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# Conflict Assessment in Energy Infrastructure Siting: Prospects for Consensus Building in the Northern Pass Transmission Line Project

*Laura S. Keir and Saleem H. Ali*

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*As energy demand grows rapidly worldwide, power line infrastructure will continue to be a major development planning challenge. This study considers the environmental conflict that has arisen over a transnational transmission line project between Canada and the United States. A qualitative conflict assessment is presented to define the parameters for consensus that could prevent protracted litigation between stakeholders. Proactively designing a process to encourage consensus building during the early development phase remains the most critical determinant of compromise. In this article, we argue that in this case a consensus-building effort could be feasible if certain design requirements were met, including gaining the participation of key stakeholders, paying attention to trust, and focusing on the issues specific to this transmission line rather than to a larger energy discussion. The research shows that despite potential pitfalls, reaching more widely accepted and ecologically sensitive solutions to environmental conflicts through participatory and collaborative approaches is possible and worth the effort.*

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**Laura S. Keir** is a planner at the Rutland Regional Planning Commission in Vermont and a 2013 Master of Science graduate of the Rubenstein School of Environment and Natural Resources at the University of Vermont in Burlington. Her e-mail address is [laurakeir@gmail.com](mailto:laurakeir@gmail.com).

**Saleem H. Ali** is a professor of environmental planning at the University of Vermont and currently on professional leave to serve as director of the Centre for Social Responsibility in Mining at the University of Queensland, Australia. His e-mail address is [Saleem@alum.mit.edu](mailto:Saleem@alum.mit.edu).

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## Introduction

The disparity between power use and adequate investment in American transmission facilities is widening (Electric Power Research Institute [EPRI] 2003; Keystone Center 2005; Vajjhala and Fischbeck 2007). At the same time, a shift toward renewable energies like wind and hydropower, which are often harnessed in isolated locations, will increasingly require transmission of electricity to more populated centers of demand (Rossi 2009). Despite this worsening situation, industry representatives and others agree that stakeholder actions often “adversely affect the ability to successfully site and construct needed transmission lines in a timely manner” (Keystone Center 2005: 17), and public opposition will likely increase with efforts to meet new transmission needs (EPRI 2003). In this article, we focus on one such case of public opposition to a proposed energy infrastructure project, the Northern Pass transmission line that would bring electricity produced in Quebec into the northeast United States through the state of New Hampshire.

Thirty years ago, Dennis Ducsik asked the question, “Can anything be done to avoid the grim prospect of more disruptive conflict over the location of power plants?” (1981: 155). His answer was that energy infrastructure siting should be a more participatory process involving collaboration between developers and the public; several others have since made calls for improved public participation in such development siting (Popper 1985; Hilen 2003; Vajjhala and Fischbeck 2007; Barnett et al. 2012; Cotton and Devine-Wright 2012). Ducsik recognized that technical, environmental, economic, and political constraints limit the locations available for energy siting, and that aging power facilities will require replacement irrespective of rates of energy consumption. These issues have contributed to rising tensions over energy infrastructure siting since the 1960s, and many would say they have only intensified in recent decades given the rise in environmental conflicts more generally (Holzinger 2001). But collaboration between energy developers and stakeholders (including private, nonprofit, and public interests) has not gained much traction in practice.

A great deal of research has been undertaken regarding citizen participation and consensus building on other environmental issues such as watershed management (Koehler and Koontz 2008), waste management (Petts 2001), and endangered species protection (Raymond 2006). But the research on participatory energy infrastructure planning is quite thin (Ducsik 1984) and particularly so in the area of transmission lines. Much of the energy planning research has delved into the use of technical tools

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(Higgs et al. 2008; Jewell et al. 2009) and best practices (Bond, Palerm, and Haigh 2004; Portman 2009) for public participation and conflict resolution, but practitioners still seriously question whether developers and the public can voluntarily work together to make decisions.

