mexico (*New Mexico Wildlife* – 2008 fact sheet).

status quo prior to 2007, Devon did not need to frame natural gas using environmental arguments. Rather, they stressed core values relating to economic benefits achieved through continued energy development. The 2007 Surface Owner's Protection Act and the EMNRD-OCD's "pit rule" challenged the status quo and the New Mexico state legislature began using environmental frames at elevated levels (Figure 5.4). Devon, well aware of this challenge to the status quo, counters its critics by framing natural gas development as environmentally responsible. With scientific advances and technological innovations, Devon asserts that wildlife, habitat, water, air, and human health are protected from any potential harm caused by natural gas production. In short, Devon breaks from its relative silence to reframe natural gas development using environmental arguments as a response to changes in institutional framing and threats to the status quo at the state level.

However, Devon is also concerned with natural gas policy at the federal level. Surface ownership in the San Juan Basin is a mixture of public lands controlled by the BLM and U.S. Forest Service, privately owned split-estate lands, federally controlled split-estate lands, and significant tracts of non-federally owned lands. Devon's natural gas holdings within the basin are significant enough for the company to be concerned with federal natural gas policy as well. Although the George W. Bush administration expedited leasing, permitting, and drilling on public lands throughout the west, the subsequent change in administration with the election of President Barack Obama would likely result in significantly different energy policies relating to public lands (Forbis 2010). My point here is that Devon's framing efforts are geared toward influencing

federal and state policy as it relates to natural gas laws and regulations affecting development in the San Juan Basin.

State Legislative and Interest Group Framing

When comparing NMWA and Devon framing efforts through time it is clear that they are talking past each other early in the conflict (confirms Hypothesis #1). However, as the conflict evolves, the competing interest groups engage each other with respect to environment, economy, and land-use frames. NMWA utilizes environmental arguments at elevated levels well before Devon enters the environmental framing debate in 2008. Similarly, NMWA argues that wilderness designation should be the preferred land-use consistently throughout the decade while Devon only begins to counter-frame later by arguing that energy development on public and private lands should be the norm. Interestingly, NMWA eventually engages Devon using economy arguments as the conflict evolves.

Figure 5.8 shows environmental frames for the competing interest groups and the New Mexico state legislature. As evidenced by NMWA's increasing and frequent use of environment frames until 2006 and Devon's silence until 2008, the interest groups are engaging in noncontradictory argumentation as predicted. Devon remains silent until 2008 where it exhibits a lagged but intense response to state legislative and challenger framing efforts (Figure 5.8). The state legislature also remains relatively silent until 2005 when they begin to use environmental frames at elevated levels. This rather dramatic rise in state legislative environmental framing efforts over this 4-year time span (2004-2007) results in a partial environmental reframing of natural gas policy as environmental frames are codified in the Surface Owner's Act in 2007. It is difficult to say who is driving this environmental reframing as NMWA primarily uses environmental arguments to influence

federal policy, but their overall environmental critique of natural gas development is germane regardless of political venue. For example, NMWA argues that natural gas development is harmful to human health, pollutes aquifers, fouls the air and land, and damages wildlife habitat. During personal interviews with staff from OGAP, I discovered that they were instrumental in pushing for the “pit rule” and in steering the debate over the Surface Owner’s Act.¹²¹ Unfortunately, OGAP did not produce any public consumption documents covering the first five years of this study period and they only published documents sporadically thereafter. Notably, both OGAP staff members expressed a similar environmental critique of natural gas development as NMWA. Thus, while NMWA concentrates more on federal natural gas policy, their environmental critique is applicable to both federal and state policy arenas.

Figure 5.9 presents economy frames by all the actors in this investigation. NMWA and Devon engage in noncontradictory argumentation followed by gradual frame convergence (Figure 5.9). Devon uses economy frames at consistently elevated levels throughout the policy conflict and NMWA moves more slowly (toward Devon) in their use of economy frames (Figure 5.9). Although the New Mexico State Legislature dramatically increases economic framing efforts between 2004 and 2007, this is a reaffirmation of the dominant, status quo frame.

Longitudinal land-use framing efforts are presented in Figure 5.10. As the policy conflict progresses, Devon dramatically increases its pro-development land-use frames in

¹²¹ During interviews with Bruce Baisel, attorney for the Oil and Gas Accountability Project (OGAP) in Durango, CO on 3/24/09, and OGAP Executive Director Gwen Lachelt on 3/23/09, I discovered that OGAP was instrumental in crafting language for Colorado’s 2007 Landowner Protection Act, New Mexico’s 2008 pit rule, and New Mexico’s 2007 Surface Owner’s Protection Act.

response to increases in state legislative framing efforts as well as to rebut NMWA's land-use critique. Thus, noncontradictory argumentation is followed by frame convergence as the conflict evolves. The state legislature partially reframes natural gas issues by including surface owner and private property rights frames in their legislative bills over a rather quick four-year time span. These land-use frames are codified through the 2007 Surface Owner's Act.

Although NMWA utilizes democracy frames, Devon expends no effort to counter-frame (Figure 5.11). At first, the New Mexico State Legislature does not include democracy frames (except in a 1999 Surface Rights bill that failed), but then employs these arguments at elevated levels over a four-year time span. Again, the legislature partially reframes natural gas issues to include democracy frames in the 2007 Surface Owner's Act. Following this 2007 policy shift, legislative framing efforts drop precipitously for all of the major framing categories. This indicates that the legislature has addressed the issue and moved on to other agenda items.

Conclusion

The New Mexico state legislature, with its enormous and over-crowded agenda, devotes relatively little attention to natural gas issues. However, when it does address natural gas policy, only one in five status quo challenging bills become law. Simply looking at these numbers, one might assume that the pro-development status quo still reigns supreme, but framing content analysis of all natural gas bills paints a more nuanced picture. Unsurprisingly, economic frames dominate the legislative discourse but environmental frames become important within the legislature. Institutional framing is dynamic as evidenced by the spike in previously unused frames like the environment, land-use, and democracy between 2004 and 2007. Although the legislature does not

completely redefine natural gas issues (i.e. economic frames remain dominant), its elevated use of competing frames points toward a broader conceptualization and articulation of the political problems surrounding continued development. This partial reframing using environmental, land-use, and democracy frames shows, at minimum, that the status quo is being challenged in the legislature.

Devon, NMWA, the state legislature, and Governor Richardson concur that both the Permian and San Juan Basins have already been ‘sacrificed’ for the U.S.’s profligate consumption. These actors would also concur that the natural gas industry remains a vital support to New Mexico’s economic well-being as reflected by Governor Richardson’s rhetoric and the dominant role economic framing plays in both Devon’s and the state legislature’s discourses. These pervasive economic frames, however, are being challenged by diverse environmental arguments from both sides of the debate. Status-quo-challengers like NMWA base their frames upon their underlying values of wilderness and environmental protection. These framing efforts are more inclusive and diverse than the status-quo-supporters because status-quo-challengers must appeal to a larger audience using a variety of frames in order to expand the conflict and reverse the status quo.

NMWA, following its stated mission, focuses on federal policy activity and uses its typical environmental protection and wilderness designation frames to stymie new natural gas development in areas like Otero Mesa. Because the San Juan and Permian Basins have already been extensively developed and they have no wilderness potential, NMWA does not fight that battle – but their broader environmental critique is applicable to state natural gas policy-making. Devon, an active player in the ‘sacrificed’ basins, is not

interested in developing natural gas in New Mexico's potential wilderness areas but is concerned with state and federal natural gas policy as it relates to the San Juan Basin. Devon works closely with the BLM in the San Juan and Permian Basins and the pro-development status quo at the federal level is even stronger than the state (at least under the George W. Bush administration and as a result of the Energy Policy Act of 2005). Thus, Devon is not overly concerned with federal natural gas policy disruptions until the administration changes, but it is concerned about state natural gas policy action. When the state legislature and regulatory agency enact two status quo challenging decisions, Devon begins reframing natural gas development along more environmentally responsible and friendly lines. Similarly, the change in presidential administration at the end of 2008 is concerning for Devon given their holdings in San Juan Basin where land and mineral ownership are a mix of public and private. Devon's framing efforts reflect a response to changes in institutional framing and their desire to influence the direction of state and federal policy.

Status-quo-supporters like Devon do not need to develop diverse and inclusive frames. In fact, their hegemonic silence connotes their acceptance and promulgation of the status quo. It is only when the status quo is threatened, as evidenced by institutional reframing, that Devon begins to radically alter its message. Devon breaks its hegemonic silence by reframing natural gas development as environmentally friendly and assures everyone that any potential problems can be solved through technological innovations. Status quo threats can be measured by examining changes in both the legislative and status quo supporting discourses. Policy change may be forthcoming if both the institution and status quo supporters begin redefining the issue using previously

marginalized and diverse frames with increasing frequency. The 2007 Surface Owner's Protection Act is the clearest example of a status quo challenging law that may yet rebalance the playing field between surface and mineral owners. Policy outcomes resulting from the Surface Owner's Protection Act depend upon regulatory and judicial interpretation – two things that have yet to happen. Thus, institutional framing analysis is one metric that can be used to determine policy redefinition and policy change. While this research falls short of measuring policy outcomes through the implementation phase of the process, it demonstrates the interconnected and dynamic nature of institutional and interest group-framing efforts.

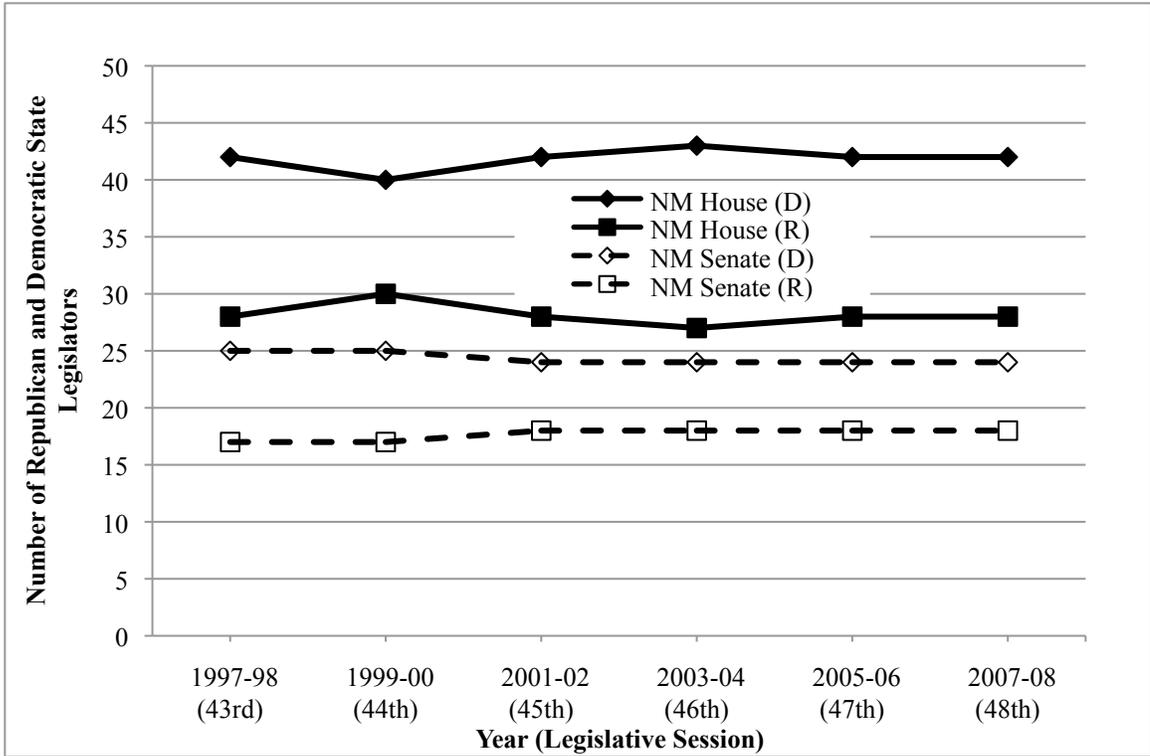


Figure 5.1: Party Control of the New Mexico State Legislature

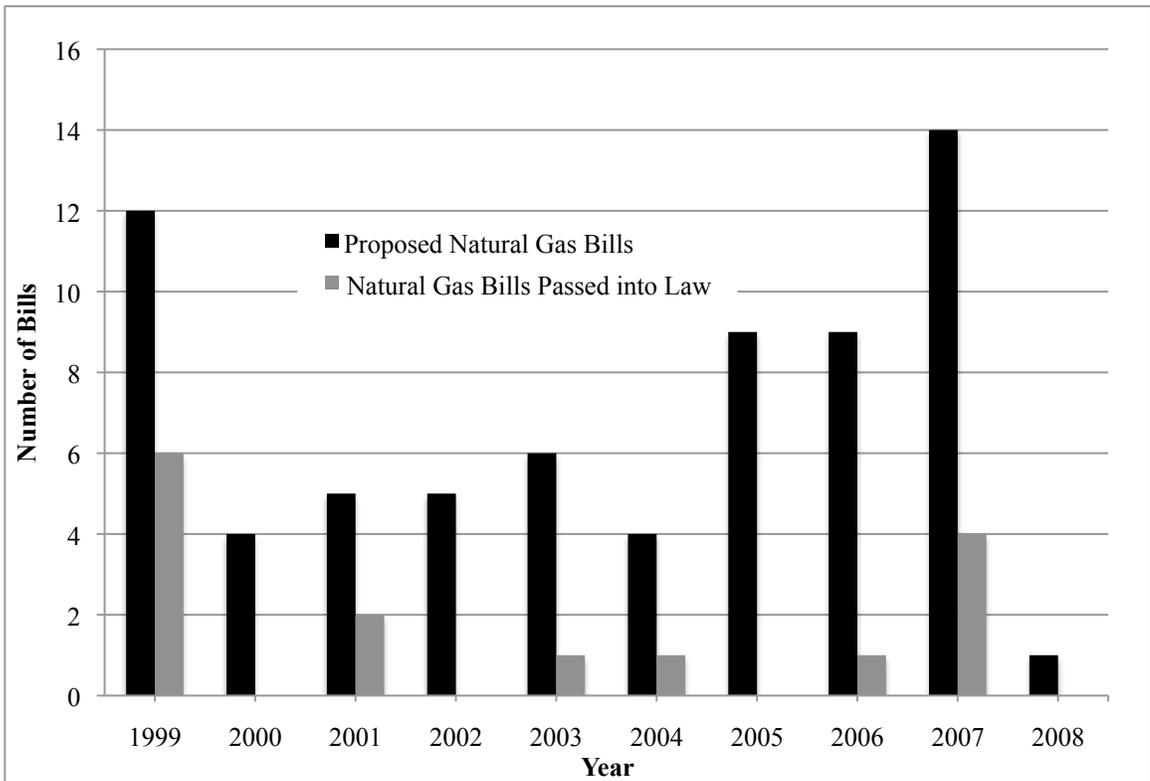


Figure 5.2: New Mexico State Legislature Natural Gas Bills

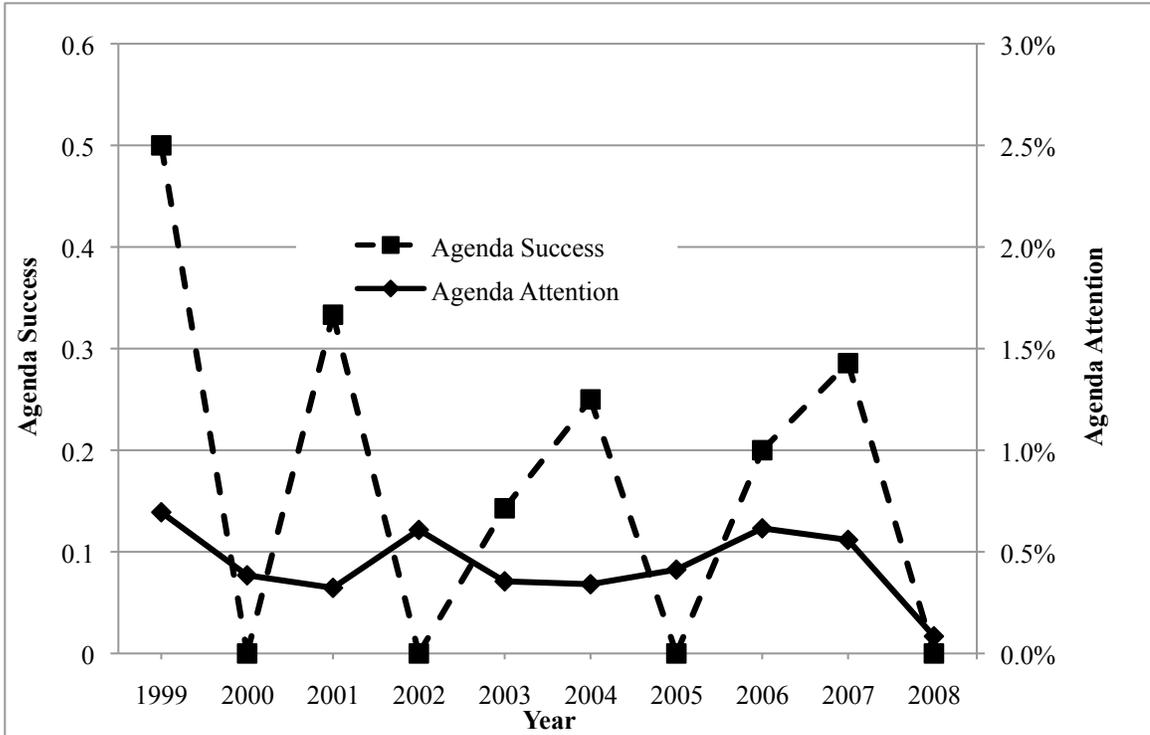


Figure 5.3: New Mexico State Legislature Natural Gas Agenda Attention and Success

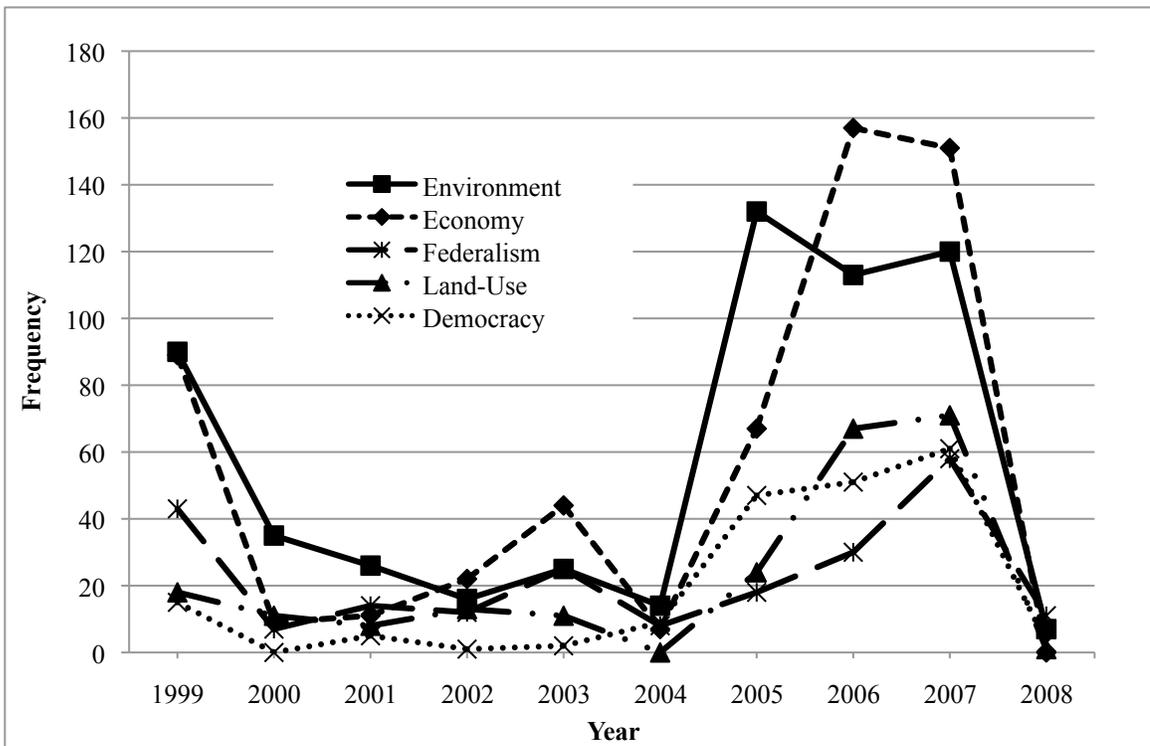


Figure 5.4: New Mexico State Legislature Natural Gas Frames

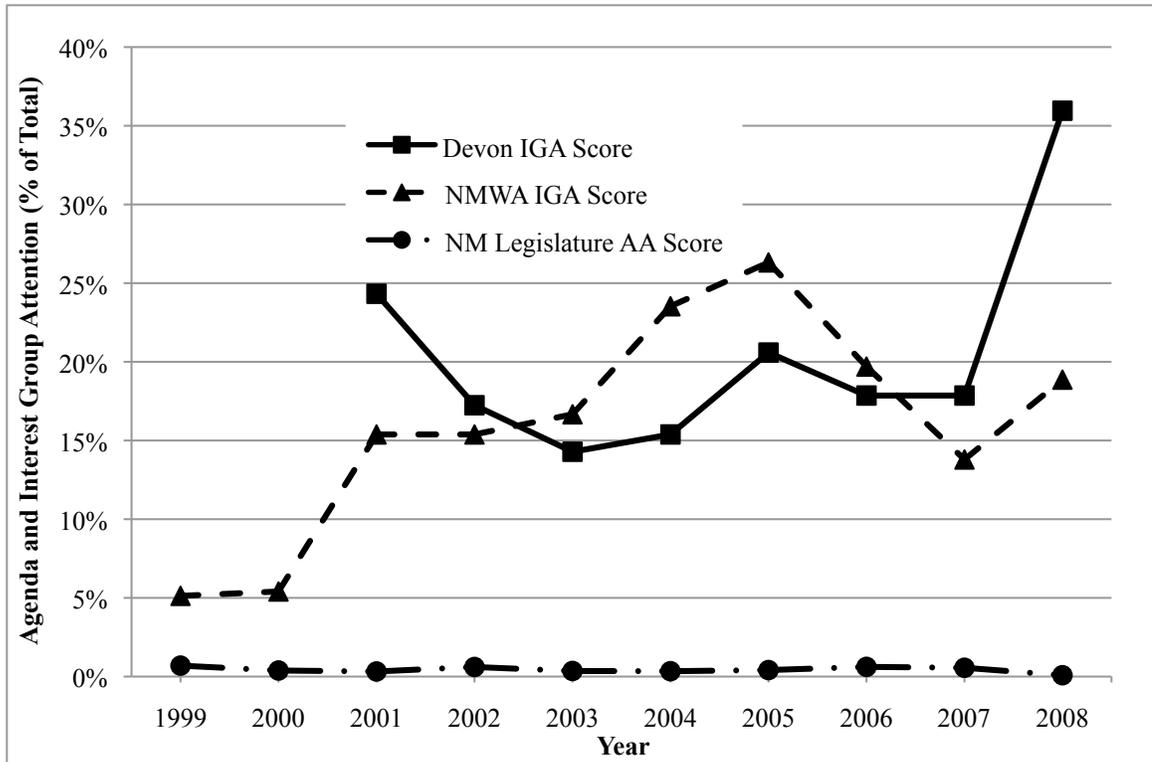


Figure 5.5: Natural Gas Agenda Attention and Interest Group Attention – New Mexico State Legislature, NMWA, and Devon

