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Abstract

Noticeably absent from the tools and techniques in policy analysis are methods for understanding political contexts, including the beliefs, networks, resources, and activities of policy actors. In combination, Policy Analytical Capacity and the Advocacy Coalition Framework offer one appropriate solution. We apply both approaches to analyze the Colorado climate and energy policy subsystem using questionnaire data. In the policy subsystem, we identify a large proclimate change coalition and a smaller anticlimate change coalition. Member beliefs between rival coalitions diverge in regard to the cause, severity, and solutions needed to address climate change adaptation and mitigation issues. Both coalitions report similar levels of individual and organizational capacity to generate and analyze information and to engage in similar activities and strategies. This article contributes to the public policy literature by applying both Policy Analytical Capacity and the Advocacy Coalition Framework and by emphasizing individual, organizational, and subsystem levels in conducting a stakeholder analysis.

KEY WORDS: climate change, energy policy, Advocacy Coalition Framework, Policy Analytical Capacity, public policy, stakeholder analysis

Introduction

Lasswell (1936) famously defined politics as who gets what, when, and how. Although this definition provides a set of basic journalistic questions that can be used to understand political contexts, it offers little guidance toward a deeper understanding of the beliefs, networks, resources, strategies, and activities of policy actors attempting to influence public policy. Many of the tools and techniques for practitioners and academics for analyzing policy issues come from the policy analysis literature. The policy analysis literature has devoted considerable attention to enhancing the techniques found in eightfold paths, benefit–cost analysis, multicriteria analysis, and equity analysis, all of which provide detailed, technical means for informing clients concerning societal problems and in advising them in choosing among a range of alternatives (e.g., Patton & Sawicki, 1990; Bardach, 2011; Weimer & Vining, 2010). Yet, the major policy analysis textbooks continue to overlook the questions and techniques concerning who gets what, when, and how in describing political landscapes, in conducting stakeholder analysis, or for understanding the political feasibility of alternatives (as might be discussed in Meltsner, 1972; May, 1986; Brugha & Varvasovskey, 2000; Weible, 2007).1 The emphases on efficiency and cost effectiveness are certainly laudable evaluation criteria. However, equal emphasis must also be placed on developing approaches for describing the contextuality of politics and estimating the political feasibility of alternatives. Arguably in many contexts, the answers to the questions of who gets what, when, and how are even
more influential in the adoption of policies than issues of efficiency and cost effectiveness.

The purpose of this article is to combine two techniques for understanding the political context of a policy issue. The first involves the Advocacy Coalition Framework (ACF) as developed in the 1980s by Paul Sabatier and Hank Jenkins-Smith (Sabatier, 1988; Sabatier & Jenkins-Smith, 1993). Recent efforts by Weible (2007) demonstrated the utility of the ACF in providing a theoretical basis for describing political contexts (see also Brecher, Brazill, Weitzman, & Silver, 2010). In understanding politics, the ACF has multiple strengths, including detailed conceptual descriptions for measuring belief systems and suggestions for measuring networks. One of the underdeveloped areas within the framework is the development of a systematic understanding of coalition resources and strategies (Weible et al., 2011).

One approach for understanding resources in a subsystem is Policy Analytical Capacity (PAC). As a concept, PAC refers to “information acquisition and utilization in the policy process” (Howlett, 2009, p. 162). One of the strengths of PAC is its use as an informal framework for guiding researchers in identifying the resources related to acquiring and utilizing information at the individual, organizational, and systems levels. One of the limitations of PAC, however, is the lack of guidance for understanding how individual, organizational, and system-level capacity fits into a broader conceptualization of the political setting, something the ACF accomplishes well. In this article, we apply the ACF and PAC to conduct a stakeholder analysis of the climate and energy policy context in Colorado.

The policy actors examined in this article are the individuals involved in climate and energy issues within the Colorado climate and energy policy subsystem. Colorado possesses a balance of traditional energy resources along with an expanding renewable energy sector. Colorado faces threats from climate change in the form of shorter and warmer winters, a thinner snowpack, earlier melting of the snowpack and increased spring runoff, prolonged periods of drought, increases in the number of wildfires, and substantial losses of alpine forests because of pine beetle infestations. Like many other states, efforts to address climate change within Colorado have shifted to the state and local levels (Rutland & Ayett, 2008) after a stalled effort at the national level. In 2007, with the input of a variety of stakeholders, Colorado adopted the Colorado Climate Action Plan (Ritter, 2007), which called for a 20% reduction of state greenhouse gas emissions by 2020. Colorado is a typical state in regard to state-level climate policy, as it is one of more than 30 states to have completed a climate action plan (Environmental Protection Agency, 2011; ICLEI: Local Governments for Sustainability, 2011). Nonetheless, Colorado exists in a country with an adversarial political system (Bomberg, 2012) that has precluded a strong endorsement for climate policies (Lachapelle, Borick, & Rabe, 2012).