Those in the public dispute resolution field have been using a tool called the “conflict assessment” since the 1970s to recommend if a consensus-building process should be undertaken based on stakeholder values and opinions, and, if so, how it should be designed (Susskind and Thomas-Larmer 1999). The assessment of feasibility is a critical step because “a process that is sure to fail is not worth starting” (Susskind and Thomas-Larmer 1999: 8); however, discussion in the literature on *how* to assess this feasibility is surprisingly limited (for instance, Lawrence Susskind and Jennifer Thomas-Larmer’s forty-five-page “how-to” on conflict assessment includes a single page on assessing feasibility). Martha Bean, Larry Fisher, and Mike Eng (2007) noted that an often unspoken assumption is that a conflict resolution process will follow an assessment; however, assessors must be clear with the parties involved that such a process may, in the end, not be advisable. Accordingly, they need empirical guidance on how to make such a determination.

In this study, we examine a controversial proposal for a high-voltage electric transmission line in New Hampshire, and, using a conflict assessment approach, we ask what the prospects are for cooperation between developers and other stakeholders. Our research focuses on the expressed interests, concerns, and opinions of those involved in and affected by the transmission line. With this case study, we also seek to gain insight into a larger, pressing question: with the increase in conflict over land use and energy sources in modern society, can we reach wise decisions about energy infrastructure through consensus building rather than through legal wrangling between parties?

## **The Northern Pass Case**

The Northern Pass is a proposed high-voltage electric transmission line to bring energy produced by Hydro-Quebec in Canada into New Hampshire for distribution throughout the northeast (Northern Pass Transmission [NPT] 2012). The project is being proposed by Northern Pass Transmission LLC (herein referred to as NPT), a New Hampshire company owned by Northeast Utilities (NPT 2012), which is the largest utility in New England (Northeast Utilities 2012). The \$1.4 billion project would comprise 187 miles of newly constructed 80- to 135-foot towers and transmission lines in New Hampshire.

The transmission line would carry direct current (DC) electricity for most of the route, ending with an alternating current (AC) transmission line. The northernmost 40 miles of the route would require a new right of way, and 7.5 miles of that portion is proposed to be buried underground (see Figure One). The Northern Pass would carry up to 1,200 megawatts of hydroelectricity into New Hampshire to connect into the northeast grid (NPT 2012).

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Although the transmission line has been discussed since at least 2008, significant public interest did not develop until October 2010 when the project was publicly announced. The Northern Pass is currently in the “permitting and siting stage” (NPT 2012). Because the developers propose to transmit electricity across an international border, a presidential permit (requiring executive branch review) is first required from the U.S. Department of Energy (Department of Energy [DOE] 2013). Pursuant to the National Environmental Policy Act, an initial “scoping” (fact-finding) period to elicit public input on the preparation of an Environmental Impact Statement (EIS) began in February of 2011 (DOE 2013). The scoping period remained open until November 2013 to incorporate new routing information from NPT after which an EIS will be prepared and reviewed (DOE 2013).