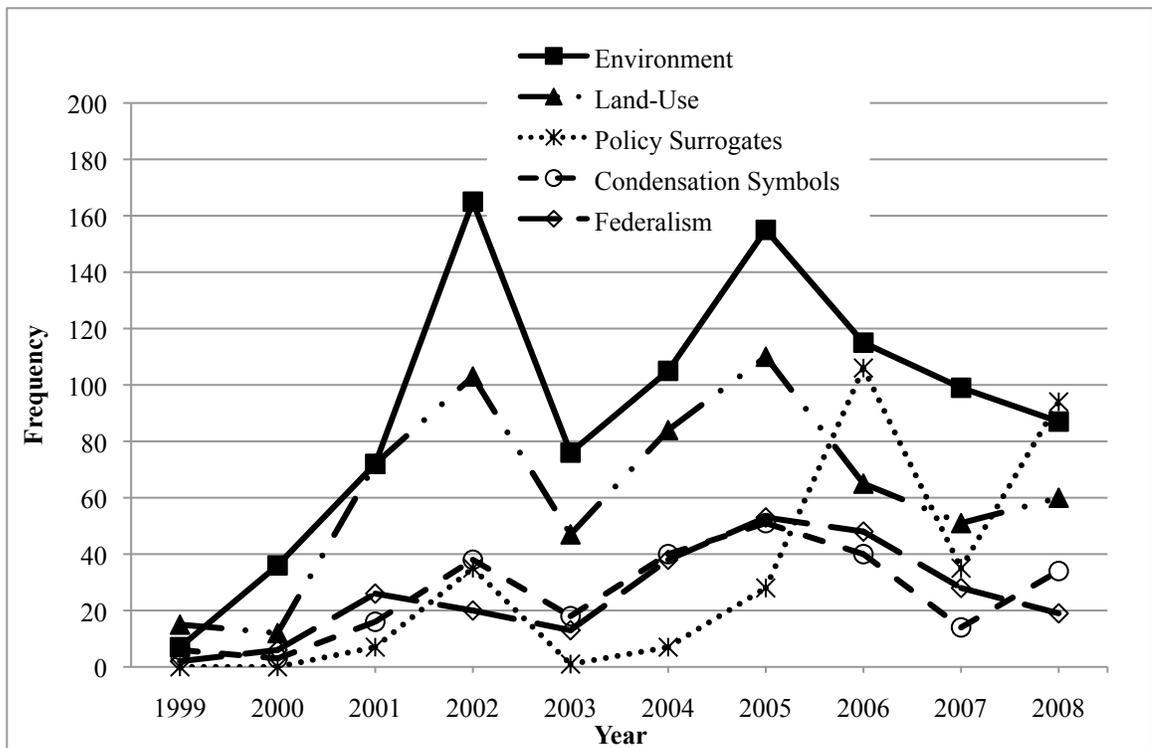


Figure 5.6: New Mexico Wilderness Alliance Natural Gas Frames

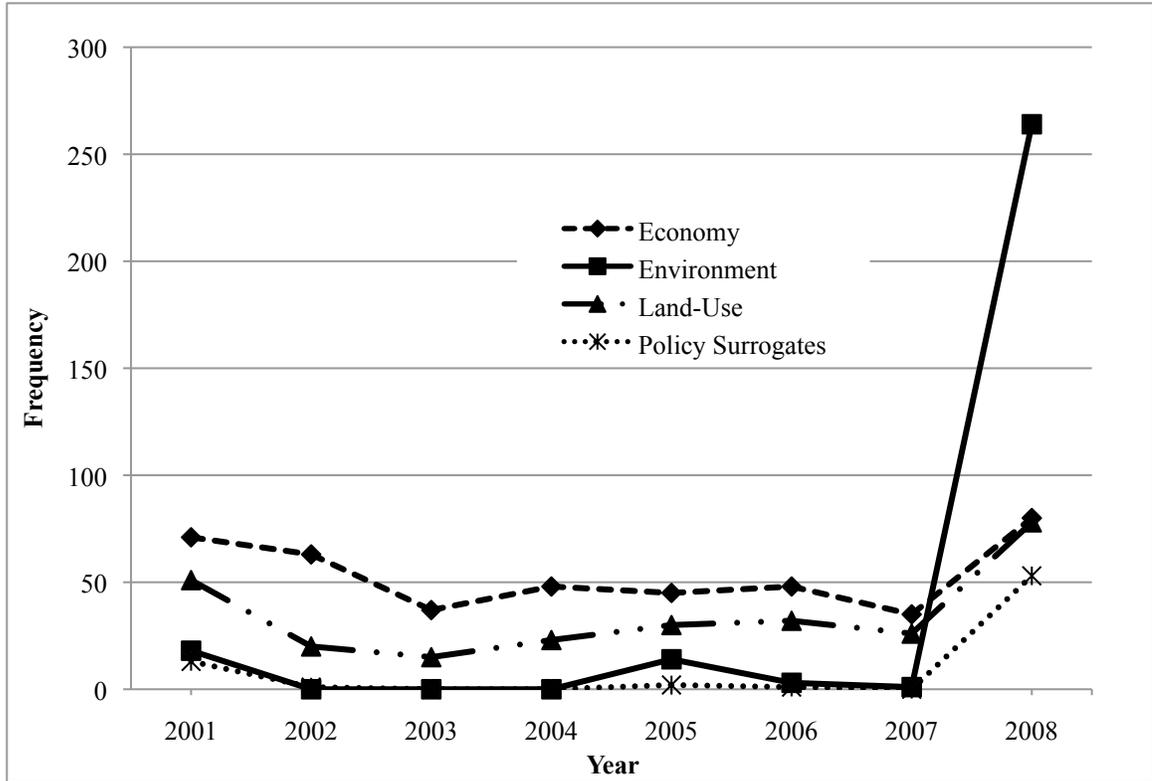


Figure 5.7: Devon Natural Gas Frames

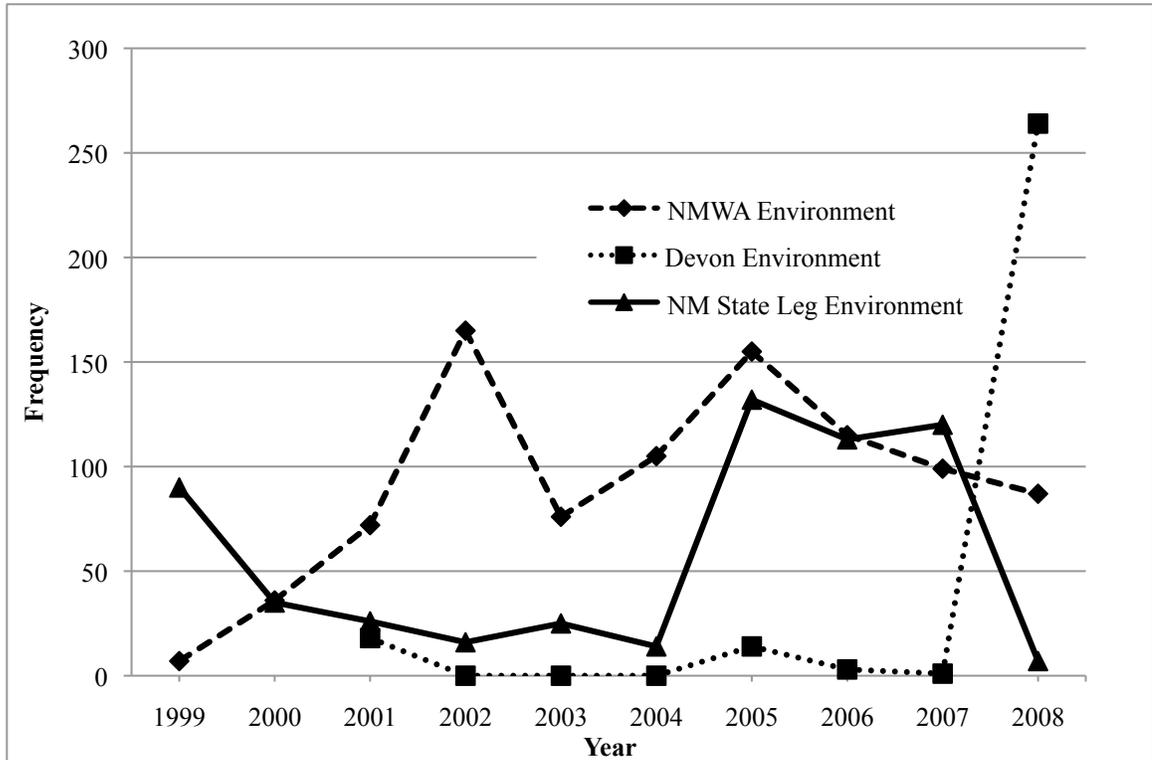


Figure 5.8: Environment Frames – New Mexico State Legislature, NMWA, and Devon

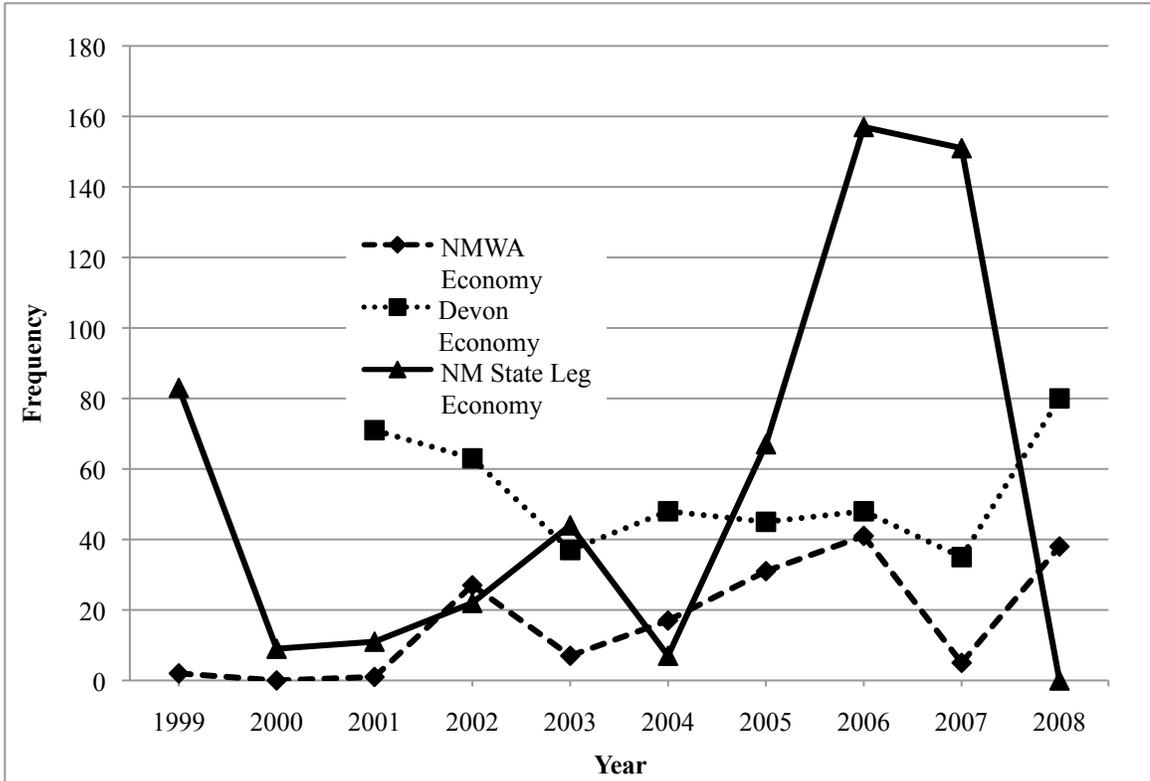


Figure 5.9: Economy Frames – New Mexico State Legislature, NMWA, and Devon

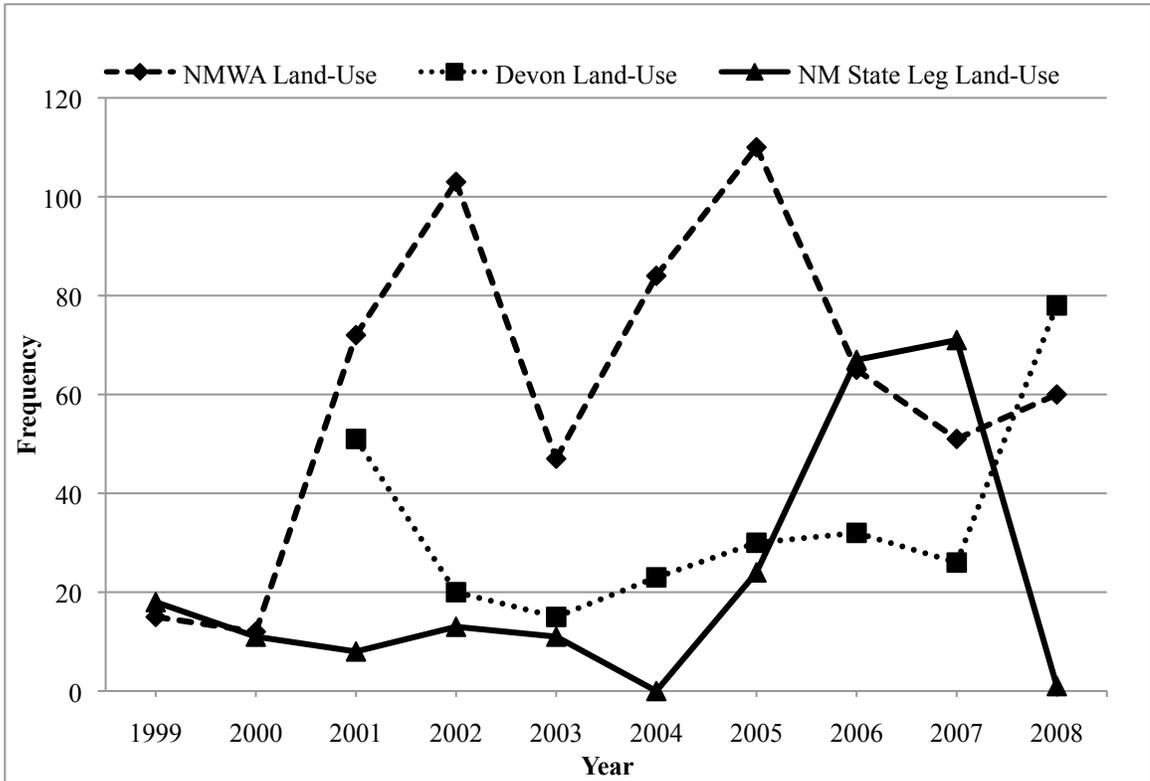


Figure 5.10: Land-Use Frames – New Mexico State Legislature, NMWA, and Devon

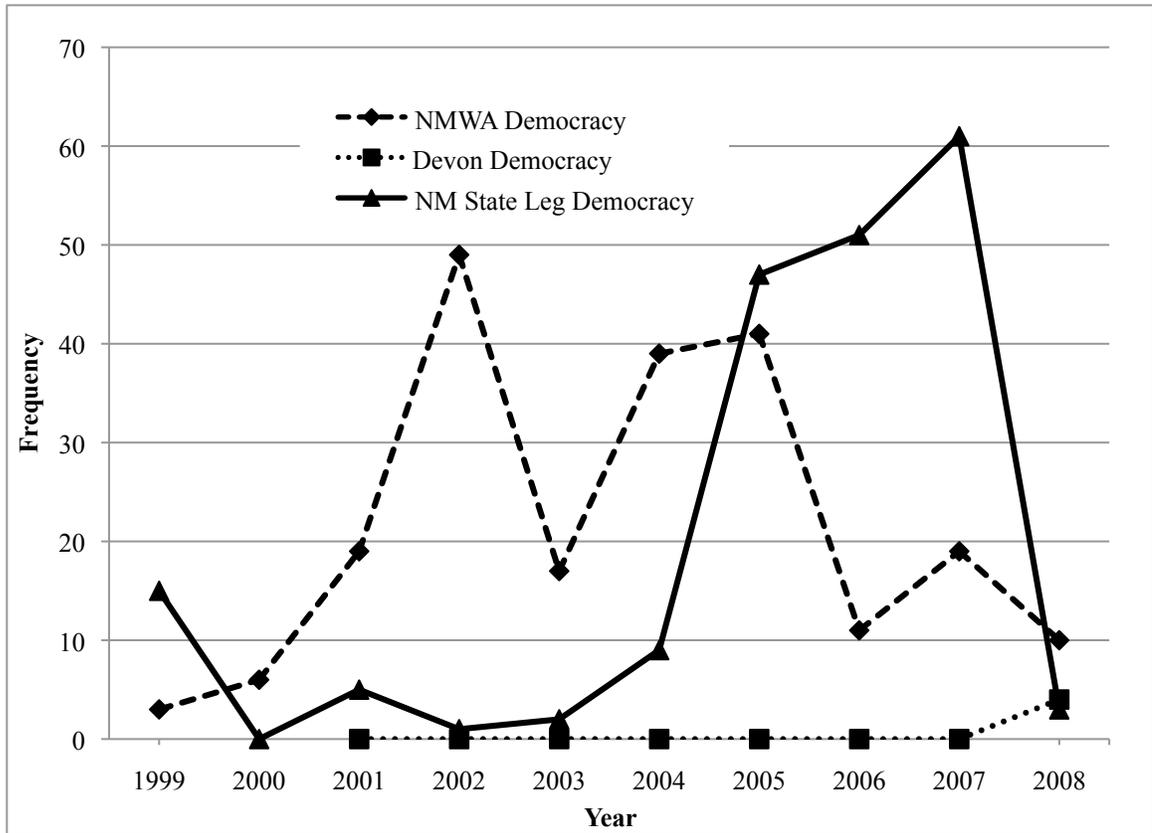


Figure 5.11: Democracy Frames – New Mexico State Legislature, NMWA, and Devon

Chapter VI

Reframing, Policy Diffusion, and Policy Change

“Energy and persistence conquer all things.” Benjamin Franklin

Introduction

In this chapter, I compare interest group and state legislative framing efforts within and across the three cases in order to test the hypotheses identified in Chapter 2. Using individual case study conclusions as a starting point, I compare state legislative framing, evaluate framing efforts by status quo supporters and challengers, elaborate on the relationship between interest group and state legislative framing, discuss the role of policy diffusion and policy entrepreneurs, and explain how framing is a measure of change.

Framing Natural Gas

Environmental frames are the most frequently used argument for all the institutions and interest groups examined except the Wyoming State Legislature and Devon Energy, where environmental frames rank second behind economy frames. Environmental reframing, especially within state legislatures and among status quo supporters, is somewhat surprising given the decidedly pro-development status quo and economic importance of natural gas to state budgets and corporate earnings. Unsurprisingly, status-quo-challengers frame natural gas development using environmental arguments at levels significantly above other framing categories. This begs the question: why are environmental frames more prolific and who is driving the framing debate in that direction? I assert that status quo challengers, through long-term framing efforts and

advocacy work, have successfully reframed the debate to include more environmental concerns with respect to human health, pollution, wildlife and habitat protection, and environmentally responsible development and regulation across the three cases.

Following state legislative reframing, the number of proposed natural gas bills and supporting frames decline precipitously. In short, the legislatures reframe natural gas development issues and move on to other agenda items.

Economy and land-use frames rank within the top three categories for all state legislatures and status quo supporters. Similarly, status quo challengers articulate the importance of land-use frames (second-highest-used frame for these interest groups) but emphasize democracy and federalism instead of economy frames. Overall, environmental frames are the most prevalent, but questions arise as to the content, frequency, and variability through time of those environmental arguments. In answering these questions, I turn my attention to the state legislatures.

State Legislative Reframing

Despite differences in political context among the three states, they share in a regional natural gas boom and its concomitant political conflict. As this two-decade-long boom progresses, each state is confronted with similar economic, social, environmental, and political concerns. These concerns range from the proper disposal of coalbed methane discharge water in Wyoming to more inclusive representation on the Colorado Oil and Gas Conservation Commission to establishing more stringent waste-pit rules in New Mexico. The simultaneous timing of the boom, the shared political issues, and the propensity for states to copy each other's policy proposals (i.e., policy diffusion) compel a comparison of state legislative responses. In the following section, I demonstrate how

this comparative case study shows framing convergence with respect to frequency, timing, and trends between Colorado and New Mexico and, to a lesser degree, Wyoming.

Wyoming, Colorado, and New Mexico state legislature framing totals are presented in Figure 6.1. Whereas economy frames dominate natural gas bills in Wyoming, both Colorado and New Mexico employ environment frames at slightly higher levels than economy frames. Overall, environment, economy, and land-use frames are the top frames articulated by all three legislatures during this time period. Democracy and federalism frames, although present, occupy a smaller but important piece of state legislative framing efforts.¹²² This aggregate framing analysis enables broad generalizations, but state legislative framing is dynamic and this variability is best captured through longitudinal state legislative bill analysis.

Figure 6.2 presents environment frames, the primary frames in Colorado and New Mexico and secondary frames in Wyoming, as expressed in natural gas bills during each legislative session. During the first 5 years of this study period, the legislatures are fairly quiet with respect to environmental framing.¹²³ This is an implicit affirmation of the pro-development status quo. As the boom progresses, each state legislature increasingly frames natural gas development using environmental arguments. Wyoming state legislative environmental framing peaks earlier (2005) and at considerably lower levels

¹²² The New Mexico State Legislature employs environment and economy frames (31.2% and 30.1%) as their dominant arguments while they also use federalism (12.2%) and land-use (12.1%) as tertiary and quaternary frames. Note that all state legislatures use policy surrogate and condensation symbol frames infrequently and they are not included in Figure 6.1.

¹²³ The environmental framing peak for the New Mexico State Legislature in 1999 is a direct result of a failed Surface Rights bill (SB-637) that contained numerous environment, land-use, and democracy frames.

(i.e., frequency) than both Colorado and New Mexico, which both dramatically increase their environmental framing efforts between 2004 and 2007 (Figure 6.2). In the Wyoming case, natural gas issues are partially reframed as evidenced by the lower frequency, gradual rise, and secondary use of environmental frames behind economy frames (Figure 6.2).¹²⁴ Although Wyoming is the first state among the three to partially reframe natural gas development using the environment, its state legislature places considerably less importance on environmental framing of natural gas policy than its neighbors to the south. When state legislatures use a previously marginalized frame at levels exceeding the dominant status quo frame, a complete reframing has occurred. Natural gas policy experiences a more complete reframe in Colorado and a partial reframe in New Mexico as evidenced by the higher frequency, dramatic rise, and use of environmental frames. In 2007 Colorado and New Mexico exhibit an environmental framing convergence followed by a precipitous drop in 2008. These two legislatures reframe natural gas policy using environmental problem definitions in their respective 2007 legislative sessions and move on to other agenda items.

Figure 6.3 shows economy frames, the dominant frame in Wyoming and secondary frames in Colorado and New Mexico, expressed in natural gas bills during this study period. The economic imperative remains central to Wyoming natural gas policy, and the legislature consistently reaffirms that dominant problem definition. Similar to the environmental framing comparison, Wyoming increasingly employs economy frames

¹²⁴ In addition to applying the none, stable, partial, and complete reframing definitions as Baumgartner et al. (2009) do for interest groups, I also apply this coding scheme when evaluating state legislative frames as articulated through natural gas related bills.

that peak earlier (2005) than Colorado and New Mexico (2007). State legislative economic framing declines by varying degrees following each of their respective peaks. Again, Colorado and New Mexico demonstrate economy frame convergence in timing, overall trend, and, to a lesser degree, frequency (Figure 6.3).¹²⁵ As noted in Chapter 1, the historic natural gas statutes for each state mandate that the resources must be developed and not wasted. Within these original statutes there is an explicit and implicit call for increased natural gas development to promote further economic growth of the states and region. As evidenced by this framing analysis, state legislatures adjust their enduring or dominant frames (i.e., economy) incrementally through time as Baumgartner et al. (2009) assert.

Figures 6.4 and 6.5 present land-use and democracy frames as expressed through state legislative bills. Consistent with the previous framing trends, Wyoming spends minimal effort using land-use and democracy frames until 2004, where it peaks followed by a drop for each category. Similarly, Colorado and New Mexico increasingly frame natural gas issues using land-use and democracy arguments, peaking in 2007 and precipitously dropping the next year.¹²⁶ Increased natural gas development on split-estate lands has been an ongoing and increasingly salient issue in the three states, and each legislature attempts to enact some form of surface owner protection law throughout this decade. Proposed statutory remedies attempting to balance surface owner with mineral owner rights include a wide variety of environmental, land-use, and democratic frames. After

¹²⁵ The New Mexico State Legislature, however, uses economy frames at significantly higher frequencies than both Colorado and Wyoming.

¹²⁶ Democracy and land-use framing efforts also peak during the 2001 Colorado State Legislative session. This early spike can be attributed to the three failed attempts to pass a surface owner protection law that year (see Appendix 3.1).

several failed attempts in 2004, Wyoming passes their Split-Estate Procedures Act in 2005. Colorado and New Mexico pass their Landowner Protection Act and Surface Owner's Protection Act in 2007, respectively. Through the passage of these split-estate related acts, each legislature also partially reframes natural gas development using democracy and land-use problem definitions.

The 10-year time frame of this investigation is able to capture both incremental and dramatic reframing of the status quo. While the Colorado and New Mexico state legislatures reframe natural gas development using environment, land-use, and democracy arguments with greater frequency than the Wyoming legislature, reframing in all of the cases occurs within a relatively quick or dramatic time frame (3 to 4 years). I argue that the shorter, more intense reframing is a dramatic, non-incremental, and strategic effort to reframe natural gas development by the New Mexico and Colorado legislatures. The Wyoming legislature reframes natural gas development issues in similar, albeit somewhat less pronounced fashion.