This article begins with descriptions of the ACF and PAC before describing the methods and a summary of the results. In the results section, we identify the advocacy coalitions within the policy subsystem by their beliefs. We also support the theoretical arguments for coalitions by direct survey measurements of coalition building and “belief homophily” that states that people of similar beliefs interact more than people of dissimilar beliefs (Henry, Lubell, & McCoy, 2011; McPherson, Smith-Lovin, & Cook, 2001). We then examine the PAC of coalitions by focusing on the capacity at the individual and organizational levels. The next step of the analysis...
is examining the activities and strategies used by each coalition to influence policies. The results show that the Colorado climate and energy policy subsystem contains a large proclimate change coalition and a smaller anticlimate change coalition. The two coalitions have similar levels of PAC at the individual and organizational levels and engage in similar activities and strategies.

Policy Analytical Capacity and the Advocacy Coalition Framework

This article conducts a stakeholder analysis that combines aspects of PAC and the ACF. Drawing from Howlett (2009), PAC, as a concept, refers to the ability of individuals and organizations to acquire and utilize knowledge in the policy process. PAC also serves as an informal framework to assess the analytical capacity among policy actors and organizations active within a policy topic or subsystem. At the individual level, capacity might relate to an individual’s level of education, years of experience, and skills (Elgin, Pattison, & Weible, 2012; Howlett, 2009; Wellstead, Stedman, & Lindquist, 2009). Skills can involve different areas of formal training, including the ability to conduct applied research, statistical methods, policy analysis, policy evaluation, trends analysis/forecasting, and modeling of various scenarios. Less formal skills can include community-level impact analyses, political feasibility analyses, or facilitation and consensus building. At the organizational level, capacity relates to the organization’s priority in addressing a particular policy issue, whether the organization possesses the knowledge, skills, and people needed to respond to the policy issue, and the organization’s ability to engage in long-term planning (Craft & Howlett, 2012; Howlett & Oliphant, 2010). At the subsystem level, capacity relates to the structure of the governance networks (including government and nongovernment organizations) and whether such networks promote learning and adaptive policy change toward sustainable outcomes (McNutt, 2012; Perl & Newman, 2012).

Policy actors and organizations with high levels of PAC are argued to have a higher probability of shaping policy agendas and impacting the design and content of policies, a better understanding of the context in which policies are implemented and ability to evaluate policy outputs and outcomes—that is, they are more likely to be influential in determining who gets what, when, and how. However, PAC does not provide guidelines for analyzing how its capacity measures fit into the broader system toward political influence and contexts, which is one of the strengths of the ACF.

The ACF was developed in the 1980s to provide a synthesis of top-down and bottom-up approaches in the implementation literature; an approach for understanding coalitions, learning, and policy change; and a need to incorporate science and technology into policy process theories (Sabatier, 1986, 1987, 1988; Sabatier & Jenkins-Smith, 1993). An ACF approach to stakeholder analysis takes some of the essential features of the framework to describe the context of a policy subsystem. Much of the existing ACF research aims to explain the formation and stability of coalitions, learning within and between coalitions, or policy change (Weible et al., 2011). An ACF guided stakeholder analysis is more descriptive than explanatory by describing coalition members, beliefs, networks, resources, and strategies.
the stakeholder analysis guidelines from Weible (2007), this article approaches an ACF stakeholder analysis through four parts.

**Analyzing Coalition Beliefs**

The ACF assumes that actors are motivated by a hierarchical belief system (see Sabatier & Jenkins-Smith, 1999, 133). At the broadest level are deep core beliefs, which span multiple subsystems and involve normative assumptions concerning human nature that are the product of childhood socialization. Deep core beliefs are predicted to be extremely difficult to change. At the intermediate level, policy core beliefs span the scope of a subsystem and are a collection of normative and empirical beliefs that are the foundation for uniting allies and dividing opponents, forming coalitions, and coordinating activities among coalition members. Policy core beliefs are also very resistant to change but are much more prone to being altered than deep core beliefs. This particular article measures deep core beliefs by the degree of conservative and liberal ideology on social and fiscal issues and policy core beliefs by severity, causes, and solutions to issues related to climate change.

**Coalition Network**

The ACF assumes that coalitions engage in nontrivial degree of coordination. The best efforts to studying coalition coordination structure are through network analysis as found recently in Henry (2011), Ingold (2011), and Matti and Sandström (2011). The arguments are that coalition members connect primarily to other members via information, ally, disagreement, and collaboration networks and that these networks are formed by a “belief homophily” argument (Henry et al., 2011; McPherson et al., 2001). Belief homophily states that people of similar beliefs interact more than people of dissimilar beliefs. This article analyzes coalition membership interactions by asking direct questions concerning “belief homophily” in collaborating as well as a question concerning engaging in coalition building.