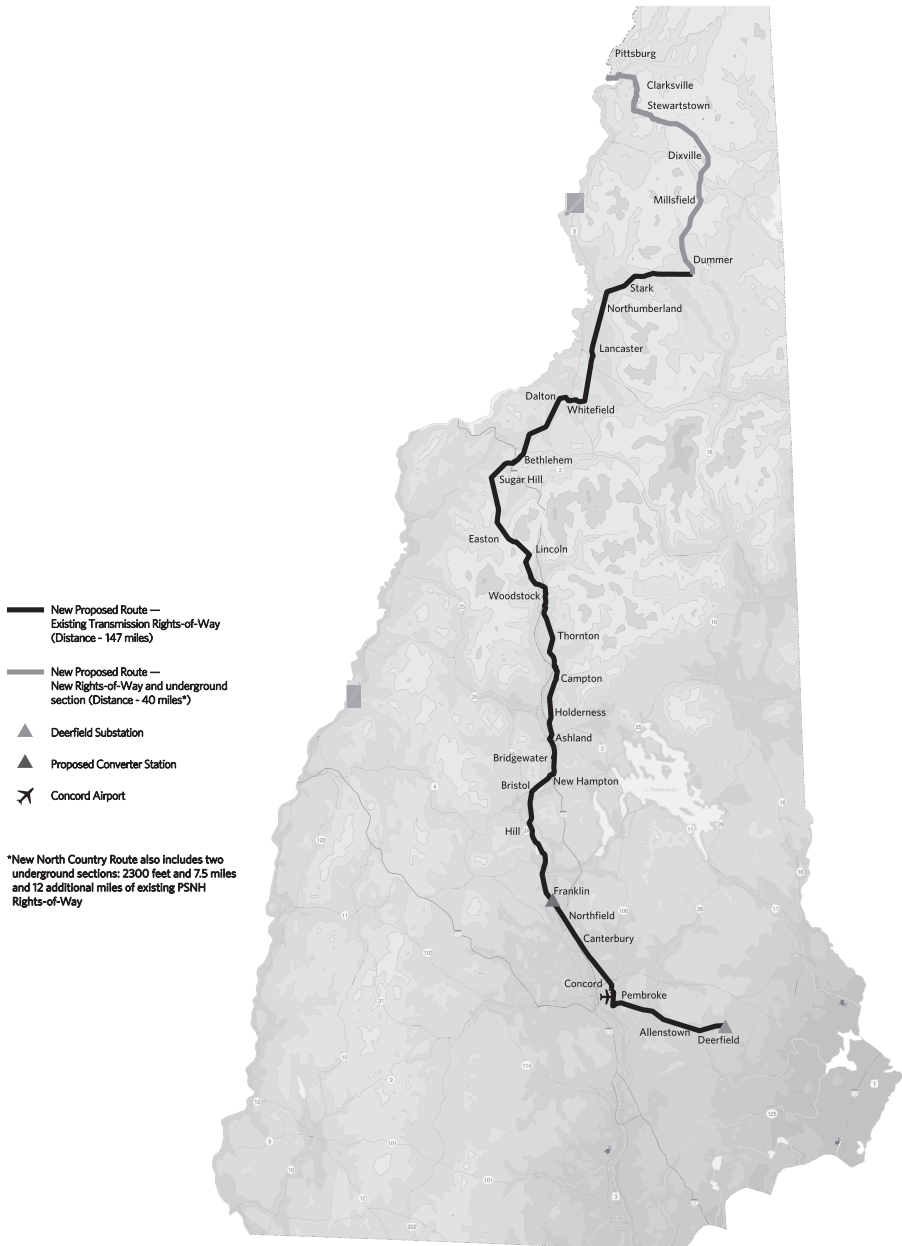
The Northern Pass has been “highly controversial” since it first began to receive public attention (State Impact New Hampshire 2012). Several grassroots groups of New Hampshire citizens have formed solely in opposition to the project.<sup>1</sup> In addition, environmental nonprofits, public officials, business owners, residents, and others have become involved with the proposed project. For example, in December 2011, the Society for the Protection of New Hampshire Forests blocked a significant section of the proposed transmission route by raising \$850,000 to secure a 5,800 acre conservation easement on a property desired by NPT (Jensen 2012). Activity in support of the Northern Pass, other than promotion by NPT, has been relatively scant compared to the amount of activity undertaken by opponents.

## **Theories of Environmental Conflict**

The process of siting facilities such as transmission lines has become increasingly sophisticated in recent decades as well as increasingly conflict-ridden (Furby et al. 1988; Armour 1991; Priestley and Evans 1996; Hilen 2003; Vajjhala and Fischbeck 2007; Soini et al. 2011). Such conflict falls under the larger category of environmental conflict. Environmental conflicts can be categorized as upstream (policy level) or downstream (site-specific) (Beierle and Cayford 2002; Emerson et al. 2003). Environmental conflict resolution processes have been most frequently used to resolve downstream disputes (Emerson et al. 2003).