All three state legislatures increasingly articulate a more diverse and inclusive understanding of natural gas development issues as the boom progresses. Overall, Colorado and New Mexico demonstrate frame convergence in timing, trend, and frequency for environment, economy, land-use, and democracy categories. Wyoming framing changes are not as dramatic and occur earlier but can also be considered a partial reframing of natural gas issues with respect to these same frames. State legislative framing convergence and similar statutory outputs indicate significant policy diffusion across the states. This policy diffusion occurs on multiple levels but status-quo-challenging interest group networking, communication, and framing efforts are a

contributing factor in this policy diffusion, especially regarding the surface owner protection acts.¹²⁷ Policy entrepreneurs including Governors Freudenthal, Ritter, and Richardson also play an instrumental role in policy diffusion, and I provide an overview of their respective involvement.

Policy Entrepreneurs and Policy Diffusion

Policy entrepreneurs are defined as “people who seek to initiate dynamic policy change . . . through attempting to win support for ideas for policy innovation” (Kingdon 1995; Baumgartner and Jones 1993; Mintrom 1997, 739). Successful policy entrepreneurs engage in a variety of activities to promote their policy ideas, including networking, coalition building, identifying problems that attract policy-maker attention, and framing (Mintrom 1997). In state politics, policy entrepreneurs frequently network across state lines to find successful examples of policy innovation, develop credibility and policy expertise, and learn successful framing strategies that will help them shape the debate surrounding the proposed policy innovation (Riker 1986; Kelman 1987; Kingdon 1995; Mintrom 1997). In his study of state education reform (i.e., school choice), Mintrom (1997, 738) links policy entrepreneurs with policy diffusion by arguing “the presence and actions of policy entrepreneurs were found to raise significantly the probability of legislative consideration and approval of school choice as a policy innovation.” Policy entrepreneurs have also been shown to be significant causes of policy change (Mintrom and Norman 2009) in policy areas including health care reform (Oliver and Paul-Shaheen 1997), school choice (Mintrom 2000), radioactive waste

¹²⁷ This policy diffusion across the states via interest group policy coordination is corroborated through in-depth personal interviews conducted by Robert E. Forbis, Jr. and presented in his 2010 dissertation titled “Drill Baby Drill: An Analysis of How Energy Development Displaced Ranching’s Dominance Over the BLM’s Subgovernment Policymaking Environment.”

disposal (Ringius 2001), welfare policy (Crowley 2003), and greenhouse gas abatement (Rabe 2004). The research design of this natural gas policy study does not allow for an empirically rigorous analysis of the role of policy entrepreneurs and policy diffusion like the previous cases. Future research should more systematically examine the relationship among policy entrepreneurs, diffusion, and change in natural gas policy. However, policy entrepreneurs and diffusion play an historic and present role in policy formation and change in natural gas politics, and I provide a general context as a starting point for future research.

Denver attorney Warwick M. Downing, an early natural gas policy entrepreneur, was instrumental in not only forming the Interstate Oil and Gas Conservation Commission (IOGCC) but also in crafting their Conservation Model Act calling for state control over natural gas policy that ensured the “prevention of waste” and promoted the “maximum recovery of oil and gas” (Mitchell 2010). Pro-development state laws, passed during 1949 in New Mexico and 2 years later in Wyoming and Colorado, were modeled after the 1949 Conservation Model Act written by the IOGCC. The respective state legislatures, guided by the Model Act and driven by Downing’s advocacy, worked closely with industry in crafting each state’s natural gas act. This cozy relationship between the legislatures and industry continued through subsequent amendments and has left a prominent pro-development legacy. Thus, from its inception, natural gas policy in Wyoming, Colorado, and New Mexico has shown considerable policy diffusion and coordination with respect to timing and content.

The IOGCC remains an important player in state-level natural gas policy, but the Western Governor’s Association (WGA) has also assumed a leading role. As noted in

the Wyoming case study, during the 2004 WGA ‘North American Energy Summit’ Governor Bill Richardson led the charge in coordinating regional energy policy by calling on the states as innovators to “turn our region’s energy policy around” and “create a strong, sustainable energy policy” (Burnham 2004). Wyoming Governor Jim Freudenthal (R), Colorado Governor Bill Ritter (D), and New Mexico Governor Bill Richardson (D) agreed to integrate their respective natural gas policies and also limit the time for approving natural gas permits to 46 days (Burnham 2004). The efforts of these modern policy entrepreneurs sparked increased natural gas legislative agenda attention and were key ingredients to subsequent natural gas statutory outputs. This policy diffusion and coordination coupled with interest group advocacy and amenable legislatures culminated in the nearly simultaneous passage of surface owner protection acts in all three states.

These three governors exerted authority and influence through administrative fiat such as executive orders and through use of the ‘bully pulpit’ to shape public opinion that, in turn, placed pressure on the legislatures to pay greater attention to energy policy. While Governors Richardson and Ritter actively promoted a ‘Clean Energy Economy’ through administrative efforts and by calling on their respective state legislatures to act, Governor Freudenthal had no formal ‘clean energy’ initiative. Rather, Governor Freudenthal focused his efforts on finding a solution to split-estate energy disputes, reforming natural gas permitting, and ensuring natural gas regulations, especially relating to water, were properly implemented and followed. Clearly, these governors’ respective energy agendas, although nuanced, were influential in coordinating, formulating, and adopting more uniform natural gas policy across the region.

However, in legislatively dominated states these governors' efforts are constrained by political context and their respective state legislatures. Changes in party control have been correlated with policy change at the federal level (Baumgartner et al. 2009) and also the state level. But party control of the respective state legislatures and governor's offices varied across the three cases during notable policy shifts in Wyoming (2005), in Colorado (1994 and 2007), and in New Mexico (2007). When Wyoming passed its 2005 Split-Estate Procedures Act and two additional status-quo-challenging acts, the Republicans held a supermajority in the legislature and Republican Jim Freudenthal was governor.¹²⁸ During the passage of Colorado's 1994 Oil and Gas Act amendments, which significantly altered the status quo, the Republicans controlled the legislature and Democrat Roy Romer was governor. When Colorado passed four-status-quo challenging statutes in 2007, including the Landowner Protection Act and Wildlife Stewardship Act, the Democrats narrowly controlled the legislature and Democrat Bill Ritter was governor.¹²⁹ Finally, the Democrats controlled the legislature and governor's office (Richardson) when New Mexico passed its 2007 Surface Owner's Protection Act. Policy diffusion, policy entrepreneurs, and party control are all controlling factors in policy change, and future research should explore the relationship between these variables more closely. As evidenced in these case studies, natural gas policy change is not strictly a

¹²⁸ In 2005 the Wyoming state legislature passed three status-quo-challenging acts including the Split-Estate Procedures Act (SF-0060), the Water Rights Penalties Act (SF-0028), and the Wyoming Oil and Gas Conservation Commission Penalties Act (SF-0073).

¹²⁹ These 2007 status quo challenging acts include: the Landowner Protection Act (HB07-1252), Wildlife Stewardship Act (HB07-1298), Severance Tax Coalbed Methane Seepage Act (HB07-1341), and the COGCC Membership Modification Act (SB07-198).

partisan issue, and this implies that other factors including state economic diversity, demographic differences, and interest group framing and advocacy are at work.

Interest Group Framing Comparison

Historically, Rocky Mountain West natural gas politics is best described as a policy subgovernment (i.e., iron triangle) where a limited number of participants mutually interested in resource development dominate policy making to their benefit (Cater 1964; Freeman 1965; Duffy 2005). State and federal legislative committees, regulatory agencies, and industry minimize outside influence and participation, create economic incentives, and remove regulatory impediments to natural gas development. The recent natural gas boom coupled with broader demographic shifts in the West and heated debate over split-estate and public lands usage has undermined this cozy subgovernment.

Interest groups representing diverse constituencies that include ranchers, environmentalists, private property rights advocates, outfitters, and county commissioners have been actively challenging the pro-development status quo (Duffy 2005). These diverse and seemingly disparate coalitions are creating unconventional politics that are uncharacteristic in western natural resource policy. Initially, pro-development supporters ignore attacks from these unconventional coalitions; however, as the criticism intensifies, they begin to aggressively counter-frame. In this section, I highlight this frame/counter-frame battle by first comparing status-quo-supporting interest group frames and then status quo challengers' framing efforts.

Figure 6.6 presents the framing totals for the status-quo-supporting interest groups, Williams and Devon. Williams plays a large role in natural gas production, development, processing, and transportation in both Colorado and Wyoming and serves as an effective proxy for the status quo in both cases. Williams publishes fact sheets and press releases

specific to each state and case, with some overlapping documents that apply to both cases. In the Colorado case, Williams employs environment, economy, and land-use arguments to support the status quo. Williams argues that natural gas development is being conducted in an environmentally responsible manner enabled by technological innovations and that domestic production (preferred land-use) provides diffuse and concentrated economic benefits. In the Wyoming case, Williams uses similar framing but employs land-use frames at slightly higher frequencies than economy frames. In the New Mexico case, Devon utilizes economy frames as their primary support of the status quo followed by environment and land-use frames, respectively. Devon mirrors Williams' framing efforts by asserting that technological innovations enable environmentally responsible drilling, thereby minimizing the economic and environmental costs while maximizing the economic benefits. Policy surrogates, democracy, federalism, and condensation symbols constitute only a minor part of the framing efforts for these two corporations.

Figure 6.7 depicts status-quo-challenger framing totals for the San Juan Citizens Alliance (CO), Powder River Basin Resource Council (WY), and New Mexico Wilderness Alliance (NM). Each challenger employs environmental frames as their dominant argument aimed at redefining and substantively altering the status quo. Notably, status quo challengers employ environmental problem definitions as a greater percentage of their frames than do the status quo supporters, and Powder River uses environment frames more than any other actor in this investigation. Powder River describes the harmful effects of CBM/natural gas water discharges enabled by lax regulation and ties human health, pollution, and wildlife habitat destruction directly to

these water disposal problems. SJCA uses similar environmental frames but downplays water issues, primarily because Colorado does not allow development water surface discharges like Wyoming. NMWA argues that natural gas development is environmentally irresponsible because it harms wildlife habitat, wild lands, and pollutes aquifers. Furthermore, they argue that scientific evidence should underpin state regulatory rulemaking and federal wilderness area designation.

Status quo challengers employ land-use arguments as a secondary means to reframe the debate. Specifically, they assert that natural gas development on public and private lands interferes with ranching, farming, wildlife habitat, outdoor recreation, and surface owner rights. Since the boom began, surface owners and private property rights advocates throughout the region have asserted that the surface estate is treated as subservient to the mineral estate, and SJCA and Powder River frequently echo that critical frame. NMWA, although sympathetic to surface owner complaints, pushes state and federal policy makers for greater wilderness designation and frames the land-use debate differently. This nuanced difference in land-use framing can be expected given the differences in missions between NMWA and the other status-quo-challenging groups. While SJCA and PRBRC use democracy as their tertiary argument, PRBRC employs policy surrogates as their tertiary argument to refute the status quo (Figure 6.7).

Even though status quo supporters utilize environmental frames in response to challenger criticism and increased legislative environmental framing, policy challengers (except for NMWA) do not engage the hegemonic discourse with respect to economic frames. Without engaging the hegemonic economic frame directly by offering alternative economic arguments, these challenging interest groups are neglecting an important

counter-framing strategy. For example, SJCA could argue that outdoor recreation and tourism provide diffuse, concentrated, sustainable, long-term economic benefits at lower costs than rival natural gas development. Whether this economic counter-framing affects state legislative policy framing and outcomes is a moot point until challengers employ this strategy.

This status-quo-supporter and -challenger framing analysis yields insights regarding aggregate frame use but misses framing variability through time. For example, Devon does not use environmental frames at all until 2008, when they released 20 fact sheets supporting natural gas development with a wide variety of frames, especially environmental ones. In this next section, I compare state legislature and competing interest group framing efforts through time to further understand and explain these complex relationships.

State Legislature and Interest Group Framing Comparison

Empirical framing measures developed in this research and subsequent trend analysis both support and refute the hypotheses and assertions presented here and in Chapter 2. Framing results from these cases show that, early on in conflicts, competing interest groups talk past each other (i.e., noncontradictory argumentation) two-thirds ($14/21 = 66.7\%$) of the time using their strongest frames. This largely confirms both Pralle's (2006) and Baumgartner et al.'s (2009) conclusions about noncontradictory argumentation. In all three cases, status quo challengers employ multiple frames, over a long term, and at elevated frequencies, whereas status quo supporters are slow to engage in the framing debate as shown by their lagged response. For example, in each of the three cases the status quo challengers frame natural gas development using environmental arguments at consistently high levels throughout the 10-year study period, but status quo

supporters ignore environmental frames until the critical environmental chorus gains an institutional audience and voice. Similarly, policy challengers employ a number of land-use frames promoting surface-owner rights, ranching and farming interests, recreation, and wildlife habitat protection to steer natural gas development policy while supporters remain largely silent early on for this particular frame. Rather than engage challengers on these issues, Williams and Devon are either completely silent or use economy frames early in the conflict.

As the policy conflict progresses, competing interest groups exhibit frame convergence for nearly one-quarter ($5/21 = 23\%$) of the major framing categories across the cases. This relatively low level of frame convergence follows Baumgartner et al.'s (2009, 142) conclusions that "although there is often some form of loose engagement with rivals, it is much more common for each side to focus on its best arguments." My data confirm that competing actors do not contest or address many of the potential frames and policy debate centers on only a small number of frames. In all three cases, competing interest group framing efforts converge primarily upon environmental frames with status quo challengers clearly winning that framing battle. As previously noted, status quo supporters do not use environmental frames until both the legislature and challengers use these arguments at elevated levels. This lagged, counter-environmental framing effort by supporters indicates they have lost the framing debate, at least for now.

When competing interest groups engage each other's frames directly, frames generally converge toward the status quo challengers ($4/5 = 80\%$) and in a dramatic fashion as evidenced by a quick (1-3 year) rise in framing efforts by status quo supporters in response to challenger and state legislative framing. Although Pralle (2006) asserts

that frame convergence is more likely as policy conflicts escalate and competitors fight the rhetorical war in similar venues, data from this study show that frame convergence is not commonplace and, when it occurs, it centers primarily on one frame – the environment. Again, this corroborates the conclusions derived from Baumgartner et al.’s (2009) study of 98 issues areas. New Mexico, however, is somewhat unique in that competing interest groups engage each other more directly with respect to economic and land-use frames, with economy frames converging toward Devon and land-use frames converging toward NMWA. Based on this analysis, successful policy reframing and frame convergence is largely driven by status quo challengers.

Measuring the frequency and content of frames in state legislative bills through time provides a viable indicator of whether a policy has been reframed and if that reframing supports or challenges the status quo. As detailed in Chapter 2, I classify issue reframing as stable, partial, or complete following Baumgartner et al. (2009). These researchers assert implicitly and explicitly that framing battles are between the dominant frame and all other frames, or more simply, dominant versus secondary frames. For example, in Wyoming, economy frames dominate and environment frames are important yet secondary; as such, the Wyoming state legislature partially reframes natural gas development using the environment. However, I do not consider framing battles as a simple dyadic between dominant and secondary frames. Rather, political institutions and interest groups employ multiple problem definitions through time. These competing frames may not dominate, but they can and do gain institutional traction and acceptance via bills and statutes. I argue that issues can be partially reframed by secondary and tertiary frames; the following example best illustrates this point.

During the 2007 Colorado state legislative session, natural gas agenda attention peaks, framing efforts peak, and 10 natural gas bills are passed into law. Four notable status quo challenging statutes pass, and the legislature reframes policy using environment, land-use, and democracy frames. Environment frames supplant economy arguments as the dominant understanding (at least temporarily), but land-use and democracy frames also come to the fore and are codified (Figures 6.2 through 6.5). While natural gas development is completely reframed along environmental lines, it is also partially reframed with land-use and democracy frames. Although institutions and interest groups often simplify complex issues for ease of understanding, explanation, and promotion of preferred policy options, their framing messages are more nuanced and complex than the simple dominant/secondary framing battle implies. Tertiary frames are also key components when reframing a policy issue, and ignoring these less prevalent yet institutionally accepted frames is an oversight. Thus, when these minor frames come to the fore within the state legislatures and are codified in statute, natural gas development is partially reframed.

I test the degree of natural gas issue reframing for seven major categories across the three state legislatures (21 total framing categories) and find that reframing within each case is more common than evidenced by the Baumgartner et al. case study research.¹³⁰ If

¹³⁰ In Chapter II, I evaluate the methodological differences between Baumgartner et al.'s (2009) study of interest group influence within 98 policy areas over two different Congresses and my research. Baumgartner et al. (2009, 176) assert that policy reframing occurred only in 4% of the 98 issue areas included in their study. Methodological differences are most likely the reason for our differing conclusions about reframing success and failure. In short, our research focused on different policy arenas (federal versus state), covered different time frames (4 years versus 10 years), differed in scale (large-n versus small-n studies), employed unique framing categories, relied on actor

I were to strictly interpret Baumgartner et al.'s policy reframing scheme (and exclude secondary and tertiary reframing), then reframing occurs for only 14.3% (3 of 21) of the variables within the three natural gas cases. With my broader interpretation of reframing employed, state legislatures reframe natural gas policy for nearly half (9 of 21 = 42.8%) of the major problem definition categories tested in this research. Looking at reframing on a case-by-case basis, policy reframing occurs in all of the cases, and that is considerably different than the 4% policy reframing in the 98 issue areas of the Baumgartner et al. (2009) study. As noted in Chapter 2, methodological differences account for much of this variation.

According to Baumgartner et al. (2009), incremental reframing takes place over a much longer time frame than 4 years. As defined in Chapter 2, dramatic reframing occurs in 4 years or less and incremental reframing spans times greater than 4 years. When state legislatures in this study reframe natural gas policy, it occurs rather dramatically over a 3- to 4-year time span. For example, the Colorado state legislature completely reframes for the environment and partially reframes for land-use and democracy as evidenced by the rapid rise in frame usage between 2004 and 2007 (Figures 6.2 through 6.5). The Wyoming and New Mexico state legislatures partially reframe natural gas issues over a 4-year time span using environment, land-use, and democracy frames (Figures 6.2 through 6.5).¹³¹ When state legislatures reframe natural gas development, the institutional frames mirror status quo challenger frames, the legislatures

interview versus textual analysis, and used different sources to evaluate policy reframing (interviews and congressional dockets versus state legislative bills and statutes).

¹³¹ However, the legislatures use economy frames to strengthen the status quo and increase their use of these frames in gradual (WY and CO) or dramatic (NM) fashion throughout the study period (Figure 6.3).

address those frames in bills and statutes rather quickly, and then they move on to other agenda items.¹³² It may have taken each respective legislature decades to even acknowledge an alternative frame, but once reframing begins in the legislature, it happens quickly. Thus, institutional reframing of natural gas issues is dramatic and not a slow, incremental adjustment.

Finally, does issue reframing stem from an entirely new frame or from a long-extant but marginalized frame? Throughout the entire 10-year time period of this study, status quo challengers use environment, land-use, and democracy frames to articulate their values, influence their members and the public, redefine natural gas development issues, and persuade policy makers of the veracity of their claims. These historically marginalized (i.e., long-time) frames eventually gain legislative acceptance. Thus, when policy reframing occurs in these cases, it is not because a new frame comes to the fore; it is because the political institution has accepted long-existing and previously marginalized frames. The politics of reframing is the politics of status quo challengers. But the question remains – how does state legislative reframing, enabled in part by challengers, relate to policy change? I turn my attention to this question next.

Reframing and Policy Change

Institutional reframing, elevated agenda attention, and successful status-quo-challenging statutes indicate there is significant policy change in Colorado and New

¹³² Notably, state legislative framing peaks and reframing efforts for Wyoming (2005) and Colorado and New Mexico (2007) are followed by a precipitous decline in state legislative framing for all categories. Again, this implies that the state legislatures have reframed the issue, addressed it through failed and/or codified bills, and moved on to other agenda items.

Mexico during 2007 and in Wyoming during 2005.¹³³ In 2007, Colorado state legislature natural gas agenda attention spikes, framing efforts are at their peak, and 10 of 13 natural-gas-related bills become law, including 4 status quo challenging statutes. During that same year, New Mexico state legislative natural gas framing efforts peak for all major framing categories and 4 of 14 natural gas bills are passed into law, including the Surface Owner's Protection Act. In Wyoming, state legislative framing efforts peak in 2005 and 4 of 6 natural gas bills are passed into law, including the Split-Estate Procedures Act.

Policy issue reframing is about challenging the status quo. The gradual or rapid rise in use of previously marginalized frames by state legislatures is an indicator of policy change. Previously marginalized frames come to the fore through interest group pressure and find purchase in state legislatures as reflected in natural gas statutes. Status-quo-challenging interest groups enjoy varying degrees of policy reframing success through Wyoming, Colorado, and New Mexico state legislative bills and statutory responses, but more time and study are necessary to determine if policy reframing translates into different policy outputs – evidenced through decreased permitting, drilling, and production and increased regulatory enforcement. In theory, the respective surface owner protection acts in each state rebalance the playing field, but until these acts are tested in the courts, the degree of policy change remains uncertain.

¹³³ Due to the extraordinarily large number of proposed bills during each session of the New Mexico State Legislature, the natural gas agenda attention variable is less meaningful.