**Coalition Resources and Policy Analytical Capacity**

Sabatier and Weible (2007) and Weible (2007) outline six categories of resources: finances, leadership, access to authority, access to scientific and technical information, mobilizable supporters, and leadership. Nonetheless, few studies have analyzed coalition resources, and the framework has produced little insight into the manner in which resources are used by policy actors and advocacy coalitions within a subsystem (important exceptions include a recent effort by Nohrstedt [2011]).

Instead of using the ACF’s categories of resources, this article adopts the logic of PAC. Table 1 presents a comparison of the two frameworks listing the individual, organizational/coalition, and subsystem levels of analysis of each framework. At the individual level, PAC details important individual-level resources for processing and utilizing information. The ACF, in turn, provides a conceptualization of individuals as boundedly rational actors who select and assimilate stimuli by beliefs and have a tendency to remember losses more than gains. In this respect, the ACF
provides a rationale for motivation based on beliefs and recognizes the cognitive constraints of individuals, whereas PAC lists individual resources useful for information acquisition and utilization.

PAC then emphasizes the capacity of the organization and asks questions concerning whether the organization possesses the resources needed to respond to a policy issue, whether the issue is a priority for the organization, and whether the organization is able to engage in long-term thinking on climate issues. The ACF assumes individuals usually operate within organizations and combines most of these organizations into advocacy coalitions by emphasizing their network connections and political involvement on the issue. In combination, the ACF provides PAC with a greater understanding of how analytical capacity relates to broader policy processes.

Both PAC and the ACF generalize to the policy subsystem. For the PAC, the emphasis is on the degree that people governing the subsystem are capable of learning and adapting to information. For the ACF, the emphasis is on understanding the long-term patterns of coalition behavior, learning, and policy change within a policy subsystem that intersects with, and is nested within, other policy subsystems and the broader political system. The combination of the PAC and the ACF offers a complementary approach for understanding individuals, organizations, coalitions, and policy subsystems.

### Coalition Strategies

A final component of an ACF approach to stakeholder analysis involves the identification of coalition strategies. Even more than resources, strategies within the ACF are an underdeveloped concept without a clear articulation. Past scholarship within the ACF on coalition strategies is thin with some devoting attention to venue shopping (see, e.g., Nagel, 2006, and Meijerink, 2008) or narratives (Shanahan, Jones, & McBeth, 2011). In this article, we operationalize strategies by a set of activities that coalitions and their members engage in to influence the policy process.
Case Study: Colorado Climate and Energy Policy Setting

Colorado provides a good case study to examine climate and energy policies because of its vast traditional energy resources, the rise of its renewable energy sector, and its vulnerability to climate change. Colorado has long been a major producer of traditional energy with several major fossil fuel-rich basins, major production of coalbed methane, and vast reserves and high levels of natural gas production (US Energy Information Administration, 2011). In recent years, Colorado’s renewable energy sector has grown partly in response to the state’s renewable energy portfolio standard via a ballot initiative in 2004 and a subsequent strengthening of the standard by the legislature in 2010 (Database of State Incentives for Renewables & Efficiency, 2010). The Colorado case is also a good study because of its vulnerability to both current and predicted impacts of climate change, including shorter and warmer winters and increased periods of drought (Ritter, 2007). Scientists project that in the ensuing decades, climate change in Colorado will produce temperature increases of 3 to 4 degrees Fahrenheit, longer and more intense wildfires during the summer seasons, and an increase in water shortages.

Former Colorado Governor Bill Ritter launched an initiative to address climate change statewide, which resulted in the creation of the Colorado Climate Action Plan in November 2007. This plan called for a reduction of the state emission of greenhouse gases by 20% by 2020. The state’s plan was created in a collaborative manner from a diverse set of stakeholders including “business and community leaders, conservationists, scientists and concerned citizens” (Ritter, 2007, p. 2). This adoption of a state climate action plan is representative of climate policy at the state level (Environmental Protection Agency, 2011; ICLEI: Local Governments for Sustainability, 2011) and in a country without climate policies at the national level.

Methods

The sample was collected through a modified snowball sample targeting those individuals involved in Colorado climate and energy issues. Names for the sample were first identified by searching the Internet for government and nongovernment organizations and the people therein who were involved in climate and energy issues. In the next step, we searched newspapers and online publications to identify names of individuals not identified in our initial search. As a third step, we conducted preliminary interviews with five people involved with Denver and Colorado climate and energy issues and asked interviewees of the names of individuals that should be included in our sample. The total sample was 793 individuals. Our survey was based upon a modified version of the survey used by Wellstead and colleagues (2009) to study policy-focused employees within the Canadian federal government. The survey was administered online from February through April of 2011. Of the total population sampled, 272 individuals returned fully completed surveys for a response rate of 34% and 87 returned partially completed surveys (the inclusion of which equals 359 respondents and a 45% response rate). Only the fully completed surveys were analyzed in this article.
Results

The results are presented in a four-part analysis as directed by the ACF stakeholder analysis identifying (1) beliefs and coalition membership, (2) coalition networks, (3) coalition resources, and (4) coalition strategies.