What are the underlying causes of environmental conflict and why do environmental matters so often lead to conflict? In research undertaken in the 1980s, Lester Milbrath found that Americans have divergent beliefs concerning such key environmental issues as the importance of environmental problems, the solutions to these problems, and limits to growth (Crowfoot and Wondolleck 1990). Environmental issues are interdisciplinary; therefore, environmental conflicts touch on such areas as health, economic development, governance, and social justice (Dukes 2004). Milbrath found that, generally, the opinions of business leaders, public officials, and the media differ from those of environmental activists (Crowfoot and Wondolleck 1990).

**Figure One**  
**Proposed Northern Pass Route (NPT 2013)**



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In addition to the content of environmental disputes (e.g., the issues themselves), their context — the variety of actors involved and the overarching political system — contributes to conflict as well. Multiple levels of legal and administrative jurisdiction may be involved in addition to public and private groups, technical consultants, and concerned individuals (Emerson et al. 2003; Dukes 2004). The term “evaluative complexity” has been used to describe engineering projects like transmission lines, which require that technology and institutions interact within ecological and social systems (Mostashari 2011: 7).

## **Conflict over Electric Transmission Lines**

We turn now to issues more specific to electric transmission lines. Shalini Vajjhala and Paul Fischbeck (2007: 650) used the term “siting difficulty” to refer to the number of obstacles confronted by those seeking to plan and get permits for transmission lines; these include environmental/physical constraints, interagency coordination issues, regulatory impediments, and, finally, local opposition. Public opposition to new transmission lines has grown since the 1950s as economic incentives have become less attractive to landowners, the idea that lines represent progress has worn off, and environmental concerns have increased (Furby et al. 1988).

The concerns that citizens raise over transmission lines include aesthetics, their impact on property values, health and safety impacts, environmental impacts, economic effects, equity (e.g., are they being placed in the neighborhoods of poorer or less politically powerful people?), and their symbolic significance (Furby et al. 1988; Priestley and Evans 1996; EPRI 2003; Soini et al. 2011). Emotional, experiential, and moral concerns are generally not legitimized by decision makers within energy disputes, but they are often important to residents and other stakeholders (Armour 1991; Wester-Herber 2004; Cotton and Devine-Wright 2012). For example, proponents of a facility often argue that the larger societal benefits of renewable energy outweigh local development impacts, but opponents are nonetheless concerned with local land use and equity issues (Furby et al. 1988; Warren et al. 2005).

Some regulators and developers believe that decisions can be made regarding energy siting based solely on cost-benefit analyses (Lidskog 2005) or risk assessment (Armour 1991), with little regard for residents’ values and opinions. Utilities and developers often employ a tactic known as “decide-announce-defend” by deciding on a project, announcing it to the public, and defending it against public criticism (Ducsik 1984). This interaction occurs within an extremely adversarial regulatory environment (Whitlatch 1990), and this approach typically involves:

- reliance on public hearings that allow for little deliberation and often provide citizens with minimal influence over outcomes;

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- legal delays that cost money and time;
  - a focus on single project proposals that allow developers to control the agenda;
  - public participation that occurs too late in the process to have a meaningful impact;
  - framing issues based solely on societal rather than personal impacts; and
  - fostering of conflict rather than collaboration (Whitlatch 1990; Armour 1991; Hilen 2003; Vajjhala and Fischbeck 2007; Barnett et al. 2012).

Given this host of issues, there is a clear gap between the current level and quality of participation efforts and a more ideal vision of participatory planning (Arnstein 1969; Bailey and Grossardt 2006; Soini et al. 2011; Cotton and Devine-Wright 2012).

## **Environmental Conflict Resolution Processes**

Environmental conflict resolution (ECR) processes are fundamentally negotiations that can range from more consensus-based to quasi-judicial processes (Emerson et al. 2003). The term consensus building refers here to a type of ECR process in which parties engage in direct dialogue to negotiate based on interests and to potentially agree on outcomes (Beierle and Cayford 2002; Innes 2004). Citizen/public participation processes often resolve conflict and employ methods that overlap with those employed in ECR processes (Beierle and Cayford 2003), so this terminology is used as well.