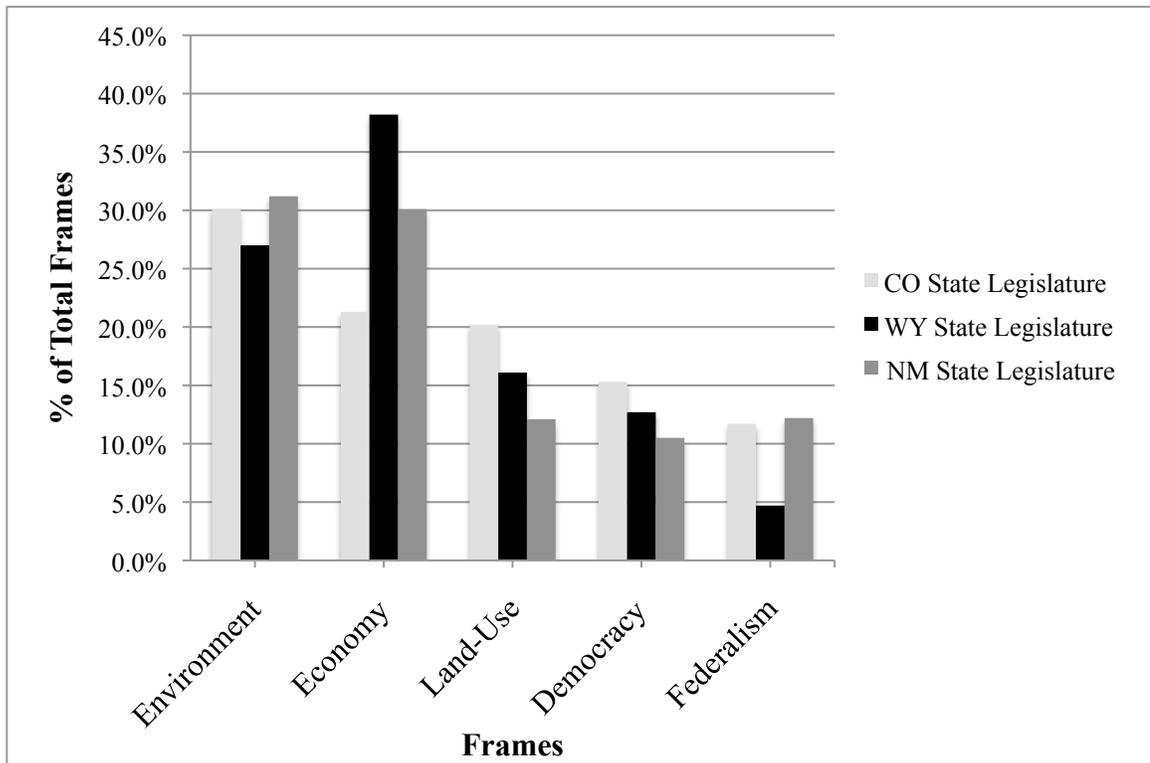


Figure 6.1: State Legislature Framing Totals – Colorado, Wyoming, and New Mexico

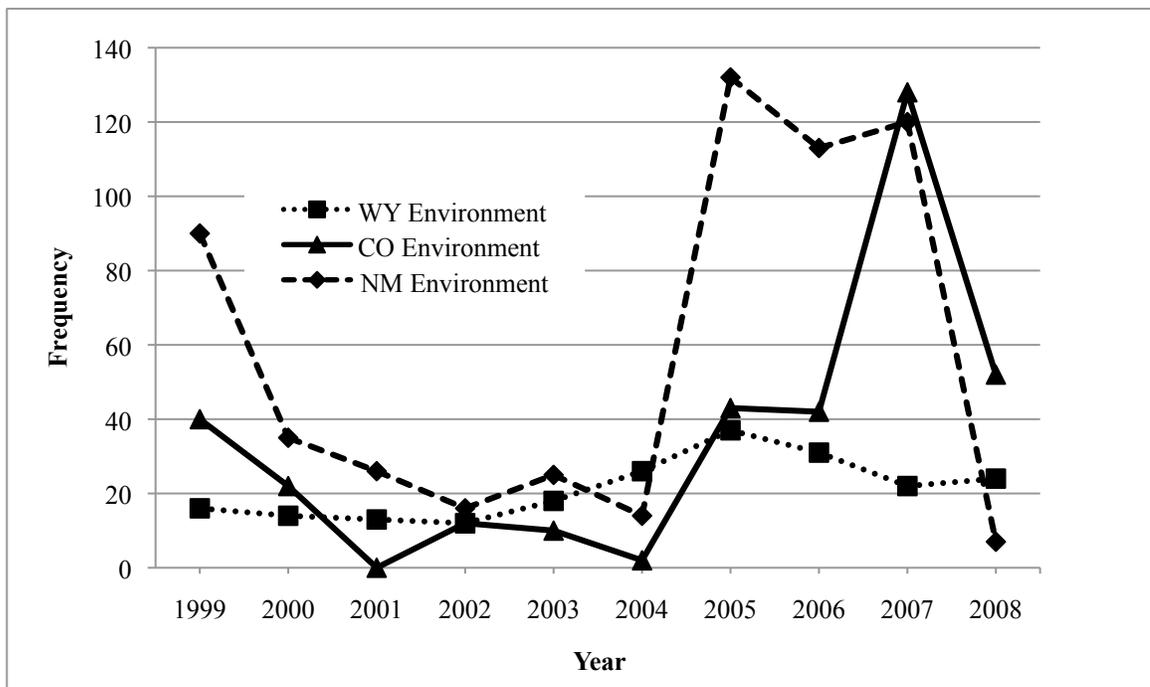


Figure 6.2: State Legislature Environment Frames

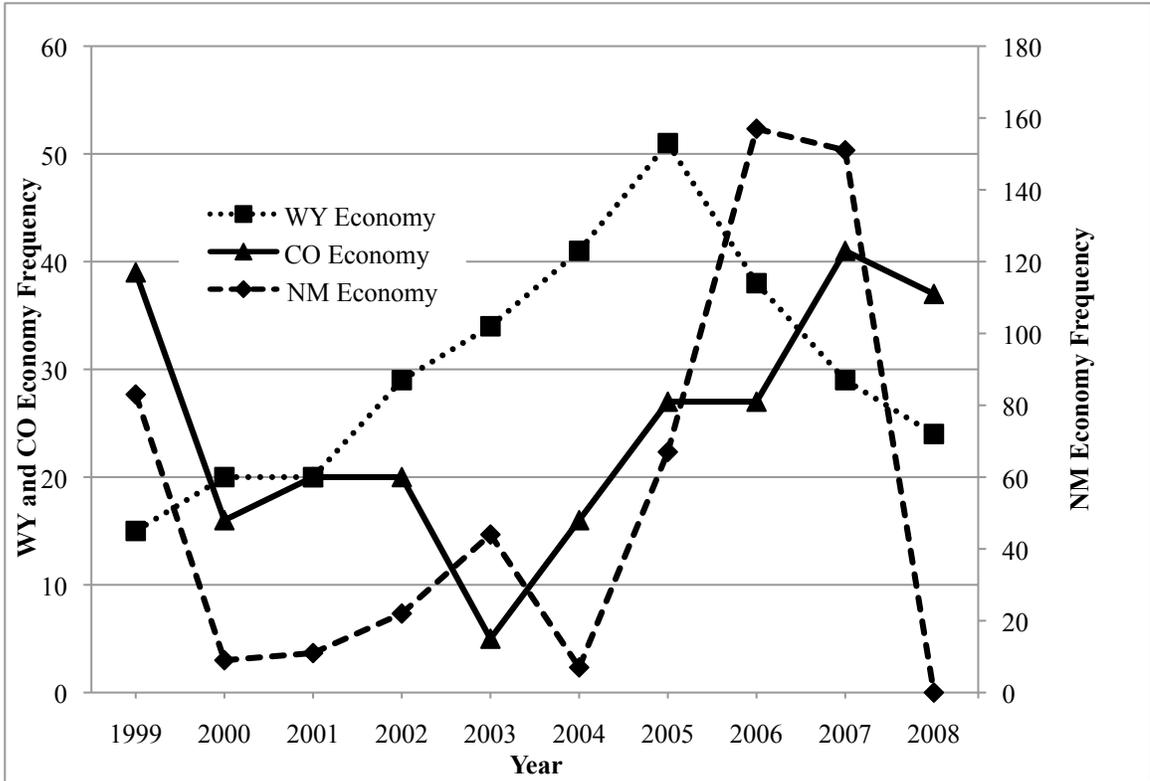


Figure 6.3: State Legislature Economy Frames

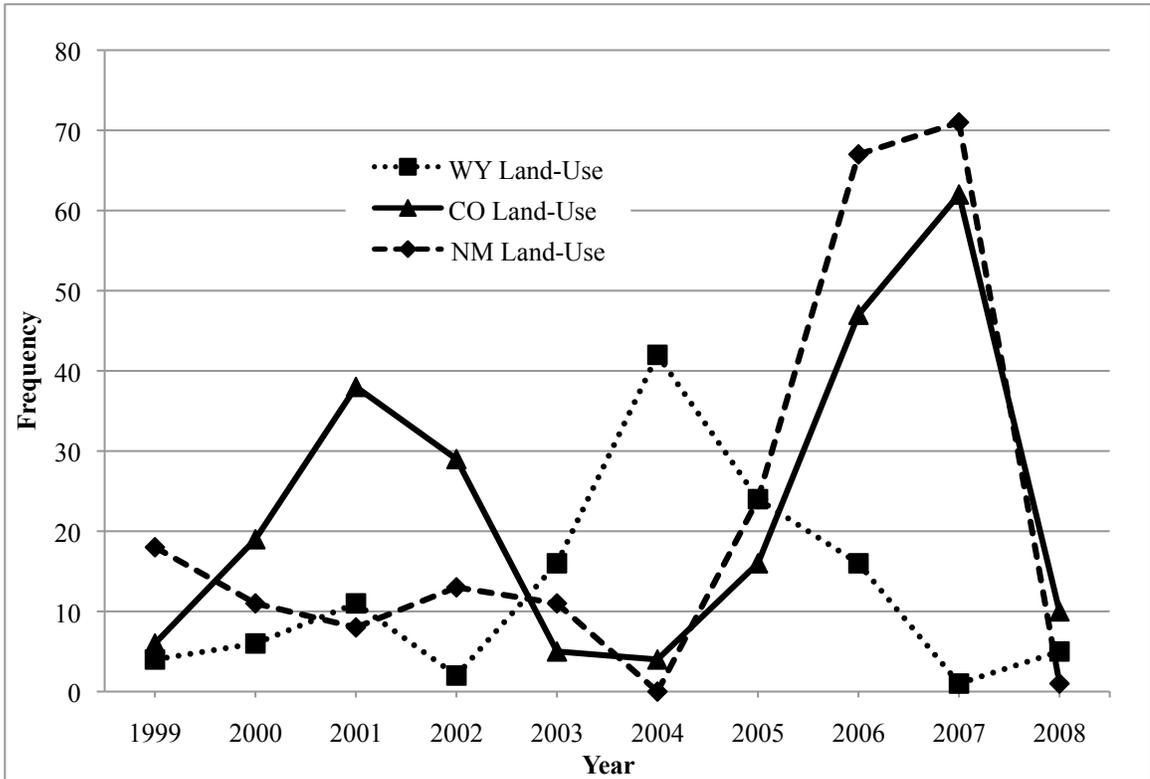


Figure 6.4: State Legislature Land-Use Frames

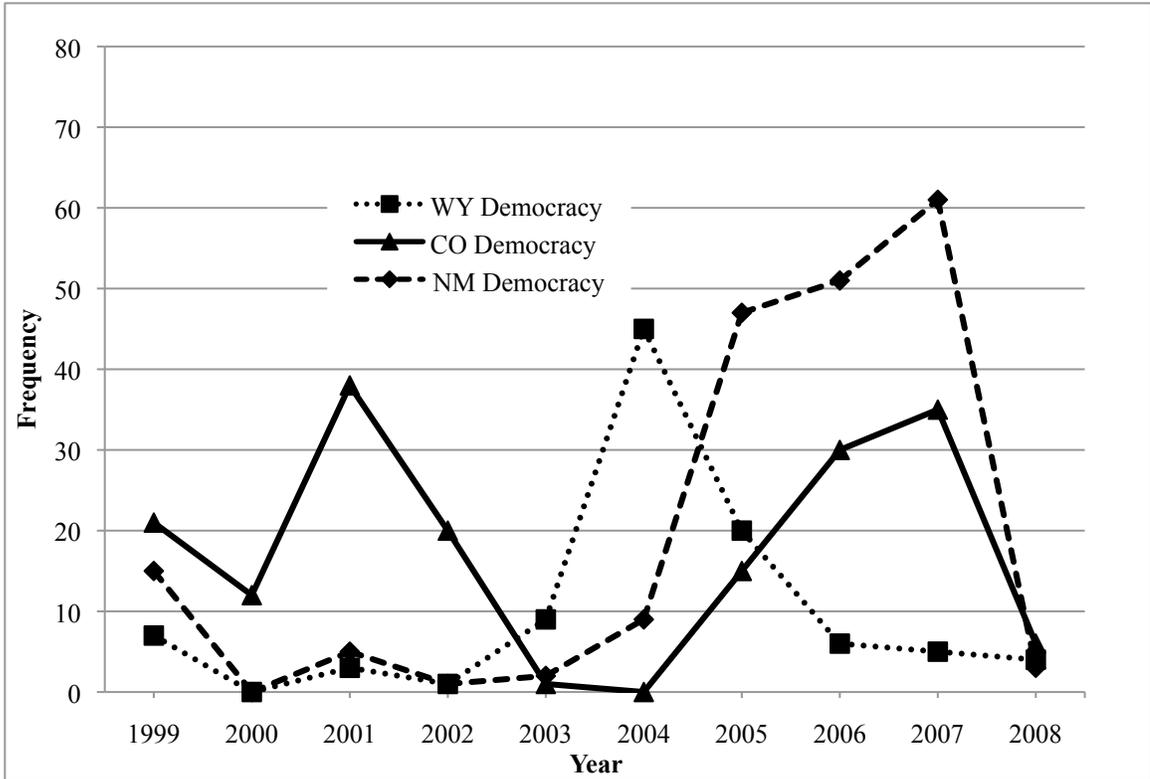


Figure 6.5: State Legislature Democracy Frames

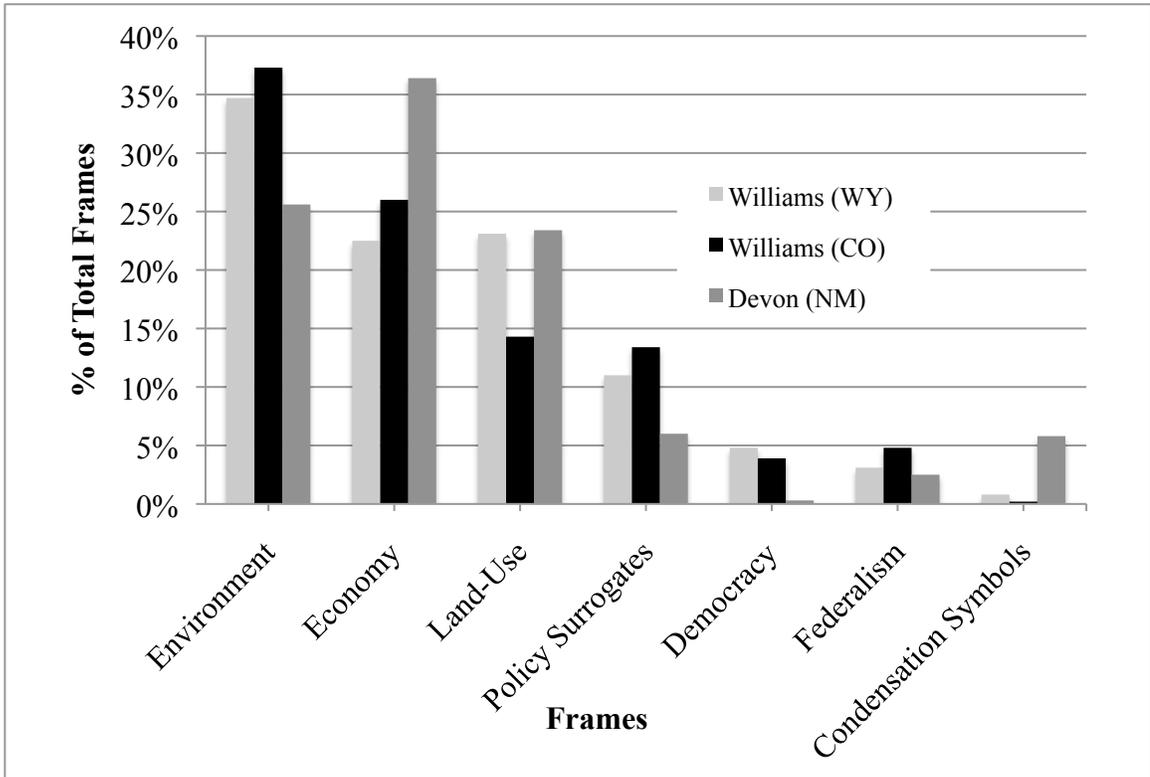


Figure 6.6: Status-Quo-Supporter Framing Totals

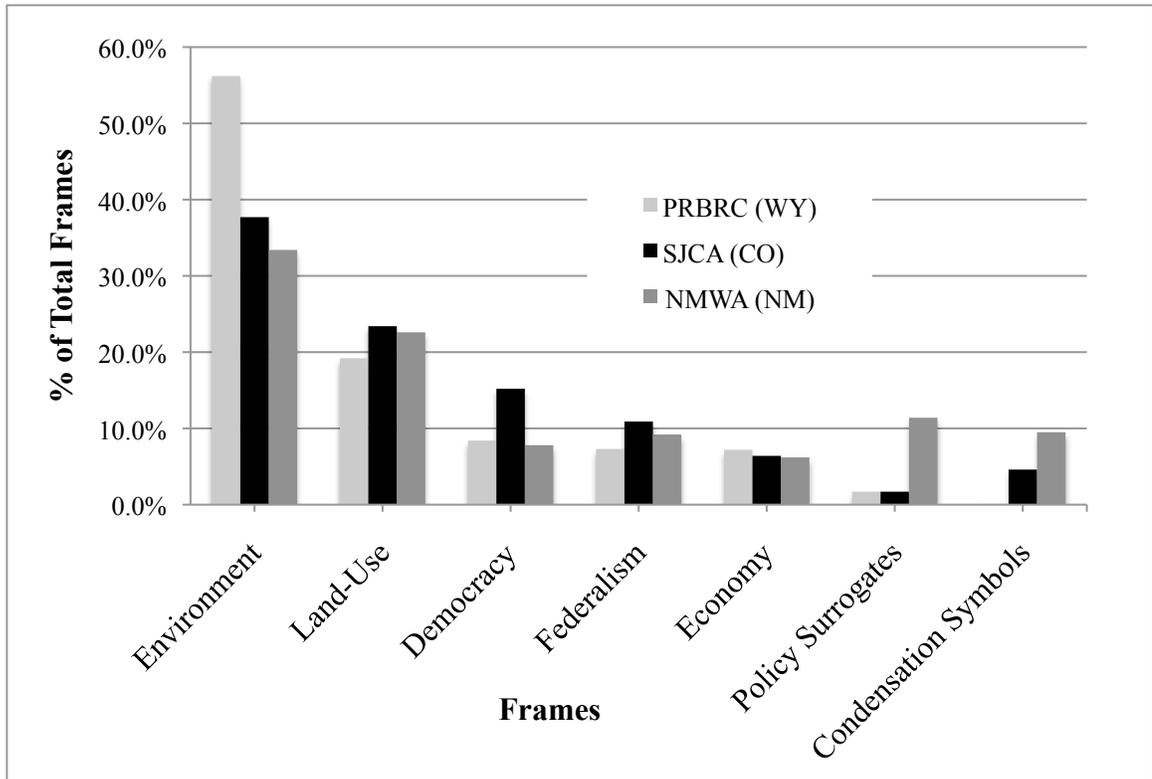


Figure 6.7: Status-Quo-Challenger Framing Totals

Chapter VII

Conclusion – The Politics of Successful Reframing Is the Politics of Punctuation

“First they ignore you, then they laugh at you, then they fight you, then you win.”
Mahatma Gandhi

Reframing Natural Gas Policy

As the natural gas boom matures in the Rocky Mountain West, the political conflict between competing interest groups is increasingly contentious. These state-level natural gas policy battles reveal a status quo under attack by interest groups seeking to expand the conflict, curry public support, reframe the debate, and pressure state legislatures to pass more inclusive policy. Changing these historic state natural gas statutes has proven extraordinarily difficult for status-quo-challenging groups like the Powder River Basin Resource Council, San Juan Citizens Alliance, and New Mexico Wilderness Alliance. Through decades-long grassroots advocacy work and framing efforts, these interest groups and their unconventional coalitions experience some success, as the state legislatures reframe natural gas policy to include historically marginalized status-quo-challenger frames.

Status quo supporters, including Williams and Devon, although late to the framing game, occupy a privileged position because long-standing statutes and supporting regulations definitively support natural gas development. As Baumgartner et al. (2009, 180) conclude, “frames have histories and often large institutional investments that make them relatively stable.” Showing fidelity to corporate economic interests, Williams and Devon wisely frame natural gas using economic arguments, as these frames are the

currency of the status quo. Again, Baumgartner et al. (2009, 176) are informative, arguing “in the policy process, there is virtually always an established, status quo frame that dominates discussion. Reframing, like lobbying, is about changing the status quo. But the status quo achieved its status usually for many reasons, and these may not easily disappear.” Indeed, it is easier to play defense in support of the status quo, especially when institutional economic frames are consonant with your own. Although difficult to supplant, status quo frames are not immutable. As the state legislatures begin to include previously marginalized frames, Devon and Williams take notice, arguing that technological innovation enables environmentally responsible drilling and natural gas development is a preferred and legitimate land-use. This is also a response to the stinging status-quo-challenger critique that had gained purchase within the legislatures.

While the benefits to state revenues and corporate profits remain a significant frame in natural gas policy, more economically and demographically diverse states like Colorado have re-conceptualized and rearticulated policy to mirror the paradigmatic shift from the “Old West” to the “New West.” As a swing state, Colorado reflects this transition through natural gas policy statutory outputs with greater vigor than its neighbors. Despite the unique political context in each state, the respective state legislatures partially reframe natural gas development using environmental, land-use, and democracy arguments. However, the Colorado state legislature completely reframes natural gas policy using environmental arguments – a reflection of its more rapid transition to the “New West.” The continued natural gas development in the San Juan and Denver Basins coupled with the recent and aggressive development within the

Piceance Basin and on the Roan Plateau exacerbate existing split-estate problems and create new public land-use battles.

Even in Wyoming and New Mexico, where economic and demographic shifts are more muted and this paradigmatic shift is less pronounced, partial reframing of natural gas policy has taken place. Wyoming's continued struggle to balance split-estate development rights, enforce existing regulations, and manage natural gas development water is evidenced through its natural gas bills and Split-Estate Procedures Act. New Mexico's most prolific natural gas producing basins, the Permian and San Juan, have already been extensively developed, and the policy battles there are largely over split-estate problems and regulatory issues such as the "waste-pit" rules. Other natural gas policy battles occur over undeveloped areas like the public lands of Valle Vidal and the potential wilderness area of Otero Mesa.

Numerous conclusions can be drawn from this longitudinal policy framing study. Early in conflicts, competing interest groups usually talk past each other and even as conflicts evolve, they show fidelity to their central values and frames. However, when competing interest groups actually engage each other directly – which is uncommon – the dynamic is one where status quo supporters are refuting challenger critiques and responding to legislative reframing. Although the economy serves as the historically dominant status quo frame, results show the prominence of environmental framing by challengers and the ascendance of these frames within the state legislatures and by status quo supporters. Policy diffusion occurs across the states and is clearly reflected in the proposed bills, successful statutes, and supporting frames. The substantive content of this

policy diffusion is supported by previously marginalized environment, land-use, and democracy arguments as well as economic status quo frames.

Natural gas reframing, as measured via state legislative bills and statutes, occurs for nearly one-half of the framing categories (9 of 21 = 42.8%) and is predominately a partial reframe, except in Colorado where the legislature completely reframes for the environment. This response seems logical given the significantly higher population, more diverse demographics, relative economic diversity, larger number of environment-oriented citizen interest groups, and greater competition over land-uses characteristic of Colorado. When state legislatures reframe natural gas development issues, they do so rather quickly (within 4 years after first acknowledging these alternative frames) using long-time, historically marginalized frames offered by status quo challengers. Rushing late to the framing battle, status quo supporters break their hegemonic silence and engage their competitors and the legislature using environmental, land-use, and economic frames. Although this counter-framing has proven largely unsuccessful, economic frames remain legislative favorites in New Mexico and Wyoming and to a lesser degree in Colorado.

While reframing is common in these cases, Baumgartner et al. (2009) conclude that successful reframing is rare, and when it does occur, reframing occurs incrementally over long time periods. These scholars further argue that reframing is stymied by the intransigence of the status quo; counter-framing efforts that create a stalemate; interest groups who are invested in frames (sunk costs) and deviating from those frames would undermine their advocacy efforts; and participating in coalitions that may constrain framing.

These natural gas case studies confirm the difficulty in reframing the status quo, but the results provide a more nuanced picture of reframing. As previously noted, counter-framing efforts by Devon and Williams do not create a stalemate, but their economic frames remain firmly rooted in statute. Interest groups like the San Juan Citizens Alliance work for more than 20 years to reframe and fundamentally alter policy, which is a long time, but it only takes 4 years after the Colorado state legislature begins to entertain previously marginalized frames to codify these alternative frames. Thus, these results indicate that long-term advocacy and framing are a prerequisite to but no guarantee of success, and when the state legislatures decide to reframe policy, they do so quickly and dramatically.

These natural gas cases also verify that frames have histories and that interest groups generally keep with those frames through time. However, natural gas interest group framing is considerably more dynamic, as evidenced by challengers' increased use of their central frames through time. Not only are these frames used more frequently, but also new arguments within these major framing categories are added to the mix. For example, SJCA, realizing the difficulty in changing the status quo, strategically enlists members and coalition partners to expand the conflict. As these unconventional coalitions consisting of ranchers, environmentalists, recreationists, hunters, and property rights activists grow and diversify, so do the framing efforts. SJCA incorporates the values and attendant frames of its diverse membership and employs alternative land-use arguments such as ranching, recreation, wilderness designation, and surface-owner property rights at increasing rates throughout the boom. PRBRC also employs these diverse land-use frames, with special emphasis on surface-owner property rights. SJCA

Executive Director Mark Pearson asserts that this strategic inclusion of historically antagonistic groups (i.e., ranchers and environmentalists) into their membership and coalition is not only to expand the conflict and redefine policy but also because these people share values and are mutually affected by natural gas development.

This analysis shows that status-quo-challenging interest groups and their unconventional coalitions strategically expand and diversify their framing efforts. Interest group diversification and coalition building lead to frame expansion, not contraction. This strategic effort to include a diversity of groups into the interest group and larger status-quo-challenging coalition and the resulting diversification of their arguments is one key element among many (e.g., political context, statutory history, legislative party control, policy entrepreneurs, policy diffusion, economic diversity, demographic makeup, etc.) to reframing success. The social learning enabled by these unconventional coalitions also builds social capital, which may serve the U.S. West well when dealing with other intractable natural resource policy struggles.

Is successful reframing rare and incremental as Baumgartner et al. (2009) conclude in their meta-study of 98 issues areas, or is it more common as Riker (1986; 1996) and these three natural gas cases indicate? The meta-study employs random sampling (to eliminate case selection bias), examines federal policies over 4 years, and uses data from lobbyist interviews, Web sites, the media, and the congressional docket to make their conclusions (Baumgartner et al. 2009). Using lobbyist interviews as the primary data source to evaluate reframing at both the beginning and end of the study (diachronous sampling), Baumgartner et al. (2009, 176) conclude that policy reframing is rare, occurring in just 4% of the issue areas.

The internal validity of this natural gas study is sound, but the external validity is less robust as only three state-level natural gas policy cases are chosen and case selection bias may be at work. Additionally, the differences in federal versus state policy context may contribute to the disparate conclusions between the two studies. While this natural gas study relies more heavily on textual analysis, the meta-study relies more heavily, although not solely, on actor interviews (textual versus verbal analysis).