Identifying Beliefs and Advocacy Coalition Membership

We identify two advocacy coalitions within the Colorado climate and energy policy subsystem consisting of a large proclimate change coalition with 205 policy actors from our sample and a small anticlimate change coalition of 55 policy actors.3 The coalitions were identified utilizing a modified version of Zafonte and Sabatier’s (1998) method of cluster analysis and silhouette means. Utilizing a battery of questions on policy core beliefs relating to the causation and severity of climate change and several proposed policy solutions (see Table 3 for questions), we utilized the \( k \)-means clustering technique (MacQueen, 1967) to partition actors into clusters based on the similarity of their policy beliefs. We conducted cluster analyses that partitioned actors into two, three, or four advocacy coalitions and then evaluated the “goodness of fit” of the various coalitions by assessing the average silhouette values of the clustered coalitions. Clustering actors into two advocacy coalitions produced the best fit with an average silhouette value of 0.66, whereas clustering actors into three and four coalitions produced mean silhouette values of 0.40 and 0.35, respectively.

Table 2 shows the descriptive characteristics of the anticlimate change and proclimate change coalitions. The organizational affiliation of policy actors within the anticlimate change coalition are dominated by business organizations (53%) with government actors a distant second (22%), whereas the majority of actors in the proclimate change coalition represented the government sector (33%) with business a closer second (28%). There is a statistically significant difference between the two coalitions in their members’ affiliation composition (\( p < .05 \), based on an independent sample, Kruskal–Wallis test).

Table 2 also shows the deep core beliefs for the two coalitions. The deep core beliefs of actors in the proclimate change coalition held a more liberal policy stance on fiscal policy than actors in the anticlimate coalition as well as a considerably more liberal stance on social policy (\( p < .001 \) for both measures).

<table>
<thead>
<tr>
<th>Table 2. Advocacy Coalition Membership and Deep Core Belief Measures</th>
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<tbody>
<tr>
<td>Anticlimate Change Coalition</td>
</tr>
<tr>
<td>Total number of policy actors</td>
</tr>
<tr>
<td>Number and percent of policy actors by affiliation*</td>
</tr>
<tr>
<td>Government</td>
</tr>
<tr>
<td>Business</td>
</tr>
<tr>
<td>Nonprofit</td>
</tr>
<tr>
<td>Academic/research</td>
</tr>
<tr>
<td>Deep core beliefs†</td>
</tr>
<tr>
<td>Fiscal***</td>
</tr>
<tr>
<td>Social***</td>
</tr>
</tbody>
</table>

Note: Independent samples Kruskal–Wallis test with significance levels at *\( p < .05 \), ***\( p < .001 \)
†Deep core belief scale: 1 = "very liberal," 2 = "liberal," 3 = "moderate," 4 = "conservative," 5 = "very conservative."
As policy core beliefs were the basis for partitioning policy actors into advocacy coalitions, the coalitions differed significantly in regard to their policy core beliefs on climate change. Table 3 lists the beliefs of the anticlimate change and proclimate change coalitions. With regard to whether human behavior was the principal cause of climate change, the anticlimate change coalition had a mean belief closest to “somewhat disagree,” with nonprofits reporting a considerably higher intensity of disagreement, whereas the proclimate coalition had a mean belief of “somewhat agree” (p < .001). In regard to whether the severity of predicted impacts on society from climate change are vastly overstated, the anticlimate change coalition somewhat agreed with businesses having a higher level of intensity of agreement than the other sectors. In contrast, the proclimate change coalition strongly disagreed concerning the potential overstatement of the predicted severe impacts of climate change (p < .001). When asked whether “decisions about energy and its effect on climate are best left to the economic market, and not to government,” the anticlimate change coalition had an overall mean belief of “neither agree nor disagree” with nonprofits agreeing the most. The proclimate change coalition generally tended to disagree somewhat (p < .001).

When asked their beliefs on whether a carbon tax was needed to combat climate change, the anticlimate change coalition somewhat disagreed, with government and nonprofits expressing the strongest disagreement, whereas the proclimate change coalition somewhat agreed uniformly (p < .001). Concerning whether cap-and-trade policies were needed to combat climate change, the anticlimate change coalition somewhat disagreed, whereas the proclimate change coalition somewhat agreed (p < .001). Finally, respondents were asked whether policies promoting renewable energy generation were needed to combat climate change. The anticlimate change coalition members responded with a mean position that involved some disagreement, whereas the proclimate change coalition members expressed a mean belief of strongly agree (p < .001).