Environmental conflict resolution processes generally have the following five characteristics:

- participation is voluntary,
- a full range of stakeholders or their representatives participate directly,
- participants can withdraw at any time,
- a third-party neutral helps the parties reach agreement, and
- all participants consent to the final decision (O'Leary et al. 1999; Innes 2004).

Mediation and other consensus processes have been used to settle environmental disputes in the United States since at least the mid-1970s (Bingham 2003). Advocates of ECR processes argue that they are less costly than litigation and protracted conflict that they pose fewer risks for the parties involved, that outcomes are more widely accepted by all parties, and that agreements are more likely to endure (Susskind, Bacow, and Wheeler 1983). But other researchers have argued that such processes can pose dangers, which include the co-optation of citizens by more powerful

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stakeholders, deliberate underestimation or misrepresentation of environmental issues by powerful groups, and power imbalances between parties that cannot be reconciled within the process (Amy 1987). Several researchers have pointed out that, while proponents of ECR often rely on anecdotal evidence of the field's success, empirical research on its long-term effects has been sparse (Bingham 2003).

The utilization of ECR in energy project siting has involved various types of processes. Dennis Ducsik (1984) found that, beginning in the early 1970s, electric utility companies employed an increasing amount of citizen engagement, typically assembling advisory committees of affected stakeholders. Other approaches have included early "open planning" over the siting of facilities (Whitlatch 1990) and the creation of specific tools to include public values in the routing and design of transmission lines (for instance, a multi-criteria geographic information system program) (Jewell et al. 2009). Assisted negotiations and mediations have also been utilized. For example, the Consensus Building Institute has conducted facility siting mediations, with the goal of addressing the competing interests of all affected stakeholders (Susskind, van der Wansem, and Ciccarelli 2000).

These types of processes are challenging and have had mixed results in energy conflicts. E. Earl Whitlatch (1990) wrote that the use of such ECR processes has often been less than desirable because they begin after the planning process is well under way, decisions continue to be based solely on technical aspects without accounting for residents' concerns, and public involvement has little effect on final siting outcomes. One example of a failed process comes from Massachusetts, which adopted a law in 1980 to avoid costly facility siting deadlocks by requiring communities and developers to negotiate over compensation. Out of the seven proposed hazardous waste facilities that were negotiated, no siting agreements were reached, mainly because of parties' highly entrenched positions, which created a contentious process that compensation could not alleviate (Wheeler 1994).

There have been examples of successful negotiations over energy projects. For instance, a negotiation between the Montana Power Company and the Northern Cheyenne tribe over a proposed power plant took into account the project's environmental, social, and economic impacts (Sullivan 1984).

## **Assessing the Potential for Consensus Building**

Environmental conflict resolution processes can be challenging and expensive. Thus, each conflict situation must be assessed to determine whether consensus building is likely to succeed. Conflict assessment is an important first step in an ECR process in which a professional gathers information about the conflict to identify the various stakeholders and the issues that

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are important to them to determine whether a consensus process should proceed and, if so, how it might be designed (Susskind and Thomas-Larmer 1999).

Conflict resolution scholars have identified specific factors that should be considered before determining whether an ECR process should be convened. The following conditions can undermine the success of a consensus building effort:

- lack of funding,
- absence of pressure for an ECR process,
- significant power imbalances between the parties,
- an overly controlling convener,
- the possibility that better alternatives to settle the dispute exist for some parties (for example through a lawsuit),
- absence of issues that could be traded off (logrolling),
- absence of areas of agreement,
- unrealistic deadlines, and
- the unwillingness of key stakeholders to participate (Sullivan 1984; Susskind and Thomas-Larmer 1999; Innes 2004).