I collect and analyze more than 10 years of continuous policy framing data from interest group public consumption documents and state legislative bills and statutes. By analyzing state legislative bills and their frames, I develop an institutional measure of policy framing that is a new addition to NPA and framing analysis. It would be interesting to see how these framing studies compare if this institutional framing measure is applied to the meta-case study. Baumgartner et al. (2009) acknowledge that longer time periods are necessary to capture policy reframing, and their conclusion could be substantively different if that criterion is used. The 10-year time frame of this natural gas study captures a policy punctuation and associated policy reframing that would have been missed in a shorter study. The policy punctuation is evidenced in state legislative reframing and by the passage of three status-quo-challenging statutes in Wyoming (2005), four in Colorado (2007), and one in New Mexico (2007). Following this policy punctuation, the legislatures move on to other agenda items and their framing efforts and lack of proposed bills and statutory outputs reflect this transition. Policy punctuations, characterized by substantive changes to the status quo, are unusual regardless of policy area and incrementalism or policy stalemate is the norm (Baumgartner and Jones 1993; Baumgartner et al. 2009). Using empirical observations and conclusions from the meta-

case study and this natural gas comparative case study, I argue that policy reframing is rare except during policy punctuations, where it is common.

State legislatures are dynamic institutions and their natural gas framing efforts reflect this. Each state legislature produces frames that are measurably different through time. Comparison of these results shows a correlation between interest group reframing, especially status quo challengers, and state legislative reframing. Notably, this study does not address the causal relationships between competing interest group framing efforts, nor is it designed to test the causal relationship between interest group and state legislative framing. Future research should more clearly delineate these causal relationships, using the institutional framing measure developed here. Given the unique political context in each state and the measurably different frames produced by the respective legislatures, one might assume that the timing and content of bills and statutes would differ. Framing analysis shows differences in framing efforts with respect to frequency, but all three state legislatures reframe natural gas development using environment, land-use, and democracy around the same time. This nearly simultaneous policy punctuation and reframing by each of the state legislatures indicates that policy diffusion across the states is occurring. Policy entrepreneurs play a key role in policy diffusion (Mintrom 1997) and these entrepreneurs are also influential in policy change (Crowley 2003; Rabe 2004; Mintrom and Norman 2009). Although this study does not empirically test the role of policy diffusion and entrepreneurs, their role merits additional study.

Suggestions for Future Research

The degree of correlation and presence of causal relationships between competing interest group framing efforts and state legislative framing requires further empirical

testing. To that end, I suggest that this framing data be subjected to more comprehensive statistical analysis to verify these correlative relationships and test for causal ones.

Additionally, examining how media framing affects both interest group and institutional framing and, in turn, policy change would strengthen the explanatory power of this research. Baumgartner and Jones (1993) show that media framing and issue salience are significant factors in policy change, but both research design and resource constraints prohibited an analysis of these important variables.

As previously noted, policy entrepreneurs play a key role in framing, policy diffusion, and ultimately, policy change. Mintrom and Norman (2009) suggest that future studies evaluate the motivations and strategies of policy entrepreneurs and test how these entrepreneurs act within specific political contexts. This can be done within the Rocky Mountain West natural gas policy to provide a detailed empirical example of this relationship between policy entrepreneurs, framing, and policy change. Qualitative evidence in this study indicates that natural gas policy diffusion is common among these three western states. Room remains for greater empirical testing of this relationship, and the methodologies to be employed depend largely on the research questions to be answered. Not only can policy diffusion across these cases be tested, but also policy diffusion and disparate political responses between states in the Rocky Mountain West and northeastern Appalachians merit study. As states like Pennsylvania and New York experience the early stages of an unconventional natural gas boom, the struggle for control over natural gas policy is heating up. The political context between these regions varies significantly with respect to population density and distribution, public versus private land ownership, statutory histories, party control, etc., but the natural gas issues

relating to water, competing land-uses, human health, and the safety of technologies like hydraulic fracturing are common to both regions.

Natural gas companies like Williams and Devon represent the “good actors” in industry. As well-capitalized and well-managed corporations, they employ state-of-the-art technologies to minimize their footprint, manage produced water, reduce pollution, and develop natural gas in an environmentally responsible fashion. They are industry’s best. Natural gas companies, like citizen interest groups, are not created equal, and it would be informative to examine the “bad actors” to determine how their policy actions unfold. I surmise that the undercapitalized and more environmentally suspect firms would not even be involved in the policy debate – hoping to fly under the regulatory enforcement radar and free-ride on their more conscientious and politically active competitors. Similarly, future study could compare how national versus state and local interest groups frame natural gas policy (or other policies). How do interest group size, resources, and their venues of participation (federal versus state) affect framing efforts? Would a national group employ broader frames relating to climate change, domestic fossil fuel production, and national security to appeal to larger constituencies and expand the conflict for increased attention at the federal level? Finally, narrative policy analysis and framing research should continue to be applied in different issue areas at both the federal and state levels using the institutional framing measure developed here.

Conclusion

Natural gas politics and policy in the Rocky Mountain West is complicated by the transition, or lack thereof, from the “Old West” to the “New West” and is, at base, a struggle over values. These values, articulated through competing interest group and state legislative frames, are dynamic and measurably different over time. Framing

analysis indicates that interest groups and legislatures are responsive to, yet independent of, each other. Competing interest groups generally talk past one another, and their rare engagement centers on environmental and land-use frames. Status-quo-challengers, ignored by their competition and the state legislatures for decades, strategically enlist historically disparate actors to expand the conflict. The unconventional coalitions and politics created through this union enable policy learning, build social capital, and are reflected through more diverse framing efforts. As institutional favorites, status quo supporters remain silent until previously marginalized frames gain traction within the state legislatures. Environmental and land-use counter-framing ensues, but supporters remain vigilant in their economic framing. Economic frames retain their institutional privilege within Wyoming and New Mexico but are supplanted by environmental concerns in Colorado. In all three cases, the state legislatures partially reframe natural gas development (rather quickly) using environmental, land-use, and democracy definitions offered by status quo challengers. This reframing is not a strictly partisan issue, but rather it is influenced by political context, policy diffusion, and long-term interest group advocacy and framing efforts. Policy reframing, although rare in most policy areas, is common during this natural gas policy punctuation. The politics of successful reframing is the politics of punctuation. The framing battle that defines the unconventional politics of unconventional gas, although temporarily settled, remains a long-term play.

REFERENCES

- Agricultural Entry Act*. 1914. United States Code Title 30 § 121-123.
- Albuquerque Journal Editorial. "Gary Johnson: Boy Governor," *Albuquerque Journal*, December 26, 2002, A-12.
- Associated Press. "Split-estate law worried industry," *Casper Star Tribune*, July 11, 2005. Available from: http://www.trib.com/news/state-and-regional/article_22f16910-5778-52ec-a418-626d5da3efef.html.
- Ayers, B. Drummond. "Political Briefing: Surprise Showdown Looms in Wyoming," *New York Times*, August 21, 1998, A-16.
- Baden, John A. "The True-Mann's West: Endangered and Forsaken." In *The Next West: Public Lands, Community, and Economy in the American West*, edited by John A. Baden and Donald Snow. Washington D.C.: Island Press, 1997.
- Baumgartner, Frank R. and Bryan D. Jones. 1993. *Agendas and Instability in American Politics*. Chicago, IL: University of Chicago Press.
- _____, Jeffrey M. Berry, Marie Hojnacki, David C. Kimball, and Beth L. Leech. 2009. *Lobbying and Policy Change – Who Wins, Who Loses, and Why*. Chicago, IL: University of Chicago Press.
- Benford, Robert D. and David A. Snow. "Framing Processes and Social Movements: An Overview and Assessment." *Annual Review of Sociology* 26 (2000): 611-639.
- Berman, Dan. *Forests: Wyo. strikes deal to delay oil and gas drilling until 2008* [In *E&E News PM* – daily publication online]. Energy and Environment Publishing, 24 March 2006. Accessed 5 March 2010. Available from: <http://www.eenews.net/eenewspm/2006/03/24/archive/>.
- _____. *Oil and gas: Western governors seek moratorium on NEPA waivers in sensitive habitats* [In *Land Letter* – daily publication online]. Energy and Environment Publishing, 1 March 2007. Accessed 3 March 2010. Available from: <http://www.eenews.net/Landletter/2007/03/01/archive/>.
- Birkland, Thomas A. 1997. *After Disaster: Agenda Setting, Public Policy, and Focusing Events*. Washington D.C.: Georgetown University Press.

- Bontrager, Eric. *Public lands: Wyo. governor to speak for land protection bill* [In *Environment and Energy Daily* – daily publication online]. Energy and Environment Publishing, 25 Feb. 2008. Accessed 5 March 2010. Available from: <http://www.eenews.net/EEDaily/2008/02/25/archive/>.
- Boscarino, Jessica. “Surfing for Problems: Advocacy Group Strategies in Forestry Policy.” *Policy Studies Journal* 37, 3 (2009): 415-434.
- Bosso, Christopher. “The Contextual Bases of Problem Definition.” In *The Politics of Problem Definition: Shaping the Public Agenda*, edited by David Rochefort and Roger Cobb. Lawrence, KS: University of Kansas Press, 1994.
- Brown, Jennifer. “Ritter names 5 to oil, gas panel. The governor, who has toured the energy-rich Roan Plateau, vows to be a ‘stubborn steward’ of the state’s land and water,” *Denver Post*, May 13, 2007.
- Brown, K. *Energy Policy: Colorado Governor implements green agenda* [In *Greenwire* – daily publication online]. Energy and Environment Publishing, 17 April 2007. Accessed 8 Feb 2010. Available from: <http://www.eenews.net/Greenwire/2007/04/17/archive/>.
- Bryner, Gary. 2002. “Coalbed Methane Development in the Intermountain West: Primer.” Boulder, CO: Natural Resources Law Center, University of Colorado School of Law.
- Burnham, Michael. *Energy Development: Western governors seek regional approach to boost production* [In *Land Letter* – daily publication online]. Energy and Environment Publishing, 22 April 2004. Accessed 10 March 2010. Available from: <http://www.eenews.net/Landletter/2004/04/22/archive/>.
- Cater, D. 1964. *Power in Washington*. New York, NY: Random House.
- Christiansen, Paige W. 1989. *The Story of Oil in New Mexico: Scenic Trips to the Geologic Past No. 14*. Socorro, NM: New Mexico Bureau of Mines and Mineral Resources, University of New Mexico Printing Services.
- Clausing, Jeri. “Change in air for drillers – more diverse state oversight panel proposed – industry on edge, Ritter officials want to add environmental, health and landowner voices to the industry-dominated board,” *Denver Post*, February 1, 2007.
- Coal Lands Act*. 1909. *United States Code* Title 30 § 81.
- Coalition for the Valle Vidal. Accessed 10 Nov. 2010. Available from: <http://www.vallevidal.org/overview.php>.

- Cobb, R.W. and M. Ross. 1997. *Cultural Strategies of Agenda Denial*. Lawrence, KS: University of Kansas Press.
- Collins, Katharine. "Open for business: Wyoming throws away its water to get out the gas," *High Country News*, Sept. 25, 2000.
- Colorado Department of Local Affairs. 2009. Accessed 4 Mar. 2010. Available from: <http://www.dola.state.co.us/LGS/FA/EMIA/miner/Index.htm>.
- Colorado Department of Labor and Employment. 2009. Accessed 4 Mar. 2010. Available from: <http://coworkforce.com>.
- Colorado General Assembly. 2010. Accessed 9 July 2010. Available from: <http://www.leg.state.co.us/clics/clics2008a/cslFrontPages.nsf/PrevSessionInfo?OpenForm>.
- Colorado Geological Survey. 2006. *Colorado Mineral and Energy Industry Activities, 2006. Colorado Geological Survey, Information Series 75*. Denver, CO.
- _____. 2007. *Colorado Mineral and Energy Industry Activities, 2007, Colorado Geological Survey, Information Series 77*. Denver, CO.
- Colorado Legislative Council. 2010. Accessed 10 Dec. 2010. Available from: <http://www.colorado.gov/cs/Satellite/CGA-LegislativeCouncil/CLC/1200536135358>.
- Colorado Oil and Gas Conservation Act*. 1951. Colorado Revised Statutes § 34-60-102 through 126.
- Colorado Secretary of State. 2010. Accessed 20 Dec. 2010. Available from: <http://www.sos.state.co.us/pubs/elections/main.htm>.
- Colorado Session Laws*. 1915. Colorado Revised Statutes 126 § 29, Colo. Sess. Laws 374.
- Colorado Session Laws*. 1927. Colorado Revised Statutes 138 and 525-27.
- Colorado Oil and Gas Conservation Commission (COGCC). 2010. Colorado Oil and Gas Conservation Commission Staff Reports and permitting data. Accessed 15 Jan. 2011. Available from: <http://www.oil-gas.state.co.us>.
- Corbin, Juliet and Anselm Strauss. 2008. *Basics of Qualitative Research*. 3rd ed. Thousand Oaks, CA: Sage Publications Inc.
- Couch, Mark P. "Renewable energy likely to top agenda when the legislature opens Jan. 10 – Democrats plan to look at bills halted by a GOP governor," *Denver Post*, Jan. 1, 2007, B-1.

- Cronon, William, George Miles and Jay Gitlin. 1992. *Under an Open Sky: Rethinking America's Western Past*. New York: W.W. Norton & Co.
- Curtis, John B. and Maeve A. Boland. "Challenges in providing technical information for societal use: Examples from the gas resource assessment community." *Technology in Society* 28 (2006): 505-516.
- Darin, Thomas F. and Amy W. Beatie. 2001. "Debunking the Natural Gas 'Clean Energy' Myth: Coalbed Methane in Wyoming's Powder River Basin." *Environmental Law Report* 31: 10,569.
- Davis, David. 1993. *Energy Politics*. 4th Ed. New York: St. Martin's Press.
- Denver Post Editorial. "Bar Oil and Gas Conflicts," *Denver Post*, April 4, 2000, B-6.
- _____. "Ritter Roan plan is most sensitive. We urge federal lawmakers to vote for the governor's carefully nuanced plan, which would issue drilling leases in six phases," *Denver Post*, June 11, 2008, B-12.
- _____. "New oil and gas rules reasonable. We hope economic fears don't blind Republican legislators as they scrutinize the regulations, which are fair to all involved," *Denver Post*, Dec. 14, 2008, D-4.
- Derrida, Jacques. 1981. "The Law of Genre." In *On Narrative*, edited by W.J.T. Mitchell. Chicago, IL: University of Chicago Press.
- Devon. 2010. Fact sheets and press releases. Accessed 5 Jan. 2011. Available from: http://www.devonenergy.com/Pages/devon_energy_home.aspx and <http://www.devonenergy.com/Newsroom/Pages/newsroom.aspx>.
- DOI (Department of Interior). 2006. *Scientific Inventory of Onshore Federal Lands' Oil and Gas Resources and the Extent and Nature of Restrictions or Impediments to Their Development*. Washington D.C.: U.S. Departments of Interior, Agriculture, and Energy.
- Donefer, Charles. *Oil and Gas: Wyo. split estate law faces legislative hurdles* [In *Land Letter* – daily publication online]. Energy and Environment Publishing, 18 Nov. 2004. Accessed 5 March 2010. Available from: <http://www.eenews.net/Landletter/2004/11/18/archive/>.
- Downs, Anthony. "Up and Down with Ecology – the Issue-Attention Cycle." *Public Interest* 28 (Summer 1972): 38-50.
- Duffy, Robert J. "Political Mobilization, Venue Change and the Coal Bed Methane Conflict in Montana and Wyoming." *Natural Resources Journal* 45, 2 (2005): 409-440.

- _____. "Conflict Expansion or Conflict Management? Energy Development in Colorado." Paper presented at the 2008 Western Political Science Association Meeting, San Diego, CA, March 2008.
- _____, Kyle L. Saunders, and Andrew Kear. "Colorado Senate Race (Udall v. Schaffer): A Campaign of Ideological Differences and a Changed Political Landscape." In *The Roads to Congress 2008*, edited by Robert P. Watson with assistance from Robert Dewhirst. Boulder, CO: Rowman and Littlefield Publishers, Inc., 2010.
- Edelman, M. 1964. *The Symbolic Uses of Politics*. Urbana, IL: University of Illinois Press.
- EIA (Energy Information Administration). 2009. Natural gas data. Accessed 15 Jan. 2010. Available from: <http://www.eia.doe.gov/aer/natgas.html>.
- _____. 2010. Natural gas data. Accessed 1 April 2011. Available from: <http://www.eia.doe.gov/aer/natgas.html>.
- Eichstaedt, Peter. "No, no, two hundred times no. (New Mexico Governor Gary Johnson's extensive use of his veto power)." *State Legislatures* 21 (1995).
- Eisner, Marc A., Jeff Worsham and Evan J. Ringquist. 2000. *Contemporary Regulatory Policy*. Boulder, CO: Lynne Rienner Publishers.
- Elder, C.D. and R.W. Cobb. 1983. *The Political Uses of Symbols*. New York: Longman.
- EMNRD. 1999. *New Mexico Energy, Minerals, and Natural Resources Department: New Mexico's Natural Resources 1999*. Albuquerque, NM: NM EMNRD. Accessed 10 Nov. 2010. Available from: <http://www.emnrd.state.nm.us/main/Publications.htm>.
- _____. 2001. *New Mexico Energy, Minerals, and Natural Resources Department: New Mexico's Natural Resources 2001*. Albuquerque, NM: NM EMNRD. Accessed 11 Nov. 2010. Available from: <http://www.emnrd.state.nm.us/main/Publications.htm>.
- _____. 2003. *New Mexico Energy, Minerals, and Natural Resources Department: New Mexico's Natural Resources 2003*. Albuquerque, NM: NM EMNRD. Accessed 11 Nov. 2010. Available from: <http://www.emnrd.state.nm.us/main/Publications.htm>.
- _____. 2008. *New Mexico Energy, Minerals, and Natural Resources Department: 2008 Annual Report*. Albuquerque, NM: NM EMNRD. Accessed 12 Nov. 2010. Available from: <http://www.emnrd.state.nm.us/main/Publications.htm>.
- _____. 2009. *2009 New Mexico Energy, Minerals, and Natural Resources Department: Annual Report*. Albuquerque, NM: NM EMNRD. Accessed 12 Nov. 2010. Available from: <http://www.emnrd.state.nm.us/main/Publications.htm>.

- _____. 2010. *2010 New Mexico Energy, Minerals, and Natural Resources Department Annual Report*. Albuquerque, NM: NM EMNRD. Accessed 5 March 2011. Available from: <http://www.emnrd.state.nm.us/main/Publications.htm>.
- EMNRD-OCD. 2008. *Highlights of the 'Pit Rule' – 19.15.17 NMAC*. Albuquerque, NM: NM EMNRD. Accessed 5 March 2011. Available from: http://www.emnrd.state.nm.us/ocd/documents/PitRuleHighlights_001.pdf.
- Energy Policy Act*. 1992. United States Code – Public Law No. 102-486.
- Energy Policy Act (EPA)*. 2005. United States Code Title 109-58 § 364.
- Energy Policy and Conservation Act (EPCA)*. 2000. United States Code Title 106-469 § 604.
- Farquhar, B. “Council told to fight for surface rights,” *Casper Star Tribune*, Nov. 10, 2002. Available from: www.trib.com/news/article_24a607ca-7903-516a-8803-28dc85a0992b.html.
- Fischer, Frank and John Forrester. 1993. *The Argumentative Turn in Policy Analysis and Planning*. Durham, NC: Duke University Press.
- _____. 2003. *Reframing public policy: Discursive politics and deliberative practices*. Oxford: Oxford University Press.
- Forbis, Robert E. Jr. “Drill Baby Drill: An Analysis of How Energy Development Replaced Ranching’s Dominance Over the BLM’s Subgovernment Policymaking Environment.” Ph.D. diss, University of Utah, 2010.
- Freeman, J. L. 1965. *The political process* (2nd ed.). New York, NY: Random House.
- Gable, Eryn. *Energy Development: Gov. Ritter recommends more protections for Roan Plateau* [In *Land Letter* – daily publication online]. Energy and Environment Publishing, 3 Jan. 2008. Accessed 25 Jan. 2010. Available from: <http://www.eenews.net/LandLetter/2008/01/03/archive/>.
- Geeman, Ben. *Oil and Gas: BLM OKs new leases in Otero Mesa* [In *Greenwire* – daily publication online]. Energy and Environment Publishing, 24 Jan. 2005. Accessed 20 March 2010. Available from: <http://www.eenews.net/Greenwire/2005/01/24/archive/>.
- Gerrity Oil and Gas Corp. v. Magness*. September 15, 1997. Colorado Supreme Court Case No. 96SC215.
- General Mining Act*. 1872. United States Code Title 30 § 22-54.

- Gifford, Mark W. "The Law of Oil and Gas in Wyoming: An Overview." *Law and Water Law Review* Volume XVII, 2 (1982).
- Greene, Susan. "Top Colorado, D.C. officials have close ties to industry Owens ran trade group; Bush, Cheney headed companies," *Denver Post*, Sept. 9, 2001, A-9.
- Greenwire Staff. *Coalbed Methane: Gov. Freudenthal appoints clean water task force* [In *Greenwire* – daily publication online]. Energy and Environment Publishing, 18 Apr. 2003. Accessed 10 July 2010. Available from: <http://www.eenews.net/Greenwire/2003/04/18/archive/>.
- _____. *Wyoming: Gov. Freudenthal proposes new split estate rules* [In *Greenwire* – daily publication online]. Energy and Environment Publishing, 3 Dec. 2003. Accessed 10 July 2010. Available from: <http://www.eenews.net/Greenwire/2003/12/03/archive/>.
- _____. *Oil and Gas: Gov. Freudenthal asks BLM to halt Wyo. sale until further study* [In *Greenwire* – daily publication online]. Energy and Environment Publishing, 9 June 2004. Accessed 10 July 2010. Available from: <http://www.eenews.net/Greenwire/2004/06/09/archive/>.
- _____. *New Mexico: Governor Richardson promotes renewables during State of State' address* [In *Greenwire* – daily publication online]. Energy and Environment Publishing, 21 Jan. 2005. Accessed 10 Nov. 2010. Available from: <http://www.eenews.net/Greenwire/2005/01/21/archive/>.
- _____. *Oil and Gas: N.M. sues to stop BLM drilling in Otero Mesa* [In *Greenwire* – daily publication online]. Energy and Environment Publishing, 25 April 2005. Accessed 15 March 2010. Available from: <http://www.eenews.net/Greenwire/2005/04/25/archive/>.
- _____. *Oil and Gas: Opposition to drilling creates unlikely coalitions* [In *Greenwire* – daily publication online]. Energy and Environment Publishing, 6 June 2005. Accessed 15 March 2010. Available from: <http://www.eenews.net/Greenwire/2005/06/06/archive/>.
- _____. *Coalbed Methane: Wyo. Gov. Freudenthal urges need for more regulators in growing industry* [In *Greenwire* – daily publication online]. Energy and Environment Publishing, 30 Nov. 2005. Accessed 15 March 2010. Available from: <http://www.eenews.net/Greenwire/2005/11/30/archive/>.
- _____. *Coalbed methane: Wyo. asks EPA to stop Mont. water rules* [In *Greenwire* – daily publication online]. Energy and Environment Publishing, 6 Apr. 2006. Accessed 16 March 2010. Available from: <http://www.eenews.net/Greenwire/2006/04/06/archive/>.
- Hajer, Martin. 1995. *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*. New York: Oxford University Press.

- Hacker, J.S. 1997. *The Road to Nowhere: The Genesis of President Clinton's Plan for Health Care Security*. Princeton, NJ: Princeton University Press.
- Hall, John. 1993. "Ideas and the Social Sciences." In *Ideas and Foreign Policy: Elites, Institutions and Political Change*, edited by Judith Goldstein and Robert O. Keohane. Ithaca, NY: Cornell University Press.
- Hayes, David J. 2001. *Hearing to Review Current U.S. Energy Trends and Recent Changes in Energy Markets, Day 2 (April 3, 2001), Before the Senate Committee on Energy and Natural Resources*, (statement by David J. Hayes, former Deputy Secretary of the Department of Interior, "National Energy Policy Regarding Development of Domestic Oil and Gas Resources").
- Henry, Natalie. *Oil and Gas: New Western Democratic governors throw weight toward anti-drilling efforts* [In *Land Letter* – daily publication online]. Energy and Environment Publishing, 20 March 2003. Accessed 10 Feb. 2010. Available from: <http://www.eenews.net/Landletter/2003/03/20/archive/>.
- Herman, David. 2009. *Basic Elements of Narrative*. Oxford: Wiley-Blackwell.
- Huisman, Rosemary. "From Structuralism to Post-structuralism." In *Narrative and Media*, edited by Rosemary Huisman, Julian Murphet, and Anne Dunn. New York: Cambridge University Press, 2005.
- Hulme, Diana. 2002. "Coalbed Methane Development in Wyoming's Powder River Basin: Primer." Boulder, CO: Natural Resources Law Center, University of Colorado School of Law.
- Humphries, Marc. 2004. "Oil and Gas Exploration and Development on Public Lands." Congressional Research Service – CRS Report for Congress (Order Code RL32315).
- Ingold, John. "Battle brewing over oil tax Initiative pits Ritter against state industry. The ballot issue that would create scholarships faces big hurdles, including the cost of pursuing change," *Denver Post*, Apr. 28, 2008, A-15
- _____. "Plan for clean power sent to Obama – Gov. Bill Ritter touts his 'New Energy Economy' for creating jobs," *Denver Post*, Dec. 11, 2008, B-3.
- Jaffe, Mark. "State OKs protection of wildlife from drills. The Oil and Gas Conservation Commission adopts rules a green group calls 'a model' for the U.S.," *Denver Post*, Sept. 24, 2008, A-1.
- Johnson, Michelle Dally. "Governor signs 10 bills on transit, other issues," *Denver Post*, May 29, 1999, B-12.