These findings demonstrate the fundamentally different policy core beliefs of the two coalitions on a variety of aspects of energy and climate change, ranging from the cause and severity to whether solving climate change was best left to the economic market to whether carbon taxes, cap-and-trade mechanisms or renewable energy policies are proper solutions to addressing climate change. Within the anticlimate change coalition, there were noticeable differences between different types of organizations on beliefs, whereas the proclimate change coalition expressed more uniform beliefs across all organization types.

Examining Networks of the Advocacy Coalitions

The second step of the analysis was to examine how the coalitions interconnect by asking direct questions about collaboration and coalition building. The logic of coalitions rests on the notion of “belief homophily” (Henry et al., 2011). This can be measured via traditional forms of network analysis as recently found in Henry (2011) or as far back as Zafonte and Sabatier (1998). In this article, we take a more direct approach by asking the frequency of which policy actors collaborated with others who have similar beliefs compared with others with dissimilar beliefs. In support of the belief homophily argument, Table 4 shows that both coalitions
<table>
<thead>
<tr>
<th></th>
<th>Anticlimate Change Coalition</th>
<th>Proclimate Change Coalition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity of predicted impacts is overstated***</td>
<td>-0.25</td>
<td>-1</td>
</tr>
<tr>
<td>Human behavior is the principal cause***</td>
<td>0.67</td>
<td>0.66</td>
</tr>
<tr>
<td>Decisions on climate &amp; energy are best left to the market***</td>
<td>0.17</td>
<td>-0.24</td>
</tr>
<tr>
<td>Carbon tax is required***</td>
<td>1.58</td>
<td>1.07</td>
</tr>
<tr>
<td>Cap &amp; trade is required***</td>
<td>1.58</td>
<td>1.24</td>
</tr>
<tr>
<td>Renewables policy is required***</td>
<td>0.00</td>
<td>0.41</td>
</tr>
</tbody>
</table>

*Note: Independent samples Kruskal-Wallis test with significance levels at ***p < .001.
Policy core beliefs scale: -2 = "strongly agree," -1 = "agree," 0 = "neither agree nor disagree," 1 = "disagree," 2 = "strongly disagree." p < .05 difference between organizations in the anticlimate change coalition on severity of climate change.*
collaborated with those who shared their beliefs on climate and energy issues on a weekly basis ($p < .01$) while they collaborated with individuals who did not share their beliefs on climate and energy on a monthly basis.

In addition, the belief homophily question was complemented by asking policy actors if they were actively engaged in coalition building in the past year (yes or no). The findings from Table 4 indicate that similar proportions of actors in the anticlimate change and proclimate change coalitions engaged (71% and 86%, respectively) in coalition building, with statistically significant ($p < .05$) differences between the coalitions. Although the measures of coalitions in Table 4 do not show who coordinates with whom in a coalition, the results provide original measures and indirect support for the logic of coalition formation.4

**Examining the Individual Policy Analytical Capacity of the Coalitions**

Table 5 presents the individual PAC of members within each coalition. We find that members of both coalitions have similar levels of education with a mean education of master’s or a professional degree with means ranging from 4.8 to 5.4 (insignificant at $p > .05$). Members in the two coalitions also possessed similar levels of experience, with most involved 6–9 years in climate and energy policy issues (means between 3 and 4).

We then examined the levels of formal training in applied research, modeling, policy analysis, policy evaluation, statistics, and trends analysis among coalition members. Members of the anticlimate change and proclimate change coalitions reported similar proportions of actors with formal training in applied research (overall coalition means range from 31% versus 36%, respectively), policy evaluation (38% and 44%, respectively), and trends analysis (35% and 24%, respectively). The anticlimate change and proclimate change coalitions had more noticeable differences in regard to the proportions of actors with formal training in modeling (38% versus 22%, respectively), policy analysis (31% versus 50%, respectively), and statistics (60% versus 43%, respectively) with differences significant at the $p < .05$ level for each of these measures of formal training.

The results show that the two advocacy coalitions have relatively similar levels of individual PAC in regard to education, experience, and formal training on a variety of analytical techniques. The two coalitions were most noticeably different in regard to the proportion of coalition members that had training in modeling, statistics, and policy analysis with the anticlimate change coalition possessing higher levels of capacity in modeling and statistics and the proclimate change coalition possessing a higher level of capacity in conducting policy analysis. Additionally, it appears that all coalition affiliations offer some skills to the policy process. Academic/researchers may have the highest proportion with training in statistics and modeling whereas businesses have the highest training per coalition for policy analysis.