- Jones, Michael D and Mark K. McBeth. "Narrative policy framework: Clear enough to be wrong?" *Policy Studies Journal* 38, 2 (2010): 329–353.
- Joskow, P.L. "U.S. Energy Policy During the 1990s." Paper presented for the American Economic Policy During the 1990s conference at Harvard University, Cambridge, MA, June 2001.
- Kear, Andrew. "Split-Estate Coalbed Methane Policy Dynamics in Colorado." Paper presented at the Western Political Science Association Meeting, Albuquerque, NM, March 2006.
- _____. "The Changing and Contested Discourse of Coalbed Methane Policy in the Western U.S." Paper presented at the 2008 Western Political Science Association Meeting, San Diego, CA, March 2008.
- Katz, James Everett. 1984. *Congress and National Energy Policy*. New Brunswick, NJ: Transaction Publishers.
- Kelman, Steven. 1987. *Making Public Policy*. New York: Basic Books.
- Kingdon, John W. 1995. *Agendas, Alternatives, and Public Policies*. 2nd ed. New York, NY: Longman.
- Klyza, Christopher McGrory. "Reform at a Geological Pace: Mining Policy on the Federal Lands (1964-1994)." In *Western Public Lands and Environmental Politics*, edited by Charles E. Davis. Boulder, CO: Westview Press, 2001.
- Krza, Paul. "Wyoming at a Crossroads," *High Country News*, Feb. 17, 2003.
- Leech, Beth L., Frank R. Baumgartner, Jeffrey M. Berry, Beth L. Leech, and David C. Kimball. "Organized Interests and Issue Definition in Policy Debates." In *Interest Group Politics*, 6th edition, edited by Allan J. Cigler and Burdett A. Loomis. Washington, DC: CQ Press, 2002.
- Limerick, Patricia Nelson. 1987. *The Legacy of Conquest – The Unbroken Past of the American West*. New York, NY: W.W. Norton & Company Inc.
- _____, Claudia Puska, Andrew Hildner, and Eric Skovsted. 2003. "What Every Westerner Should Know About Energy." Report from the Center #4. Boulder, CO: Center of the American West, University of Colorado at Boulder.
- Lin, Ann Chih. "Bridging Positivist and Interpretivist Approaches to Qualitative Methods." *The Policy Studies Journal* 26, 1 (1998): 162-180.
- Majone, Giandomenico. "Policy Analysis and Public Deliberation." In *The Power of Public Ideas*, edited by Robert Reich. Cambridge, MA: Ballinger, 1998: 55-83.

- McBeth, Mark K. and Elizabeth A. Shanahan. "Public opinion for sale: The role of policy marketers in Greater Yellowstone policy conflict." *Policy Sciences* 37 (2004): 319-338.
- _____, _____, and Michael D. Jones. "The Science of Storytelling: Measuring Policy Beliefs in Greater Yellowstone." *Society and Natural Resources* 18 (2005): 413-429.
- _____, _____, Ruth J. Arnell, and Paul L. Hathaway. "The Intersection of Narrative Policy Analysis and Policy Change Theory." *Policy Studies Journal* 35, 1 (2007): 87-107.
- _____, _____, Paul L. Hathaway, Linda E. Tigert, and Lynette J. Sampson. "Buffalo tales: Interest group policy stories in Greater Yellowstone." *Policy Sciences* 43 (2010): 391-409.
- Meyer, Rita C. 2009. "A Wyoming Financial Perspective: A Report to the Citizens of Wyoming for Fiscal Year 2009." Cheyenne, WY: Prepared by the Office of the State Auditor, Rita C. Meyer, Wyoming State Auditor.
- McComas, Katherine and J. Shanahan. "Telling Stories about global climate change: Measuring the impact of narratives on issue cycles." *Communication Research* 26 (1999): 30-57.
- McNamee, Gregory. 2008. *Otero Mesa: Preserving America's Wildest Grassland*. Albuquerque, NM: University of New Mexico Press.
- McQuillan, Martin. 2000. *The Narrative Reader*. New York: Routledge.
- Mineral Leasing Act*. 1920. *United States Code* Title 30 § 181.
- Mintrom, Michael. "Policy Entrepreneurs and the Diffusion of Innovation." *American Journal of Political Science* 41 (1997): 738-770.
- _____. 2000. *Policy Entrepreneurs and School Choice*. Washington D.C.: Georgetown University Press.
- _____ and Phillipa Norman. "Policy Entrepreneurs and Policy Change." *The Policy Studies Journal* 37, no. 4 (2009): 649-667.
- Mitchell, Thomas A. "The Future of Oil and Gas Conservation Jurisprudence: Past as Prologue." *Washburn Law Journal* 49, 2 (2010): 379-422.
- National Energy Policy Development Group (NEPDG). 2001. *Reliable, Affordable, and Environmentally Sound Energy for America's Future*. Washington D.C.: GPO.
- Newcomer, Nathan. 2007. "Guest Commentary: The Economic of Protecting Otero Mesa." *Roswell Daily Record*, Jan. 15, 2007.

- New Mexico Public Regulation Commission. 2010. Renewable Portfolio Standard. Accessed 15 March 2011. Available from: <http://legis.state.nm.us/lcs/locator.aspx> and <http://www.nmprc.state.nm.us/renewable.htm>.
- New Mexico Secretary of State. 2010. Accessed 18 Feb. 2011. Available from: <http://www.sos.state.nm.us/sos-bluebook.html>.
- New Mexico State Governor. 2010. Accessed 20 Feb. 2011. Available from: <http://www.governor.state.nm.us/governor.php>.
- New Mexico State Legislature. 2010. Accessed 20 Feb. 2011. Available from: <http://legis.state.nm.us/lcs> and <http://legis.state.nm.us/lcs/reports.aspx>.
- New Mexico Statutes*. 1925. NMSA 70 § 1-1 through 1-5.
- New Mexico Oil and Gas Act*. 1949. NMSA 70 § 1-12
- New Mexico Oil and Gas Act*. 1978. NMSA 70 § 2-1 through 2-38.
- New Mexico Wilderness Alliance (NMWA). Summer 2002. "An Interview with 6th Generation Rancher Tweeti Blancett." *Call of the Wild* Vol. VI, no. 2. Accessed on 25 Feb. 2008. Available from: <http://nmwild.org/>.
- _____. 2010. Accessed first on 25 Feb. 2008. Available from: <http://nmwild.org/>.
- Nie, Martin A. "Drivers of Natural Resource-Based Political Conflict." *Policy Sciences* 36 (2003): 307-41.
- O'Donnell, Arthur. *Energy Policy: New Mexico seeks to stake claim as clean energy leader* [In *Greenwire* – daily publication online]. Energy and Environment Publishing, 18 July 2006. Accessed 20 Nov. 2010. Available from: <http://www.eenews.net/Greenwire/2006/07/18/archive/>.
- Oil and Gas Accountability Project (OGAP). 2011. Accessed first on 5 Feb. 2008. Available from: http://www.earthworksaction.org/oil_and_gas.cfm.
- Oliver, Thomas R., and Pamela Paul-Shaheen. "Translating Ideas into Actions: Entrepreneurial Leadership in State Health Care Reforms." *Journal of Health Politics, Policy and Law* 22 (1997): 721–88.
- On the Issues. 2010. Accessed 2 Feb. 2011. Available from: http://www.ontheissues.org/bill_richardson.htm.
- Playboy, "Playboy Interview: Gary Johnson - A Candid Conversation With New Mexico's Fearless Governor About His Crusade To Legalize Drugs, His Killer

- Workout Regimen And The Upside Of Carrying A Concealed Weapon,” *Playboy* (2001).
- Portz, J. “Problem Definition and Policy Agendas: Shaping the Educational Agenda in Boston.” *Policy Studies Journal* 24 (1996): 371-386.
- Power, Thomas. 1996. *Lost Landscapes and Failed Economies: The Search For A Value of Place*. Washington D.C.: Island Press.
- _____. 2001. *Post-Cowboy Economics: Pay and Prosperity in the New American West*. Washington D.C.: Island Press.
- Powder River Basin Resource Council (PRBRC). Sept/Oct 2004. “Select Committee Meets to Draft Split Estate Legislation.” *Powder River Breaks*. Available from: <http://www.powderriverbasin.org/>.
- _____. May/June 2005. “Amid the Controversy, Split Estate Law Undergoes Rulemaking for July 1st Implementation.” *Powder River Breaks*. Available from: <http://www.powderriverbasin.org/>.
- _____. Mar/April 2006. “Budget Session Orders Study of CBM Water.” *Powder River Breaks*. Available from: <http://www.powderriverbasin.org/>.
- _____. Sept/Oct 2006. “Powder River Convinces DEQ to Set Protective Water Standard.” *Powder River Breaks*. Available from: <http://www.powderriverbasin.org/>.
- _____. 2009. *Powder River Breaks*. Available from: <http://www.powderriverbasin.org/>.
- Power, Thomas M. 1996. *Lost Landscapes and Failed Economies: The Search for a Value of Place*. Washington D.C.: Island Press.
- _____. 2001. *Post-Cowboy Economics: Pay and Prosperity in the New American West*. Washington D.C.: Island Press.
- Pralle, Sarah B. 2006. *Branching Out Diggin In: Environmental Advocacy and Agenda Setting*. Washington D.C.: Georgetown University Press.
- Project Vote Smart. 2010. Accessed on 25 Jan. 2011. Available from: http://www.votesmart.org/bio.php?can_id=H2505103.
- Raabe, Steve. “Colo. gets gusher in energy taxes – Higher prices almost double revenue to \$55 million,” *Denver Post*, June 1, 2001, C-1.
- Rabe, Barry. 2004. *Statehouse and Greenhouse: The Stealth Politics of America Climate Change Policy*. Washington, DC: Brookings Institution Press.

RAND. 2002. "Assessing Gas and Oil Resources in the Intermountain West – Review of Methods and Framework for a New Approach." RAND Corporation.

Reclamation Act. 1902. United States Code § 57-161.

Reese, April. *Energy Policy: Western govts promote nation's 'energy breadbasket'* [In *Greenwire* – daily publication online]. Energy and Environment Publishing, 15 June 2005. Accessed 8 Nov. 2010. Available from: <http://www.eenews.net/Greenwire/2005/06/15/archive/>.

_____. *Forests: N.M. becomes first Western state to petition for roadless area protections* [In *Land Letter* – daily publication online]. Energy and Environment Publishing, 1 June 2006. Accessed 10 Nov. 2010. Available from: <http://www.eenews.net/Landletter/2006/06/01/archive/>.

_____. *Oil and Gas: State moves to revise N.M. waste pit rule after industry outcry* [In *Land Letter* – daily publication online]. Energy and Environment Publishing, 1 June 2006. Accessed 11 Nov. 2010. Available from: <http://www.eenews.net/Landletter/2009/04/09/archive/>.

_____. *Coalbed Methane: Wyo. Governor rejects water rules* [In *Land Letter* – daily publication online]. Energy and Environment Publishing, 3 May 2007. Accessed 10 Nov. 2010. Available from: <http://www.eenews.net/Landletter/2007/05/03/archive/>.

_____. *Oil and Gas: New waste pit rules in N.M. draw fire from industry* [In *Land Letter* – daily publication online]. Energy and Environment Publishing, 25 Oct. 2007. Accessed 11 Nov. 2010. Available from: <http://www.eenews.net/Landletter/2007/10/25/archive/>.

_____. *Oil and Gas: Otero Mesa drilling plan goes back to drawing board* [In *Land Letter* – daily publication online]. Energy and Environment Publishing, 7 May 2009. Accessed 11 Nov. 2010. Available from: <http://www.eenews.net/Landletter/2009/05/07/archive/>.

Rein, Martin and Donald Schon. "Reframing Policy Discourse." In *The Argumentative Turn in Policy Analysis and Planning*, edited by Frank Fischer and John Forester. Durham, NC: Duke University Press, 1993.

Riker, W.H. 1986. *The Art of Political Manipulation*. New Haven: Yale University Press.

_____. 1996. *The Strategy of Rhetoric*. New Haven: Yale University Press.

Ringius, Lasse. 2001. *Radioactive Waste Disposal at Sea: Public Ideas, Transnational Policy Entrepreneurs, and Environmental Regimes*. Cambridge, MA: MIT Press.

- Rocheftort, D.A. and R.W. Cobb. "Problem Definition: An Emerging Perspective." In *The Politics of Problem Definition: Shaping the Public Agenda*, edited by David Rocheftort and Roger Cobb. Lawrence, KS: University of Kansas Press, 1994.
- Rockies Energy Workforce. 2011. Accessed 15 Feb. 2011. Available from: <http://www.rockiesenergyworkforce.org/industry/wyoming.html>.
- Roe, Emery. 1994. *Narrative Policy Analysis: Theory and Practice*. Durham, NC: Duke University Press.
- Romtvedt, David. 2007. *Living Blue in the Red States*, edited by David Starkey. Lincoln, NE: University of Nebraska Press.
- Rosenbaum, Walter. "The Bureaucracy of Environmental Policy." In *Environmental Politics and Policy: Theories and Evidence*, edited by James Lester. Durham N.C.: Duke University Press, 1989.
- Ruckelshaus Institute of Environment and Natural Resources. 2005. "Water Production from Coalbed Methane Development in Wyoming: A Summary of Quantity, Quality, and Management Options." Cheyenne, WY: Report prepared for the Office of the Governor State of Wyoming.
- Sabatier, Paul A. and Hank C. Jenkins-Smith. 1993. *Policy Change and Learning: An Advocacy Coalition Approach*. Boulder, CO: Westview Press.
- _____. "Fostering the Development of Policy Theory." In *Theories of the Policy Process*, edited by Paul A. Sabatier. Boulder, CO: Westview Press, 1999.
- _____. "Clear Enough to Be Wrong." *Journal of European Public Policy* 7 (2000): 134-40.
- San Juan Citizens Alliance (SJCA). 2009. Available from: <http://www.sanjuancitizens.org/> and <http://www.sanjuancitizens.org/otherpages/publications.shtml>.
- Schattschneider, E.E. 1960. *The Semisovereign People: A Realist's View of Democracy in America*. New York: Holt, Rinehart and Winston.
- Schon, Donald and Martin Rein. 1994. *Frame Reflection: Toward the Resolution of Intractable Policy Controversies*. New York, NY: Basic Books.
- Schroer, Bill. "State Leaders Face Energy Decisions," *Denver Post*, Jan. 10, 1999, K-6.
- Stanage, Niall. 2010. "The most interesting Republican you've never heard of." Accessed 10 Nov. 2010. Available from:

- http://www.salon.com/news/feature/2010/05/05/gary_johnson_most_interesting_republican.
- Stegner, Wallace. 1992. *Where the Bluebird Sings to the Lemonade Springs: Living and Writing in the West*. New York: Random House.
- Stock-Raising Homestead Act*. 1916. United States Code Title 43 § 291-301.
- Stone, Deborah 2002. *Policy Paradox – The Art of Political Decision Making*. New York, NY: W.W. Norton and Company, Inc.
- Straayer, John A. 1990. *The Colorado General Assembly*. 1st ed. Niwot, CO: University Press of Colorado.
- _____. 2000. *The Colorado General Assembly*. 2nd ed. Niwot, CO: University Press of Colorado.
- Straube, Noelle. *Oil and Gas: Controversial Roan Plateau lease sales yield a record \$114M* [In *Land Letter* – daily publication online]. Energy and Environment Publishing, 21 Aug. 2008. Accessed 5 May 2010. Available from: <http://www.eenews.net/Landletter/2008/08/21/archive/>.
- The Wilderness Society (TWS). 2009. “Natural Dividends – Wildland Protection and the Changing Economy of the Rocky Mountain West.”
- Travis, William. 2007. *New Geographies of the American West: Land Use and the Changing Patterns of Place*. Washington D.C.: Island Press.
- U.S. Census Bureau. 2010. Census data for Colorado. Accessed 2 Feb. 2011. Available from: http://factfinder.census.gov/servlet/SAFFPopulation?_event=Search&_name=&_state=04000US08&_county=&_cityTown=&_zip=&_sse=on&_lang=en&pctxt=fph.
- U.S. Census Bureau. 2010. Census data for New Mexico. Accessed 2 Feb. 2011. Available from: http://factfinder.census.gov/servlet/SAFFPopulation?_event=Search&_name=&_state=04000US35&_county=&_cityTown=&_zip=&_sse=on&_lang=en&pctxt=fph.
- U.S. Census Bureau. 2010. Census data for Wyoming. Accessed 2 Feb. 2011. Available from: http://factfinder.census.gov/servlet/SAFFPopulation?_event=Search&_name=&_state=04000US56&_county=&_cityTown=&_zip=&_sse=on&_lang=en&pctxt=fph.
- Wilkinson, Charles F. 1992. *Crossing the Next Meridian: Land, Water, and the Future of the West*. Washington D.C.: Island Press.

- Williams. 2008. Annual report. Available from:
http://www.williams.com/investors/annual_reports.aspx.
- _____. 2009. Available from: <http://www.williams.com/newsroom/>.
- _____. 2010. Fact sheets and press releases. Accessed first on 10 July 2008. Available from <http://www.williams.com/newsroom/>.
- Williams, Houston G. and George M. Porter. "Practice Before the Wyoming Oil and Gas Conservation Commission." *Land and Water Law Review* Volume X, no. 2 (1975).
- Wyoming Oil and Gas Conservation Commission (WOGCC). 2009. Wyoming Oil and Gas Conservation Commission reports and permitting data. Available from:
<http://wogcc.state.wy.us>.
- _____. 2010. Wyoming Oil and Gas Conservation Commission reports and permitting data. Accessed 5 April 2010. Available from: <http://wogcc.state.wy.us>.
- Wyoming Oil and Gas Conservation Act*. 1951. WSA 94 § 1 [1951]; WSA 120 § 30-5-101 through 30-5-119.
- Wyoming State Geological Survey. 2009. *1993 – 2006 Coalbed Natural Gas (CBNG) Regional Groundwater Monitoring Report: Powder River Basin, Wyoming*. Open File Report 2009-10. Cheyenne, Wyoming.
- Wyoming Secretary of State. 2009. Accessed first on 12 Dec. 2009. Available at <http://soswy.state.wy.us/SecretaryDesk/SD-HistoricalInfo.aspx>.
- Wyoming State Legislature. 2009. Accessed first on 12 Dec. 2009. Available at <http://legisweb.state.wy.us/rules/rules.htm>.
- Yin, R.K. 2003. *Case Study Research Design and Methods*. 3rd Edition. Thousand Oaks, CA: Sage Publications, Inc.

Appendix 2.1 Interest Group Selection

| Actor | State | Pro- or Anti-Development | Data Available (Internet) | Chosen for study |
|---|----------------|--------------------------|---|------------------|
| Colorado | | | | |
| San Juan Citizens Alliance | CO, NM | Anti | Newsletter: Winter 01 – June 08 Annual Reports: 02, 04 – 06 | Yes |
| Williams | CO, NM, WY | Pro | Press Releases: 00 – 08; Fact Sheets 00-08; Good source of policy information; major producer in all states | Yes |
| Indep. Petroleum Assoc of Mountain States | MT, WY, CO, NM | Pro | Press Releases: 06 – 08; Wildcatter Weekly 06 – 08 online – a good source of policy related articles – <i>Data Gap</i> : need to find 97 – 05 Wildcatter copies | No |
| EnCana | CO, WY | Pro | Press Releases: 02-09; Quarterly and Annual Reports 00-08; good online data source | No |
| CO Oil & Gas Assoc (COGA) | CO | Pro | No newsletter online; archives only recent 07-08 and they simply refer to newspaper articles; COGA hostile toward giving any info. Spoke with general council from Anadarko, Jeff Fiske (a member of COGA) and he said newsletter was sporadic and not that informative. Recommended IPAMS and CO Petroleum Association as better sources | No |
| Colorado Petroleum Assoc. | CO | Pro | Very little available, handful of reports online; membership access required for more information | No |
| New Mexico | | | | |
| New Mexico Wilderness Alliance | NM | Anti | Press Releases: 04 – 08; Newsletter: 98 – 08; Good news coverage; Special Energy Newsletter 08; acceptable supplement | Yes |
| Devon Energy | NM | Pro | Press Releases and Fact Sheets: 01-08; Fact Sheets contain excellent information | Yes |
| Oil and Gas Acct. Project (OGAP) | CO, NM, MT | Anti | Press Releases: 04 – 08; some documents 02 – 08; some good policy fact sheets, etc; began in 2004; need another group to cover 1997-2003 | No |

Appendix 2.1 Interest Group Selection

| Actor | State | Pro- or Anti-Development | Data Available (Internet) | Chosen for study |
|--|------------|--------------------------|---|------------------|
| Coalition for Otero Mesa | NM | Anti | No Newsletter; numerous Fact Sheets; News coverage 02 – 08; few press releases; acceptable supplement | No |
| Coalition for the Valle Vidal | NM | Anti | Some press coverage; no newsletters or press releases available | No |
| Rio Grande Chapter of Sierra Club | NM | Anti | Newsletter: Rio Grande Sierran 04 – 09; good source for organizational contacts; acceptable supplement | No |
| Indep. Petroleum Assoc. of New Mexico | NM | Pro | No newsletter or press releases; good introductory industry facts; 2009 Energy Production Report – contacted them for more info. | No |
| Burlington Resources now Conoco Phillips | NM | Pro | Press Releases: 04-09; Annual Reports 03-09; some data gaps | No |
| Wyoming | | | | |
| Powder River Basin Resource Council | WY, MT | Anti | Press Releases: 99 – 07; Powder River Breaks pub 02 – 08 (Nat resource news); CBM news 99 – 08 (AP stories mostly); Great source for CBM publications, public testimony | Yes |
| Williams | CO, NM, WY | Pro | Press Releases: 00 – 08; Fact Sheets 00-08; Good source of policy information; major producer in all states | Yes |
| Wyoming Outdoor Council | WY | Anti | Newsletter: Frontline quarterly newsletter available from 99 – 09; numerous fact sheets; few press releases; largest env. org. in state | No |
| Northern Plains Resource Council | MT, WY | Anti | Newsletter, press releases, and related documents from 03 – 09; good back-up source of data for WY/MT natural gas cases | No |
| EnCana | CO, WY | Pro | Press Releases: 02-09; Quarterly and Annual Reports 00-08; good online data source | No |
| Coalbed Natural Gas Alliance | MT, WY | Pro | Press Releases and Newsletters: 04 – 08; good source for CBM info and public opinion survey | No |
| Petroleum Assoc. of Wyoming | WY | Pro | Little data available online; will try to get data by contacting organization; no responses after contacting them | No |

Appendix 2.2 Problem Definition Codebook

Meta-categories

- 1) Economy
- 2) Environment
- 3) Land-Use
- 4) Democracy
- 5) Federalism
- 6) Policy Surrogates
- 7) Condensation Symbols

Codebook Questions and Abbreviations

1) Economy variable

- a) *Cost-benefit (CB v. DB and CC v. DC)*
 - i) Does the narrative describe the benefits of a policy decision as concentrated (CB) or diffuse (DB)? CB = Concentrated benefits; DB = Diffuse benefits
 - ii) Does the narrative describe the costs of a policy decision as concentrated (CC) or diffuse (DC)? CC = Concentrated costs; DC = Diffuse costs
 - iii) How does the narrative describe the benefits?
 - (1) Jobs/Revenues
 - (2) Other
- b) *Winner/loser (W v. L)*
 - i) Does the narrative identify a specific winner (someone who benefits) of a policy decision or potential decision? W = winner
 - ii) Does the narrative identify a specific loser (someone who is negatively affected) of a policy decision or potential decision? L = loser
- c) *Energy Cost (ECOST)*
 - i) Does the narrative describe the policy action as increasing/decreasing energy costs?