**Examining the Organizational Policy Analytical Capacity of the Coalitions**

Table 6 presents the organizational level PAC of each coalition. We used three measures to examine the PAC of organizations within each coalition: (1)
## Table 4. Coalition Member’s Interactions

<table>
<thead>
<tr>
<th></th>
<th>Anticlimate Change Coalition</th>
<th>Proclimate Change Coalition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration patterns with similar beliefs**</td>
<td>Monthly</td>
<td>Weekly</td>
</tr>
<tr>
<td>Percent of coalition members who participated in coalition building in the past year*</td>
<td>75%</td>
<td>76%</td>
</tr>
</tbody>
</table>

*Note: Independent samples Kruskal–Wallis test between coalitions with significance levels at *p < .05, **p < .01.

There is a p < .05 difference between organizations in the anticlimate change coalition on severity of climate change.
Table 5. Individual Policy Analytical Capacity of the Coalitions

<table>
<thead>
<tr>
<th></th>
<th>Anticlimatic Change Coalition</th>
<th>Proclimate Change Coalition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education†</td>
<td>4.83</td>
<td>5.21</td>
</tr>
<tr>
<td>Years of experience‡</td>
<td>3.08</td>
<td>4.03</td>
</tr>
<tr>
<td>Percent of affiliation members who have received formal training:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics*</td>
<td>67%</td>
<td>52%</td>
</tr>
<tr>
<td>Modeling*</td>
<td>50%</td>
<td>34%</td>
</tr>
<tr>
<td>Training in applied research</td>
<td>42%</td>
<td>21%</td>
</tr>
<tr>
<td>Policy evaluation</td>
<td>33%</td>
<td>45%</td>
</tr>
<tr>
<td>Trends analysis</td>
<td>33%</td>
<td>38%</td>
</tr>
<tr>
<td>Policy analysis*</td>
<td>25%</td>
<td>34%</td>
</tr>
</tbody>
</table>

Note: Independent samples Kruskal–Wallis test with significance levels at *p < .05.

†Education scale: 1 = “not a high school graduate,” 2 = “high school graduate,” 3 = “some college,” 4 = “bachelor’s degree,” 5 = “master’s or professional degree,” 6 = “PhD, MR, or JD.”
‡Years of experience scale: 1 = “less than 1 year,” 2 = “1–5 years,” 3 = “6–9 years,” 4 = “10–14 years,” 5 = “15–20 years,” 6 = “greater than 20 years.”
<table>
<thead>
<tr>
<th></th>
<th>Anticlimatic Change Coalition</th>
<th>Proclimatic Change Coalition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational priority†</td>
<td>2.5</td>
<td>3.93</td>
</tr>
<tr>
<td>Adequate knowledge, skills, and people‡</td>
<td>3.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Urgent day-to-day issues take precedence§</td>
<td>4.17</td>
<td>3.41</td>
</tr>
</tbody>
</table>

Note: Independent samples Kruskal–Wallis test between and within coalitions, with significance levels at *p < .05.

†Scale: 1 = “much lower,” 2 = “lower,” 3 = “about the same,” 4 = “higher,” 5 = “much higher.”
‡Scale: 1 = “very low capacity,” 2 = “low capacity,” 3 = “medium capacity,” 4 = “high capacity,” 5 = “very high capacity.”
§Scale: 1 = “strongly disagree,” 2 = “disagree,” 3 = “neutral,” 4 = “agree,” 5 = “strongly agree.”
organizational priority; (2) the adequate knowledge, skills, and people; and (3) urgent day-to-day issues took precedence over long-term efforts.

When asked whether their organization made addressing climate and energy issues an organizational priority compared with other issues (with a scale ranging from 1 = “much lower” up to 5 = “much higher”), most coalition members in both coalitions expressed that their organization made climate and energy issues a higher priority than other issues. Within the anticlimate change coalition, businesses expressed that climate and energy policy were a higher priority (mean = 4) while government expressed the lowest level of priority reporting that their organization addressed climate and energy issues somewhere between “lower priority” and “about the same.” In the proclimate change coalition, academic and research organizations and nonprofits reported their organizational priorities on climate and energy to be higher than others (means ~4). In contrast, government officials as part of the proclimate change coalition reported the lowest priority that climate and energy issues were about the same as other priorities. There was not a significant difference between the coalitions for the organizational priority question with mean ranging from 2.5 (governments in the anticlimate change coalition) to 4.00 (academic/research organizations in the proclimate change coalition).

We then asked coalition members to assess whether their organization had adequate knowledge, skills, and people to respond to climate change and energy issues and policies. The two coalitions reported nearly identical levels of adequate knowledge, skills, and people reporting means closest to high capacity with means ranging from 3.00 (government organizations in the anticlimate change coalition) to 4.17 (academic/research organizations in the proclimate change coalition). In the anticlimate change coalition, businesses reported that their organization had high capacity in terms of adequate knowledge, skills, and people, whereas government reported that their capacity was medium. Within the proclimate change coalition, academic and research organizations reported that their organization had high capacity in terms of adequate knowledge, skills, and people, whereas government organizations reported that their capacity was medium.