2) Environmental variable

- a) *Harmful*: Does the narrative describe the policy decision (or potential decision) as harmful to or protective of?
 - i) Human health (HH)
 - ii) Pollution – toxics (POL)
 - iii) Wildlife – species (WLIFE)
 - iv) Habitat (HAB)
- b) *Environmentally (ir)responsible (ER/IR)*: Does the narrative describe the policy decision as environmentally responsible or irresponsible?
- c) *Science (SJ v. SD)*: Does the narrative use *science* to justify or dispute the policy option? SJ = justify or prove certainty of policy choice; SD = dispute policy

- d) *Regulation*: Does the narrative argue that environmental regulations are followed or not
 - e) *Water Issues*: Does the narrative include concerns over water issues (including water quality, quantity, and beneficial use)
- 3) Land-Use variable**
- a) Does the narrative identify a preferable land use policy decision (or potential decision)?
 - i) Recreation (REC)
 - ii) Ranching (RNCH)
 - iii) Farming (FARM)
 - iv) Wilderness (WNESS)
 - v) Energy development (ENER)
 - vi) Multiple use (MUSE)
 - vii) Alternative Land Use (ALTLAND)
 - viii) Private Property Rights (PPR)
- 4) Democracy variable**
- a) Does the narrative use democratic ideals to promote a policy option? If so, what democratic frames does it employ?
 - i) Transparency/Accountability/right to know information (TRACT)
 - ii) Participation (PPT)
 - iii) Liberty (LIB)
 - iv) Equality (EQUAL)
- 5) Federalism variable**: Does the narrative identify a level of government where the policy should be addressed?
- i) Local (LOC)
 - ii) State (ST)
 - iii) Federal (FED)
 - iv) Multiple (MGOV)
- 6) Policy surrogates (PSUR)**: Does the narrative use a policy surrogate? A policy surrogate ties the policy issue to larger normative societal issues.
- i) If PSUR present note *Pro v. Anti-development (PD v. AD)*: Is the overall tone of the narrative pro-development or anti-development?
 - (a) National Security (NTSEC)
 - (b) Energy Independence (EIND)
 - (c) Domestic source (DOMEN)
 - (d) Renewable Energy (*RENEW*)
 - (e) Climate Change (CC)
 - (f) Efficiency (EFF)
 - (g) Consumption (CON)
 - (h) Waste (WTE)
 - (i) Addiction (Add)
 - (j) Conservation (CSRV)
 - (k) Culture (CLT)
 - (l) Lifestyle (LIFE)

- 7) **Condensation Symbols (CSYM):** A condensation symbol is a word or phrase that “shrinks and reduces complicated concepts into simple, manageable, or memorable forms (McBeth et al. 2007).

Appendix 2.3 Natural Gas Policy Interview Guide

Purpose

The purpose of this study is to develop an understanding of natural gas politics based on your individual perspective. Although natural gas development issues are complex and controversial (and it is impossible to comprehensively cover everything in this interview), I am keenly interested in finding out your thoughts, feelings, observations, and insights about natural gas development. I am interested in the problems or issues you experience, how this development affects you, what actions you have taken, and your opinion about how the issue should be addressed. Specifically, I would like to explore energy development from your vantage point, to understand the issue from your perspective.

Macro Questions

1. Could you describe **debates, issues, or problems** surrounding natural gas development?
2. How would you **describe** or **characterize** natural gas development politics?
3. **What role(s)** have you played? Where and when have you participated? Describe your participation.
4. **What strategies** have you used to get your voice heard? Where have you been successful or failed? Why? Has your strategy changed over time? Why?
5. **Who are you competing against** and has your competition changed over time? Who are the actors, what are their responses, and what are their responsibilities?
6. **What is important** to you about this issue? (i.e., What are your underlying values and concerns about this issue?)
7. Are politicians **addressing your concerns**? If so, how? If not, what argument(s) would you offer to convince them to see the issue your way?

Appendix 3.1
Colorado State Legislature Natural Gas Bills/Statutes (1999-2008)

| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
|-------------|-------------|---|-------------------------------------|-------------------------------|---|
| 1999 | SB99-153 | Restructure Natural Gas Industry – concerns the voluntary restructuring of the retail market for natural gas | Economy Environment | Pro | Passed into Law |
| 1999 | HB99-1233 | Extend Local Severance Tax Safety Net – eliminates the automatic reduction in severance tax distributions to the severance tax fund so the local severance tax is funded equally as the last year | Economy Federalism | Neutral | Failed in House Finance Committee |
| 1999 | HB99-1343 | Oil and Gas Conservation Committee Service – COGCC personnel must take oath to avoid conflict of interest while on committee | Environment Democracy | Anti | Bill failed in House's 2 nd reading |
| 2000 | SB00-016 | Oil and Gas Commission Personnel – concerns the geographical requirements for members of the COGCC | Land-use Environment | Anti | Passed into Law |
| 2000 | HB00-1008 | Documentation to Surface Landowners – concerns documentation to be provided to surface landowners at the time of advance notice of the commencement of drilling activities | Land-use Democracy | Anti | Bill Failed 2/21/00 Note: COGCC rule 305.c enacted on 2/28/00 is substantively the same as this bill |
| 2000 | HB00-1009 | COGCC Authority to Consider Wildlife – concerns the authority of the Oil and Gas Conservation Commission to consider sig. adverse impacts on wildlife in the regulation of oil/gas operations | Environment Land-use | Anti | Bill Failed Laid over in House after 2 nd reading |

| Appendix 3.1 Colorado State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|---|-------------------------------------|-------------------------------|--|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 2000 | HB00-1065 | Oil and Gas Severance Tax – establishes severance tax rates on oil and gas based on gross income with tax rates varying between 2-5% | Economy Land-use | Pro | Passed into Law |
| 2000 | HB00-1474 | COGCC Financial Assurance Moneys – concerns the authority of the COGCC to spend forfeited financial assurance moneys | Economy Environment | Neutral | Passed into Law |
| 2000 | HB00-1480 | COGCC Conflict of Interest Provisions – concerns conflict of interest requirements for members of the COGCC | Economy Environment Democracy | Anti | Bill Failed on 3 rd reading in House 33-32 |
| 2001 | HB01-1062 | Compensation for Land Surface Damages – concerns the payment of compensation by and oil and gas operator to a surface owner for surface damages arising from drilling | Land-use Democracy Economy | Anti | Bill Failed Postponed indefinitely in Senate Ag Comm. |
| 2001 | HB01-1088 | Notice of Severed Mineral Rights – concerns the notifications regarding severed mineral rights; surface estate developers must give notice to mineral estate owner prior to development | Democracy Land-use | Pro | Passed into Law |
| 2001 | SB01-103 | Oil and Gas Conservation Commission – concerns conflict of interest requirements for members of the COGCC | Environment Land-use | Anti | Bill Failed Passed in Senate and failed in House |
| 2001 | SB01-228 | Underground Natural Gas Storage Caverns – concerns COGCC closure of underground natural gas storage caverns | Environment Democracy | Neutral | Passed into Law |
| 2002 | SB02-141 | Oil and Gas Royalty Farm Case – concerns the determination of royalty payments from oil and gas leases, and established an ad-hoc task force to address issues relating to royalties | Land-use Environment | Pro | Bill Failed Tremendous amount of Senate debate |

| Appendix 3.1 Colorado State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|---|-------------------------------------|-------------------------------|---|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 2002 | HB02-1041 | Severance Tax Trust Fund Operational Reserve - concerning the maintenance of a sufficient balance in the operational account of the severance tax trust fund to fund the recommended programs for two state fiscal years. | Economy Federalism | Neutral | Passed into Law |
| 2002 | HB02-1166 | Oil and Gas Surface Damages – concerns the payment of compensation by and oil and gas operator to a surface owner for surface damages arising from drilling operations | Land-use Democracy Economy | Anti | Failed in House |
| 2002 | HB02-1357 | Modify Requirements for Surface Development Notification – modifies the requirements relating to notification of surface development to owners of severed mineral estates | Democracy Land-use | Neutral | Passed into Law |
| 2003 | HB03-1096 | Use Oil and Gas Byproduct Water – concerns facilitation of the pumping of ground water produced pursuant to the mining of minerals; groundwater not put to beneficial use does not need a permit from the state engineer | Environment Land-use | Pro | Bill Failed Postponed indefinitely in House Ag. Comm. |
| 2003 | HB03-1302 | Mineral Notice is Prospective Only – clarification of the applicability of stat. provisions that enacted certain notification requirements affecting applications for development filed on/after July 1, 2001 | Federalism Land-use | Neutral | Passed into Law Clarifies HB01-1088 with respect to date of application of law |

| Appendix 3.1 Colorado State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|---|---------------------------------------|-------------------------------|--|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 2003 | SB03-234 | Oil and Gas Property Tax Abatement Interest – concerns the date that refund interest begins to accrue where property tax was erroneously levied as a result of an error by the taxpayer in completing statements relating to oil and gas property | Economy Land-use | Pro | Passed into Law |
| 2004 | SB04-100 | Payment Proceeds Unleased Mineral Owner – concerns the payment of proceeds to unleased mineral owners in drilling units | Economy Land-use | Anti | Bill Failed – Postponed Indefinitely in Senate State Veterans and Military Affairs Committee |
| 2004 | SB04-228 | Mineral Interests Negligible Valuation – concerns the valuation of mineral interests for purposes of property taxation | Economy Federalism | Neutral | Bill Failed – passed in Senate but failed 2 nd reading in House |
| 2005 | HB05-1219 | Oil and Gas Surface Damages Compensation – concerns the protection of the rights of a surface owner relating to oil and gas operations | Democracy Economy Land-use | Anti | Bill Failed House Ag. Comm. voted 6-5 to postpone indefinitely |
| 2005 | HB05-1285 | Manage Oil and Gas Fund Balances – creates and Environmental Response Fund from a 7/10 mill tax on oil and gas production | Environment Economy | Anti | Passed into Law |
| 2005 | SB05-066 | Energy Research Institute Project Funds – creates the CO Energy Research Institute to research and provide economic and scientific information for the advancement of non-renewable and renewable energy | Environment Land-use Federalism | Pro | Passed into Law |

| Appendix 3.1 Colorado State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|---|--------------------------------------|-------------------------------|---|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 2006 | SB06-142 | Balance Oil and Gas Conservation Environmental Response Fund – concerns the cap on the unobligated portion of the oil and gas conservation and environmental response fund | Environment Economy | Neutral | Passed into Law |
| 2006 | HB06-1185 | Oil and Gas Surface Damages Compensation – concerns the provision of compensation to a surface owner for a decrease in fair market value of a surface estate reasonably expected to result from oil and gas operations, and modifies notification procedures for applications for surface development | Land-use Democracy Environment | Anti | Passed in House 60-3; Failed in Senate. |
| 2006 | HB06-1378 | Severance Tax for Land Conservation – creates the Land Conservation Fund in the State Treasury that is funded by mineral severance taxes | Land-use Environment | Anti | Failed in House |
| 2006 | HB06-1393 | Severance Tax Matching Federal Funds Conservation District Program – concerns the use of severance tax revenues by the department of agriculture for the natural resources conservation matching grants program | Environment Economy | Neutral | Passed into Law |
| 2007 | HB07-1139 | Severance Tax Distribution to Local Governments – concerns an increase in the percentage of moneys in the local government severance tax fund that are distributed to local governments on the basis of the residency of persons who work in mineral extraction industry operations | Federalism Land-use | Neutral | Passed into Law |

| Appendix 3.1 Colorado State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|--|-------------------------------------|-------------------------------|--|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 2007 | HB07-1142 | Access to Oil and Gas Statements – concerns access to information submitted to a county assessor related to the valuation of a property that produces oil and gas | Federalism Democracy | Neutral | Passed into Law |
| 2007 | HB07-1180 | Measure Wellhead Oil and Gas Accurately – establishes standards for oil/gas measurement and reporting | Environment Economy | Neutral | Passed into Law |
| 2007 | HB07-1223 | Protect Health from Oil and Gas Impacts – concerns protection of public health in connection with oil and gas development; withhold permits until COGCC consults w/ DPH&E | Environment Land-use | Anti | Bill failed – postponed indefinitely in House Appropriations |
| 2007 | HB07-1252 | Oil and Gas Surface Owners and Operators – concerns the accommodation of the rights of surface owners with respect to oil and gas operations; protects surface owners by allowing litigation and arbitration if operator fails to minimize intrusion or damage to surface estate | Land-use Democracy | Anti | Passed into Law – Landowner Protection Act |
| 2007 | HB07-1268 | Oil and Gas Interest used for School Energy Efficiency – concerns the use of additional interest that results from a modification in the collection of oil and gas withholding payments to provide funding for a program to increase energy efficiency in public schools | Economy Policy Surrogate | Neutral | Failed in House |

| Appendix 3.1 Colorado State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|---|-------------------------------------|-------------------------------|--|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 2007 | HB07-1298 | Conserve Wildlife Habitat Oil and Gas Development – concerns the conservation of wildlife habitat in connection w/ the development of oil and gas; minimize impacts on wildlife from oil/gas development | Environment Land-use | Anti | Passed into Law – CO Habitat Stewardship Act |
| 2007 | HB07-1309 | Oil and Gas Interest used for School Energy Efficiency – concerns the use of additional interest that results from a modification in the collection of payments related to the oil and gas severance tax to provide funding for a program to increase energy efficiency in public schools | Economy Environment | Neutral | Passed into Law |
| 2007 | HB07-1341 | Modify Membership of COGCC – expands COGCC members from 7 to 9; directs the commission to foster oil/gas development consistent w/ protection of the environment, wildlife, public health and safety | Environment Land-use | Anti | Passed into Law |
| 2007 | HB07-1372 | Severance Tax Operational Account Reserve – creates severance tax trust fund | Economy Environment | Neutral | Passed into Law |
| 2007 | SB07-121 | Oil Gas Exploration Production Waste – concerns the consolidation of the regulation of exploration and production waste in COGCC; forces COGCC to promulgate rules concerning disposal of waste | Environment Land-use | Anti | Bill failed – postponed indefinitely in H&HS Committee |
| 2007 | SB07-198 | Severance Tax Coalbed Methane Seepage – creates CBM seepage cash fund to investigate and mitigate CBM gas seepage | Environment Economy | Anti | Passed into Law – Severance Tax CBM Seepage Law |

| Appendix 3.1 Colorado State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|--|-------------------------------------|-------------------------------|------------------------------------|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 2007 | SB07-237 | Surface Developers Notify Oil and Gas Operators – concerns notification of mineral estate owners in connection w/ application for surface development, and specifying requirements for drilling oil/gas wells in the greater Wattenberg area | Land-use Democracy | Pro | Passed into Law (amends HB01-1088) |
| 2008 | HB08-1083 | Mineral Revenue Local Government Distribution – concerns the distribution to local governments of state revenues derived from mineral extraction within the state | Economy Federalism | Neutral | Passed into Law |
| 2008 | HB08-1379 | Extend Oil and Gas Commission Rules – concerns an extension of the deadline for the COGCC to promulgate rules concerning a consultation process with other state agencies until July 16, 2008 | Environment Land-use | Anti | Passed into Law |
| 2008 | HB08-1398 | Operational Accounting of Severance Tax Trust Fund – concerns the operational account of the severance tax trust fund without making any appropriations; changes the reserve requirement, requires most transfers from the account to be made in three installments during a fiscal year, making the second and third transfers subject to proportional reduction if there are insufficient funds in the account to meet the reserve requirement at the end of the fiscal year | Economy Environment | Neutral | Passed into Law |

| Appendix 3.1 Colorado State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|--|-------------------------------------|-------------------------------|-----------------|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 2008 | HB08-1414 | Regulate Oil and Gas Waste Disposal Pits – concerns an increase in the regulation of the disposal of exploration and production wastes from oil and gas operations at commercial solid waste facilities pursuant to rules promulgated by the Solid and Hazardous Waste Commission | Environment Federalism | Anti | Passed into Law |
| 2008 | SB08-013 | Severance Tax Trust Fund Operational Account Appropriations – concerns the appropriation of moneys from the operational account of the severance tax trust fund to DNR for programs recommended by the executive director of the department; reduces COGCC and Reclamation, Mining and Safety appropriation money from account; allows specified money for programs within Division of Wildlife and Division of Parks and Outdoor Recreation | Economy Land-use | Anti | Passed into Law |
| 2008 | SB08-202 | Oil and Gas Operations Greater Wattenberg – preserves COGCC’s authority to regulate oil and gas operations and limits metropolitan districts’ power to finance the payment of incremental directional drilling costs to oil and gas wells drilled in the greater Wattenberg area | Environment Economy | Pro | Passed into Law |

Appendix 4.1
Wyoming State Legislature Natural Gas Bills/Statutes (1999-2008)

| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
|-------------|-------------|---|-------------------------------------|-------------------------------|--|
| 1999 | SF99-0099 | Drilling Units-Cost Allocation | Economy | Pro | Passed into Law (Enrolled Act No. 48) – |
| 1999 | HB99-0191 | Crude Oil and Natural Gas Education and Enhancement Act – act establishes a council geared toward educating the public about resource development (New Institution) | Economy Environment | Pro | Failed in House |
| 1999 | HB99-0293 | Beneficial Use of Discharge Water – act provides for the beneficial use of discharge water of up to 10K ppm of TDS | Environment | Anti | Failed in House |
| 2000 | SF00-0013 | Mineral Valuation and Taxation Study - relates to mineral valuation and taxation; creates a mineral valuation and taxation committee | Environment Economy | Neutral | Passed into Law – Chapter 0092 (Enrolled Act No. 0037) |
| 2000 | SJ00-0002 | Mineral Trust Fund Severance Tax - proposes to increase the excise tax on severing or extracting minerals and credits money to the permanent Wyoming mineral trust fund | Economy | Anti | Proposed Constitutional Amendment – Failed to gain 2/3 approval of both houses |
| 2000 | HB00-0055 | Taxation of Gas Wells – act providing for taxation of natural gas produced from certain wells; provides exemptions for severance taxes on wells drilled between 1993 and 2003; wells less than 2000 feet drilled after April 1, 2000 are not exempt | Economy | Pro | Passed into Law (Enrolled Act No. 64) |
| 2000 | HB00-0110 | Sales Tax Exemption for Transportation of Drilling Rigs – exempts drill rig transporters from certain taxes | Economy | Pro | Failed in House |

| Appendix 4.1 Wyoming State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|--|-------------|---|-------------------------------------|-------------------------------|---------------------------------------|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 2000 | HB00-0139 | Gas Wells Severance Tax - relates to taxation and revenue; provides for taxation of natural gas produced from certain wells | Economy | Pro | Failed in House |
| 2000 | HB00-0165 | Use of coal bed methane produced waters – act requires state to examine proposals for use of CBM water in coal slurry pipelines | Environment Land-Use | Neutral | Failed Introduction in House |
| 2001 | HB-0133 | Severance Tax-offsetting Credit – provides for offsetting credit against overpaid severance tax | Economy | Pro | Passed into Law (Enrolled Act No. 34) |
| 2001 | SF-0185 | Wyoming Energy Commission – establishes the Wyoming Energy Commission with mission to facilitate development, production, transportation and marketing of all natural resources; streamline permitting, eliminate barriers to transportation, promotes renewable energy development (New Institution) | Land-Use Environment | Pro | Passed into Law (Enrolled Act No. 52) |
| 2001 | SF-0111 | Occupied Buildings Distance from Gas Wells – Health and Safety limits on building construction near gas wells | Environment | Neutral | Postponed Indefinitely |
| 2001 | SF-0115 | Severance Tax Distribution – Tax revenue change | Economy | Pro | Passed Senate but failed in House |
| 2002 | HB-0095 | Taxation of oil and gas valuation – provides for the valuation of certain oil and natural gas for taxation | Economy Environment | Neutral | Failed Introduction in House |
| 2002 | SF-0009 | Taxation point of valuation methane gas – provides the point at which the production of CBM is complete for taxation purposes | Economy | Anti | Failed Introduction in Senate |
| 2002 | SF-0040 | Oil and Gas Commission Security – specifies the types of security/bonding the commission may accept for certain purposes; relates to well abandonment, plugging and repair (more of a clarification of bonding for a specific drilling procedure) | Environment Economy | Anti | Passed into Law (Enrolled Act No. 23) |

| Appendix 4.1 Wyoming State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|--|-------------|--|-------------------------------------|-------------------------------|---|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 2002 | SF-0069 | Oil and Gas Valuation proportionate profits – relates to taxation and revenue and the proportional distribution to owners and the state | Economy Environment | Neutral | Passed in Senate but failed in House on 3 rd Reading |
| 2003 | SF-0085 | Natural Gas Pipeline Authority – grants additional bonding and regulatory power to the authority regarding pipelines and their construction, use and access (New Institution) | Economy Environment Land-Use | Anti | Passed into Law 0171 (Enrolled Act No. 55) |
| 2003 | HB-0040 | Value Added Minerals Study - relates to mineral taxation and revenue; creates a committee to study and recommend incentives for certain value added mineral products | Democracy Land-Use Economy | Neutral | Postponed Indefinitely in House Committee H09 |
| 2003 | HB-0087 | Natural Gas Valuation – relates to taxation and revenue of natural gas and at what point in the process the tax will be applied; establishes one point of valuation at a minimum fair market value | Economy | Neutral | Vetoed by the Governor |
| 2003 | HB-0176 | Termination of Mineral Interest - relates to mineral interests; provides a procedure for abandoning a mineral interest and for vesting an abandoned mineral interest in the surface owner | Economy Land-Use Environment | Pro | Failed in House Committee of Whole Vote |
| 2003 | HB-0283 | Sales Tax Oil and Gas Wells – repeals provision for imposing sales tax on services within an oil or gas well site | Economy | Pro | Postponed Indefinitely in House |
| 2004 | HB-0070 | Surface Owners' Accommodation Act – provides notice, compensation and remedies to surface owners for loss due to oil and gas development; requires financial assurance | Democracy Economy Land-Use | Anti | Failed Introduction in House |
| 2004 | HB-0180 | Coal Bed Methane Clearinghouse – establishes a CBM clearinghouse at the University of Wyoming to study, report, and advise on CBM development (New Institution) | Environment Economy Land-Use | Neutral | Postponed Indefinitely |
| 2004 | SF-0061 | Enhanced and Improved Oil | Environment | Pro | Passed into |

| Appendix 4.1 Wyoming State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|--|------------------------|--|---|-------------------------------|---|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| | (SEA No. 0044) | Recovery – act creates and enhanced and improved oil/gas recovery commission; creates new commission with goal of advancing research and technology related to oil/gas development; use University of Wyoming as research vehicle (New Institution) | Land-Use | | Law (Enrolled Act No. 44) |
| 2004 | SF-0090 | Wyoming Surface Owners' Accommodation Act – provides notice, compensation and remedies to surface owners for loss due to oil and gas development; requires financial assurance | Democracy Economy Land-Use | Anti | Failed Introduction in Senate |
| 2005 | SF-0011 (SEA No. 0029) | Wyoming Oil and Gas Conservation Commission Charges Deadline – modifies the deadline to submit payment for charges assessed by the WOGCC on oil/gas produced, sold or transported | Economy | Neutral | Passed into Law (Enrolled Act No. 29) |
| 2005 | SF-0028 | Water Rights-Penalties – amends penalties for violating water laws with respect to natural gas/CBM development | Environment Economy | Anti | Passed into Law (Enrolled Act No. 49) |
| 2005 | SF-0060 (SEA No. 0045) | Split Estates Procedures for Oil and Gas Operations – establishes requirements prior to oil/gas development on split-estates; requires notice, good faith negotiation on surface use agreements or financial assurances; authorizes compensation to surface owners for damage caused by oil/gas development; | Land-Use Democracy Economy Environment | Anti | Passed into Law (Enrolled Act No. 45; Chapter No. 0081) |
| 2005 | SF-0073 | Wyoming Oil and Gas Conservation Commission-Penalties – raises penalties for violating WOGCC rules from \$500 to \$5000 per violation | Economy Environment | Anti | Passed into Law (Enrolled Act No. 9) |
| 2005 | HB-0005 | Severance Tax Distribution – relates to taxation and revenue and provides for distribution of certain severance taxes | Economy | Neutral | Passed in House but Failed in Senate |
| 2005 | HB-0013 | Oil and Gas Valuation Methodology-optional | Economy | Anti | Failed in House |