Finally, respondents were asked whether their organization had the ability to think long term on climate and energy issues or whether urgent, day-to-day issues took precedence and kept them from doing so. Both coalitions reported that they agreed that urgent, day-to-day issues took precedence (p < .05). Within the anticlimate change coalition, day-to-day issues took the most precedence within government (mean = 4.2), whereas in the proclimate change coalition, day-to-day issues took the greatest precedence in business (mean = 4.0). There was a considerable difference among the organizations within the anticlimate change coalition between government and academic/research organizations.

Together, these three measures suggest that the two coalitions had similar levels of capacity at the organizational level. Within each coalition, government organizations had the lowest levels of organizational capacity, with government in the anticlimate change coalition scoring lowest on all three measures and government within the proclimate change coalition having the lowest levels of capacity in regard to organizational priority and adequate knowledge, skills, and people.
Examining the Activities and Strategies of the Coalitions

Finally, we examine the activities and strategies employed by the two coalitions. We asked coalition members if throughout the previous year they had participated in a variety of activities and strategies, including appraising policies, conducting research, consulting with the public, evaluating policies, implementing policies and programs, informing officials, and negotiating in multistakeholder consensus-based processes. The percent of members within each organization reporting the affirmative for each activity is presented in Table 7. Table 7 also presents the activities and strategies of the coalitions as percent of members engaged in each activity.

The coalitions had nearly similar levels of activity in appraising policy options, conducting climate and energy research, consulting with the public, evaluating policy processes and results, implementing policies and programs, informing officials, and negotiating in consensus-based processes. Within the anticlimate change coalition, there were statistically significant (p < .05) differences between organizations in regard to implementing policies and programs with means of 0.14 for academics/researchers and 0.83 for government. Within the proclimate change coalition, there were statistically significant (p < .05) differences between organizations in regard to conducting research with a significantly higher mean of 0.90 for the academic/research category.

Additionally, organizations within each coalition are taking on different roles within the subsystem. Government organizations in both coalitions are more involved with implementing policies and programs. There are higher percentages that indicate business, and nonprofit organizations are involved with negotiating in multistakeholder consensus-based processes. Academic and research organizations are most involved in climate/energy research, whereas government organizations are involved in conducting policy analysis, informing officials, and implementing policies and programs. Although not definitive in this study, greater attention to the respective forms of engagement by organizations in policy subsystems is needed.

Conclusion

Analyzing political, regulatory, and stakeholder landscapes can be conducted through many different lenses (see, for example, Davis, 2012). This article adopted the principles outlined in PAC to conduct a stakeholder analysis via ACF of Colorado climate and energy subsystem. The result provided greater insight into the resources and strategies used by policy actors and advocacy coalitions as they attempt to translate their beliefs into policies.

Within the Colorado climate and energy subsystem, we identified a large proclimate change coalition and smaller anticlimate change coalition. The two coalitions held fundamentally different beliefs in regard to the cause of climate change, its severity, whether solving climate change should be left to the economic market, and whether carbon taxes, cap-and-trade, and renewable energy policies were solutions to climate change. Both coalitions are more likely to collaborate with others they agree with than disagree with, and most members in both coalitions engage in coalition building.
Table 7. Activities and Strategies of the Coalitions

<table>
<thead>
<tr>
<th>Activity</th>
<th>Anticlimate Change Coalition</th>
<th>Proclimate Change Coalition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implemented policies or programs</td>
<td>83%</td>
<td>34%</td>
</tr>
<tr>
<td>Appraised policy options</td>
<td>75%</td>
<td>48%</td>
</tr>
<tr>
<td>Informed officials</td>
<td>75%</td>
<td>66%</td>
</tr>
<tr>
<td>Evaluated policy processes, results, and outcomes</td>
<td>67%</td>
<td>59%</td>
</tr>
<tr>
<td>Consulted with the public</td>
<td>67%</td>
<td>55%</td>
</tr>
<tr>
<td>Negotiated in a multistakeholder consensus-based process</td>
<td>42%</td>
<td>66%</td>
</tr>
<tr>
<td>Conducted climate/energy research</td>
<td>33%</td>
<td>66%</td>
</tr>
</tbody>
</table>

Note: p < .05 difference among organizations in the anticlimate change coalition on implementation.

p < .05 difference among organizations in the proclimate change coalition on conducting research.
Despite fundamentally different beliefs, we find the two coalitions to be relatively similar in several other regards. The coalitions had relatively similar levels of individual capacity in regard to education, experience, and formal training in a variety of analytical techniques. The coalitions also had similar levels of capacity at the organizational level, with organizations in both coalitions expressing that they had high capacity to address climate change and energy issues because they possessed the adequate knowledge, skills, and people needed to do so and that climate and energy issues were a high organizational priority but that urgent day-to-day issues took precedence over longer term thinking. The two coalitions also utilized similar activities and strategies in an attempt to translate their beliefs into policies. In all, this stakeholder analysis of the Colorado climate and energy issues suggests, at the subsystem level, that the large proclimate change coalition is in a stronger position than the smaller anticlimate change coalition. However, both coalitions are supported by members with high individual and organizational PAC, suggesting that the small anticlimate change coalition remains capable of engaging in political debates. Given that Colorado does support a Climate Action Plan, the results from this analysis suggest that the proclimate change coalition has had some success in influencing the policy process. However, any speculation concerning the relative influence and success of these coalitions in Colorado needs further empirical support.