| Appendix 4.1 Wyoming State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|--|---------------------------|--|-------------------------------------|-------------------------------|--|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| | | procedures - providing for an alternative methodology to be used for valuing certain oil and gas production | | | |
| 2006 | SF-0037 (SEA No. 0065) | School of energy resources – creates a school of energy resources at the University of Wyoming to research, teach and support the development of Wyoming’s energy resources (New Institution) | Land-Use Environment Economy | Pro | Passed into Law (Enrolled Act No. 65) |
| 2006 | SF-0053 | Water Quality Effluent Standards – requires best management practices (BMPs) to be applied to any pollution/wastes discharged to state waters | Environment Democracy | Anti | Failed Introduction in Senate |
| 2006 | SF-0084 | Wyoming Pipeline Authority – relates to the Wyoming natural gas pipeline authority; changes the name to the Wyoming pipeline authority; increases the authority's bonding capacity; expands the state treasurer's investment authority (New Institution) | Economy Environment Land-Use | Pro | Passed into Law (Enrolled Act No. 0006) |
| 2006 | SF-0093 | Coalbed natural gas water use – creates a task force to study, report and recommend options available for CBM water re-use (New Institution) | Environment Land-Use | Pro | Passed in Senate and Failed in House |
| 2006 | HB-0031 (HEA No. 0026) | Sales Tax Exemption for Oil and Gas Wells – creates a severance tax exemption for existing oil/gas wells that have been deepened or extended | Economy Land-Use | Pro | Passed into Law (Enrolled Act No. 26) |
| 2006 | HB-0043 | Natural Gas Valuation – relates to taxation and revenue of natural gas and provide for the valuation of certain natural gas for taxation purposes. | Economy Environment | Pro | Failed on 3 rd Reading in House |
| 2006 | HB-0145 (HEA No. 0054) | Omnibus Water Bill Planning – mostly not applicable but bill did include \$500K to study CBM in the Powder River Basin | Environment Economy | Pro | Passed into Law (Enrolled Act No. 54) |
| 2006 | HB-0164 | Mineral Impact Assistance to local governments 2 – provides assistance to local governments directly affected by development of natural gas | Economy Federalism | Anti | Failed Introduction in House |

| Appendix 4.1 Wyoming State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|--|------------------------|---|-------------------------------------|-------------------------------|---|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 2006 | HB-0166 | Permanent Wyoming Mineral Trust Fund Deposits – modifies the distribution of severance taxes and provides for additional deposits of severance taxes to the permanent Wyoming mineral trust fund (mostly non applicable to CBM) | Economy | Neutral | Failed Introduction in House |
| 2006 | HJ-0004 | Permanent Wyoming Mineral Trust Fund – joint resolution specifying that all monies deposited in the Wyoming Mineral Trust Fund are inviolate; imposes a 1.5% excise tax in addition to the existing severance and ad valorem taxes on minerals (coal, oil, natural gas, etc) extracted in Wyoming | Economy | Anti | Passed into Law (HEJR no. 0001) |
| 2007 | SF-0055 | Water Quality Effluent Standards – modifies authority of Water Quality Division Administrator to recommend rules establishing effluent standards and limitations | Environment | Anti | Failed in Senate Committee S09 |
| 2007 | SF-0112 | Federal Mineral Royalty Distributions – relates to federal mineral royalty revenues; increases balances of and providing annual distributions to the Hathaway and higher education endowment accounts as specified | Economy | Neutral | Failed in Senate (CoW did not consider) |
| 2007 | HB-0050 (HEA No. 0075) | Oil and Gas Units – modifies consent requirements necessary for the amendment of orders entered by the WOGCC; when enhanced recovery methods (i.e. waterflooding) are used, the WOGCC modifies consent requirements; allocation percentages generally remain | Economy Environment Democracy | Neutral | Passed into Law (Enrolled Act No. 75) |
| 2007 | HB-0209 | Severance Tax Distribution – relates to taxation and revenue and provides for the distribution of certain severance taxes as specified | Economy | Neutral | House placed on general file and did not consider |

| Appendix 4.1 Wyoming State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|--|-------------|---|---------------------------------------|-------------------------------|--|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 2007 | HB-0212 | Water Quality Watershed Permits – clarifies general watershed permits relating to CBM production; provides standards for issuance of discharge permits under the Federal Water Pollution Control Act (1972) including watershed permits for surface discharges related to CBM production | Environment Democracy | Anti | Passed in House but Failed in Senate Committee 09 |
| 2007 | HB-0330 | Natural Gas Valuation – relates to taxation and revenue of natural gas and provide for the valuation of certain natural gas for taxation purposes | Economy Environment | Pro | House Committee Return Bill but no further action taken in House |
| 2008 | HB-0054 | Natural Gas Valuation - relates to taxation and revenue; provides for the valuation of certain natural gas for taxation purposes and reporting requirements | Economy | Neutral | Passed into Law (Enrolled Act No. 19) |
| 2008 | HB-0105 | Encampment Area Watersheds Study - relates to the environment; provides for a study by the department of environmental quality on the impacts of oil and natural gas development in the Encampment area watersheds that have been identified for leasing of federal subsurface oil and gas rights | Environment Federalism Land-Use | Anti | Failed in House (20-32) |
| 2008 | HB-0171 | Severance Taxes-Penalties - relates to severance taxes by limiting offsetting credits to overpaid severance taxes as specified; requires department of revenue to calculate penalties | Economy Environment | Pro | Failed Introduction in House |
| 2008 | SF-0050 | Government Royalty-Revenue Distribution - relates to government royalty revenues; modifies distribution of revenues | Economy Environment | Neutral | Failed Introduction in Senate |
| 2008 | SF-0077 | Severance Tax Distribution - relates to taxation and revenue; provides for the distribution of certain severance tax revenues | Economy | Neutral | Failed in Senate |

Appendix 5.1
New Mexico State Legislature Natural Gas Bills/Statutes (1999-2008)

| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
|-------------|-------------|---|---------------------------------------|-------------------------------|---|
| 1999 | HB-170 | Natural Gas Feasibility Study – makes an appropriation for a feasibility study to introduce natural gas to communities in Rio Arriba and Taos Counties | Economy Federalism | Neutral | Failed in committee |
| 1999 | HB-280 | New Oil and Gas Wells Tax Incentive – reduces the severance tax rate or provides an exemption for first 2 years of oil and gas production from certain wells drilled during low price periods | Economy Environment | Pro | Passed into Law Chapter 218 |
| 1999 | HB-281 | Well Workover Projects – changes provisions for well workover projects and the rate of oil/gas severance tax applicable to production from such projects | Environment Economy | Neutral | Passed into Law Chapter 256 |
| 1999 | HB-436 | Stripper Well Tax Incentive – reduces oil and gas severance tax and emergency oil/gas school tax rates during certain low-price periods for oil/gas produced from stripper well properties | Environment Economy | Pro | Failed in House Taxation and Revenue Committee |
| 1999 | HB-618 | Severance Tax Permanent Fund Distribution – provides for annual distribution from the severance tax permanent fund to the general fund; changes investment provisions of the severance tax permanent fund | Economy Federalism | Neutral | Passed into Law Chapter 88 |
| 1999 | HB-698 | Environmental Policy Act –creates an entirely new act relating to environmental protection and planning | Federalism Condensation Symbols | Anti | Postponed indefinitely in House Energy and Natural Resources Committee |
| 1999 | HB-770 | Natural Gas Pipeline Study – examines economic feasibility of additional natural gas pipelines; authorizes Energy, Minerals and Natural Resources Dept (EMNR) to build and operate a pipeline system funded by transportation bonds | Economy Environment | Pro | Vetoed by Governor |

| Appendix 5.1 New Mexico State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|---|-------------------------------------|-------------------------------|--|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 1999 | SB-329 | Natural Gas Feasibility Study – makes an appropriation for a feasibility study to introduce natural gas into certain unserved communities in the area from Cordova to Vadito in northern New Mexico | Economy Federalism | Neutral | Failed in committee |
| 1999 | SB-350 | Federal Mineral Leasing Revenue Distribution – provides that certain excess revenue be distributed to common school permanent fund | Economy Federalism | Neutral | Passed into Law Chapter 253 |
| 1999 | SB-521 | Eliminate Oil and Gas Production Council – repeals Sections 7-27-5.8 through 7-27-5.12 to eliminate the council | Environment Federalism | Neutral | Passed into Law Chapter 57 |
| 1999 | SB-557 | Distribute Extractive Industry Taxes – provides for adjustments of distributions to political subdivisions of certain extractive industry taxes | Federalism Economy | Neutral | Passed into Law Chapter 189 |
| 1999 | SB-637 | Surface Rights Act – establishes requirements for an oil/gas operator to follow before entering a site for drilling; requires operator and surface owner to enter into good faith negotiations re: surface damage; provides for bonding | Environment Land-use | Anti | Passed Senate but postponed indefinitely in House |
| 2000 | HB-24 | Produced Water from Oil and Gas Wells – provides for ownership and regulation of produced water from oil and gas wells | Environment Land-use | Pro | Postponed indefinitely in House Ag and Water Resources Committee |
| 2000 | HB-25 | Recycle Produced Water in Lea County – makes an appropriation to the EMNR to research ways to recycle produced water from oil/gas well drilling | Environment Economy | Pro | Postponed Indefinitely in House Approp. and Finance Committee |
| 2000 | SB-192 | Produced Water from Oil and Gas Wells – provides for ownership and regulation of produced water from oil and gas wells | Environment Land-use | Pro | Failed in Senate Conservation Committee |
| 2000 | SB-193 | Lea County Produced Water Recycling Project – makes an appropriation to the EMNR to research ways to recycle produced water from oil/gas well drilling | Environment Economy | Pro | Postponed Indefinitely in Senate Finance Committee |
| 2001 | HB-279 | Interstate Pipeline Safety – amends power of commission to establish minimum safety standards for pipelines | Environment Federalism | Anti | Passed into Law Chapter 298 |

| Appendix 5.1 New Mexico State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|---|-------------------------------------|-------------------------------|--|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| 2001 | HB-379 | Amend Severance Tax Bonding Act – amends act concerning restrictions on certain supplemental severance tax bonds | Economy Environment | Neutral | Vetoed by Governor |
| 2001 | HB-533 | Non-domestic Waste Disposal – provides for the disposal of certain non-domestic oil, gas and geothermal waste at solid waste facilities; declares an emergency | Environment Land-use | Pro | Passed into Law Chapter 67 |
| 2001 | HB-926 | Amend Oil and Gas Proceeds Payment Act – requires operator or lessee when selling oil/gas to make a diligent effort to furnish payor with correct name, address and percentage of interest; sets penalty of 18% against operators that fail to pay interest owners their due share | Democracy Economy | Anti | Vetoed by Governor |
| 2001 | SB-282 | Eddy and Lea Counties Water Conservation Pilot – makes an appropriation to NM Dept of Agriculture to finance a pilot project to convert produced water to potable water in Eddy and Lea Counties | Environment Economy | Pro | Postponed Indefinitely in Senate Finance Committee |
| 2002 | HB-309 | San Juan Oil and Gas Field Training Program – makes an appropriation for implementing and operating an oil and gas field training program at San Juan College | Land-use Economy | Pro | Postponed Indefinitely in House Appropriation and Finance Committee |
| 2002 | SB-16 | Lea and Carlsbad Conservation District Study – makes an appropriation for a study by Lea and Carlsbad Soil and Water Conservation Districts of issues related to use of water produced by oil and gas exploration | Environment Economy | Pro | Postponed Indefinitely in Senate Finance Committee |
| 2002 | SB-168 | Pay Oil and Gas Royalties – makes an appropriation from the general fund operating reserve to loan money to the Dept of Interior to pay oil and gas royalties to Navajo Nation and Jicarilla Apache Nation residents from whom the federal government is withholding royalty checks | Economy Federalism | Neutral | Postponed Indefinitely in Senate Public Affairs Committee |
| 2002 | SB-345 | Well Workover Projects – relates to oil and gas taxation; amends natural gas production incentive to include installation of certain | Environment Land-use | Pro | Postponed indefinitely in Senate |

| Appendix 5.1 New Mexico State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|---|--------------------------------------|-------------------------------|---|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| | | equipment w/in the definition of well workover project | | | |
| 2002 | SB-369 | Additional Natural Gas Pipeline Systems Study – provides for a legislative study of the economic feasibility of additional natural gas pipeline systems | Economy Federalism | Pro | Postponed Indefinitely in the Senate Finance Committee |
| 2003 | HB-286 | Natural Gas Fueled Electric Generation Plant – provides for the construction and operation of a natural gas fueled electric generation facility; creates state power board | Economy Federalism | Pro | Postponed Indefinitely in House |
| 2003 | HB-321 | Oil and Gas Reclamation Fund Distribution – provides for the distributions to the oil and gas reclamation fund; provides for an oil and gas conservation tax rate conditioned on the balance in the oil and gas reclamation fund; provides for energy education | Economy Environment Federalism | Anti | Passed into Law Chapter 433 |
| 2003 | HB-389 | San Juan College Oil and Gas Field Training – makes an appropriation to expand and operate an oil and gas field training program at San Juan College | Land-use Economy | Pro | Postponed indefinitely in House Appropriation and Finance Committee |
| 2003 | HB-661 | New Oil and Gas Wells Tax Credit – enacted for the purposes of environmental preservation, drilling technology, surface use reduction and revenue enhancement a one-time tax credit for completion of new crude oil and natural gas wells; creates a fund | Environment Economy | Pro | Pocket Veto by Governor |
| 2003 | SB-107 | Natural Resources Trustee Fund Purpose – amends the natural resources trustee act to clarify the purpose of the natural resources trustee fund; fund money not to revert to the state general fund | Economy Environment | Neutral | Postponed Indefinitely in the Senate Finance Committee |
| 2003 | SB-865 | Clean Energy Act – creates the clean energy act and fund to promote renewable energy and energy efficiency | Economy Policy Surrogate | Anti | Failed in Conservation Committee |
| 2004 | HB-324 | Natural Resource Recovery Task Force – appropriation to the Fund of the Natural Resource Revenue Recovery Task Force | Economy Environment | Neutral | Postponed indefinitely in House Appropriation and Finance |

| Appendix 5.1 New Mexico State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|--|--------------------------------------|-------------------------------|--|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| | | | | | Committee |
| 2004 | HB-572 | Oil and Gas Hearing Transcript Requirements – eliminates the requirements for a transcript in every case heard by a hearing examiner appointed by the Oil Con. Commis. | Democracy Environment | Neutral | Postponed indefinitely in Senate Judiciary Committee |
| 2004 | SB-125 | Natural Resource Trustee Fund Appropriations – appropriates the Natural Resources Trustee Fund for the purpose of restoring areas in which natural resources have been adversely affected; provides that interest and earnings of the fund be credited to the fund; provides for an appeal from decisions of the trustee | Environment Economy | Neutral | Passed into Law Chapter 120 |
| 2004 | SB-344 | Natural Resource Revenue Recovery Task Force – makes an appropriation to enable the task force to conduct business and address legislative mandates | Environment Economy Federalism | Neutral | Postponed indefinitely in Senate Finance Committee |
| 2005 | HB-816 | Clarify Land Conservation Incentives Act – relates to clarification of tax credits | Economy Policy Surrogate | Neutral | Pocket Veto by Governor |
| 2005 | HB-871 | Oil Conservation Division Appeals – amends sections of the Oil and Gas Act and Geothermal Resources Conservation Act; provides for permits for discharge of water contaminants; provides for appeals of Oil Conservation Commission decisions; establishes fines | Environment Democracy | Anti | Postponed indefinitely in House Energy and Natural Resources Committee |
| 2005 | HB-1002 | Oil and Gas Production Water Recycling – makes an appropriation to research and develop use of reverse osmosis technologies to recycle water produced from oil and gas exploration | Environment Land-use | Pro | Postponed indefinitely in House Appropriation and Finance Committee |
| 2005 | HB-1015 | Surface Owner's Protection Act – requires notice of operations, offer of settlement, arbitration, compensation and liability for oil and gas operations, award of damages to surface owner if operator does not follow statute | Land-use Economy Environment | Anti | Passed House but Postponed indefinitely in Senate Judiciary Committee |
| 2005 | HB-1086 | Raise Oil Severance Privilege Tax – raises privilege tax imposed pursuant to the oil and gas | Economy Land-use | Anti | Failed in House |

| Appendix 5.1 New Mexico State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-----------------------------|--|---|-------------------------------|--|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| | | emergency school tax act on the severance of oil and certain other hydrocarbons removed from natural gas | | | |
| 2005 | SB-256 | Division Order in Oil and Gas Payments Act – defines the term “division order” and amends section of the Oil and Gas Proceeds Payments Act to identify the interest owners | Economy Democracy | Neutral | Passed Senate but Postponed indefinitely in House Judiciary Committee |
| 2005 | SB-424 | Financial Assurance to Plug Oil and Gas Wells – any operator drilling in the state must provide financial assurance (letter of credit, cash or surety bond) to cover the cost of well plugging and abandonment | Economy Environment | Anti | Vetoed by Governor |
| 2005 | SB-764 | Reduce Natural Gas Severance Tax Rate – reduces the rate of tax on severing natural gas imposed pursuant to the Oil and Gas Emergency School Tax Act | Economy | Pro | Postponed indefinitely in Senate Finance Committee |
| 2005 | SB-777 Same as HB-871 | Oil Conservation Division Appeals – amends sections of the Oil and Gas Act and Geothermal Resources Conservation Act; provides for permits for discharge of water contaminants; provides for appeals of Oil Conservation Commission decisions; establishes fines | Environment Democracy | Anti | Postponed indefinitely in Senate Corp. and Transp. Committee |
| 2006 | HB-22 | Assurance for Plugging Oil and Gas Wells – any operator drilling in the state must provide financial assurance (letter of credit, cash or surety bond) to cover the cost of well plugging and abandonment | Economy Environment | Anti | Passed into Law Chapter 59 |
| 2006 | HB-144 | Oil & Gas Produced Water Tax Credits – provides for income tax and corporate income tax credits for delivering water produced from oil and gas drilling and production | Environment Economy | Pro | Rolled into HB-82 and Postponed indefinitely in Conference Committee |
| 2006 | HB-188 | Land, Wildlife & Clean Energy Act – provides for the distribution of proceeds from oil and gas conservation tax; creates new board; authorizes issuance of bonds; focus of board is clean energy and conservation projects | Environment Policy Surrogate Economy | Anti | Postponed indefinitely in House Taxation and Revenue Committee |
| 2006 | HB-375 | Oil & Gas Property Taxation – | Economy | Pro | Passed House |

| Appendix 5.1 New Mexico State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-----------------------------|---|-------------------------------------|-------------------------------|---|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| | | provides for an alternative unit valuation of property used in processing, gathering, transmission or distribution of oil, gas, carbon dioxide or liquid hydrocarbons; allows for taxpayer to claim functional obsolescence w/ proof | Environment | | and withdrawn from Senate Finance Committee |
| 2006 | HB-437 | Surface Owner's Protection Act - requires notice of operation to surface owners, bonding or surety, compensation and liability of operator to surface owner, proposes surface use agreement, requires offer to negotiate, award of damages to surface owner if operator does not follow statute | Economy Land-use | Anti | Passed in House but postponed indefinitely in Senate Judicial Committee |
| 2006 | SB-332 Similar to HB-375 | Oil & Gas Property Taxation - provides for an alternative unit valuation of property used in processing, gathering, transmission or distribution of oil, gas, carbon dioxide or liquid hydrocarbons; allows for taxpayer to claim functional obsolescence w/ proof | Economy Environment | Pro | Postponed indefinitely in Senate Corp. and Transp. Committee |
| 2006 | SB-468 | Oil & Gas Severance Surtax & Fund – imposes an oil and gas severance surtax under certain conditions; creates a community energy security fund; provides for grants from fund to local governments and higher education institutions for energy conservation | Economy Federalism | Anti | Postponed indefinitely in Senate Conservation Committee |
| 2006 | SB-493 | Oil & Gas Conservation Rules – clarifies the purpose of all rules adopted pursuant to the Oil and Gas Act; provides for review of all existing rules to remove impediments to oil/gas development | Environment Economy Land-use | Pro | Postponed indefinitely in Senate Finance Committee |
| 2006 | SB-631 | Surface Owner's Protection Act - requires notice of operation to surface owners, bonding or surety, compensation and liability of operator to surface owner, proposes surface use agreement, requires offer to negotiate, award of damages to surface owner if operator does not follow statute | Economy Land-use Democracy | Anti | Postponed indefinitely in Senate Judicial Committee |
| 2007 | HB-261 | Natural Resources Trustee Fund and Office – provides for the management and use of money in | Environment Economy | Neutral | Pocket Veto by Governor |

| Appendix 5.1 New Mexico State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|---|--|-------------------------------|--|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| | | NRT Fund to provide for a General Fund appropriation for operation expenses at the Office of Natural Resource Trustee | | | |
| 2007 | HB-386 | Oil & Gas Operation Emissions Standards – provides for rules on emissions from oil and gas operations that are at least as stringent or more stringent than federal standards; includes oil/gas exploration emission rules | Environment Federalism | Anti | Passed in House but Postponed indefinitely in SJC and SCORC Committees |
| 2007 | HB-569 | Oil & Gas Operator Civil Penalties – provides that certain civil penalties may be levied only in an action brought in District Court | Economy Environment | Pro | Postponed indefinitely in House Energy and Natural Resources Committee |
| 2007 | HB-601 | Hedging of Oil and Gas Revenues – authorizes certain hedging contracts for the purpose of providing a level of predictability of oil and gas revenues | Economy Federalism | Neutral | Postponed indefinitely in House Taxation and Revenue Committee |
| 2007 | HB-665 | Oil & Gas Property Taxation - provides for an alternative unit valuation of property used in processing, gathering, transmission or distribution of oil, gas, carbon dioxide or liquid hydrocarbons; allows for taxpayer to claim functional obsolescence w/ proof | Economy Environment | Pro | Passed in House but Postponed indefinitely in Senate Finance Committee |
| 2007 | HB-777 | Oil & Gas Reclamation Fund Stability – ensures the stability of funds available in the Oil & Gas Reclamation Fund; increases the maximum amount to be held in the Fund before triggering a decrease in the Oil/gas conservation tax | Economy Environment | Neutral | Passed into Law Chapter 97 |
| 2007 | HB-827 | Surface Owner's Protection Act - requires notice of operation to surface owners, bonding or surety, compensation and liability of operator to surface owner, proposes surface use agreement, requires offer to negotiate, award of damages to surface owner if operator does not follow statute | Economy Land-use Environment Federalism | Anti | Passed into Law Chapter 5 |
| 2007 | HB-1122 | Oil & Gas Produced Water Tax Credits – provides for income tax and corporate income tax credits for delivering water produced from | Environment Federalism | Pro | Postponed indefinitely in House Energy and Natural |

| Appendix 5.1 New Mexico State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|---|--------------------------------------|-------------------------------|---|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| | | oil and gas drilling and production | | | Resources Committee |
| 2007 | SB-15 | Natural Resources Trustee Fund and Office – provides for the management and use of money in NRT Fund to provide for a General Fund appropriation for operation expenses at the Office of Natural Resource Trustee | Federalism Economy Environment | Neutral | Passed into Law Chapter 249 |
| 2007 | SB-340 | Oil & Gas Property Alternative Unit Valuation – provides for the use of other justifiable factors, including economic and functional obsolescence, to value property used in the processing, gathering, transmission or distribution of oil, gas, carbon dioxide or liquid hydrocarbons | Economy Environment | Pro | Passed into Law Chapter 273 |
| 2007 | SB-763 | Hedging of Oil & Gas Contracts – authorizes certain hedging contracts for the purpose of providing a level of predictability of oil and gas revenues | Economy Federalism | Neutral | Postponed indefinitely in Senate Finance Committee |
| 2007 | SB-960 | Surface Owner's Protection Act - requires notice of operation to surface owners, bonding or surety, compensation and liability of operator to surface owner, proposes surface use agreement, requires offer to negotiate, award of damages to surface owner if operator does not follow statute | Economy Land-use | Anti | Postponed indefinitely in Senate Judicial Committee |
| 2007 | SB-991 | Surface Owner's Protection Act - requires notice of operation to surface owners, bonding or surety, compensation and liability of operator to surface owner, proposes surface use agreement, requires offer to negotiate, award of damages to surface owner if operator does not follow statute | Land-use Economy | Anti | Postponed indefinitely in Senate Conservation Committee |
| 2007 | SB-1024 | Ownership Proof of Oil & Gas Equipment – requires proof of ownership of oil and gas equipment; prohibits tampering with identification numbers; provides for injunctive relief and prescribes penalties | Democracy Economy | Anti | Postponed indefinitely in Senate Judicial Committee |
| 2008 | HB-125 | Oil Conservation Commission Oversight Committee – create a legislative oversight committee to | Federalism Environment | Neutral | Failed in House |

| Appendix 5.1 New Mexico State Legislature Natural Gas Bills/Statutes (1999-2008) | | | | | |
|---|-------------|---------------------------------------|-------------------------------------|-------------------------------|---------------|
| Date | Bill | Title - Content | Primary and Secondary Frames | Relation to Status Quo | Result |
| | | check the Oil Conservation Commission | | | |