Our analysis offers two contributions to the public policy literature. The first contribution is the joint application of the ACF and PAC to provide greater insight into how policy actors and coalitions utilize resources within a policy subsystem. Applying these two conceptual frameworks can be used to address the limitations inherent within each. PAC provides the ACF with a greater understanding of how policy actors, coalitions, and subsystems utilize resources in an effort to achieve policy change. At the same time, PAC benefits from this integration as ACF offers a greater understanding of how capacity impacts the policy process through its focus on policy actors, advocacy coalitions, and policy subsystems. The use of PAC within the ACF does not mean that resource typology outlined in Weible (2007) should be discarded or is unimportant. Rather, this approach suggests how different concepts and approaches can be used within the ACF to gain descriptive and explanatory leverage. In this respect, the effort in this article supports the arguments to view the ACF as an actual “framework” that can support different theoretical, modeling, and measurement approaches (see Weible et al., 2011). Such experimentation can be very useful for challenging current approaches as well as offering plausibly better approaches. In this article, we found that the PAC shifted the analysis toward assessing individual and organizational level resources in a way that is new to the framework. Whether this approach is preferred to prior measures of resources in the ACF requires further inquiry and may depend on the research objectives.

The second contribution is the conscious analysis of different levels: individual, organizational/coalition, and subsystem levels. These levels are part of the ACF and PAC, but it was the inclusion of PAC that offered measures of organizational level capacity, something mostly ignored in prior ACF research, which tends to favor coalitions over organizations. The emphasis on individual abilities of the PAC also steered the analysis toward measures of formal training, education, and experience, something that is not inconsistent with the ACF but rarely emphasized to the extent herein.
Generalizing these results should be done with a degree of caution. The relatively small number of individuals from our survey that were identified as members of the ant клиimate change coalition may reflect the actual size and characteristics of the actual coalition or a selection bias from our modified snowball sampling procedures. Additionally, the results would be strengthened with a stronger relational foundation for identifying coalitions using network analysis. The point of this article, however, was not to advance the study of how to apply network analysis to identify coalitions but rather to conduct a stakeholder analysis of a pertinent issue using the ACF and PAC and, thereby, to provide an analysis of resources and strategies of coalitions. In this effort, this article does provide direct measures of the belief homophily hypothesis underpinning the rationale for coalitions to exist and a question asking actors if they engage in coalition building.

These caveats aside, our research provides another contribution to efforts to understand political landscapes via stakeholder analysis by combining aspects of the ACF and PAC. The combination is useful for both approaches but should not be viewed as the ultimate coupling. This analysis shows how the ACF, if viewed as a framework capable of supporting alternate theories and models, can support the inclusion of the logic of PAC in conducting a stakeholder analysis to generate an interpretation of the subsystem that the ACF, in traditional form, would not accomplish. For many research questions, a combination of PAC and ACF would be very suitable. The analysis shows how the PAC’s measures of capacity at the individual, organizational, and system levels are possibly even more important when combined with the theoretical logic of the ACF. If we assume that most, if not all, policy issues involve some degree of politics, complementing a PAC analysis with another framework, like the ACF, makes sense.

Notes

1 The recent edition of Weimer and Vining (2011) incorporates sections of policy process theories. The next step is to describe how policy process theories both provide needed insight into the political context and can be used to structure problem-oriented advice to clients. What is needed is a concerted effort described in the text for translating these theories into tools used in providing advice to clients (see Lasswell, 1971).

2 Sabatier and Weible (2007, 191–192) describe the ACF operating at the macro, meso, and micro levels of analysis. These three levels remain underdeveloped conceptually and theoretically within the ACF. This is an area that needs scholarly attention.

3 We refer to these coalitions as large and small rather than dominant and minority coalitions. Our reasoning is that our description is based on the size of the coalition and not on their influence on public policy.

4 Many applications of the ACF identify coalitions based only on beliefs (Weible, Sabatier, & McQueen, 2009). Although this article has indirect measures of network relations, these measures are rudimentary compared with the techniques found in Henry (2011), among many others. In this regard, it might be more appropriate to consider the coalitions in this article “belief coalitions” (Zafonte & Sabatier, 2004).

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References