Other important steps in the assessment process would be to consider previous or anticipated future relationships between the parties that could foster consensus building (Bean, Fisher, and Eng 2007), as well as constraints external to conflict resolution processes, including outside restrictions on potential solutions, the ability of representatives to bargain for their constituents, and the changing viability of outside options (Holzinger 2001).

Because building consensus about the placement of transmission lines requires that organizational representatives be involved, the structures of those organizations will also be important (e.g., leadership, internal consensus, bargaining power) (Sullivan 1984). Advocates of consensus building approaches often argue that mutual trust between stakeholders is a requisite for environmental collaboration (Susskind, van der Wansem, and Ciccarelli 2000); however, other researchers have reported on cases in which parties are motivated to cooperate because of incentives (e.g., financial benefits) or the strong leadership of one party even when there is minimal mutual trust (Beierle and Cayford 2002; Raymond 2006). These cases indicate that even in a dispute with little trust between the parties, consensus may be possible.

Ducsik (1981) argued that although some utility companies avoid citizen participation because of the extremely polarized nature of stake-

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holders' views, even resolution of *some* conflict may be a better outcome for the parties than no resolution at all. All parties, especially the most powerful parties such as the developer, must agree to negotiate in good faith and commit to honoring any agreements arising from the process.

Richard Margerum (2011) has identified four main conditions that assessors (e.g., mediators) should consider in determining the feasibility of a collaborative environmental effort. First, the collaboration requires a *supportive context*, e.g., the problem should allow for "win-win" solutions, and the community should have strong social capital. Second, a *legitimate broker* with the ability to initiate the effort and build networks of actors should be available and willing to participate. Third, *selection and structuring* processes should include a full range of stakeholders and be seen as legitimate by all parties. Finally, the process should be seen as an *attractive forum*, meaning it will be predicted to be less expensive, less time-consuming, and more effective than other options for settlement.

The term "intractable" has been used to describe particularly difficult conflicts that are more "resistant to resolution" but not necessarily unresolvable (Campbell 2003:92; Ozawa 2006). Intractable conflict can occur when environmental disputes reflect deep value differences or competing worldviews, when there is disagreement over what the dispute is really about, when the dispute persists over time, when there are significant power differences between parties, or when parties feel their culture or lifestyle is being threatened (Campbell 2003). Thomas Beierle and Jerry Cayford (2002) described situations with clear "winners" and "losers," such as facility siting conflicts, as especially challenging. In their meta-analysis, they found that facility siting conflicts were resolved successfully less frequently than other types of environmental conflicts. Energy infrastructure siting is often considered a "not-in-my-backyard" or NIMBY issue — these kinds of issues present particularly difficult conflict resolution challenges (Wheeler 1994).

## Methods

A conflict assessment methodology developed by Lawrence Susskind and Jennifer Thomas-Larmer (1999) of the Consensus Building Institute (CBI) was used as the basic framework for this preliminary study, but because of time constraints we were unable to complete the full range of activities prescribed in that methodology.<sup>2</sup>

Thus, our findings and consequent recommendations should be considered with the proviso that this process was undertaken as an abridged version of the broader conflict assessment process. This truncated process, we argue, may be appropriate in particular public dispute settings in which there are significant resource limitations. As Todd Schenk (2008) noted in a study of forty conflict assessments, conflict assessment practitioners have used a broad range of specific methods, and the broad framework pioneered by CBI can be adapted with varying degrees of success.

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**Table One**  
**Respondent Sample Profile by Stakeholder Interest Group<sup>3</sup>**

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<b>Stakeholder Group</b>	<b># Groups Interviewed</b>	<b># Individuals Interviewed</b>
Grassroots/landowners	5	11
Environmental	5	6
Business	4	5
Government	4	5
<b>Total # interviewed</b>	<b>20</b>	<b>28</b>

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The primary tool for gathering data for the conflict assessment in this study was individual, in-person interviews; we also conducted a smaller number of phone interviews and group interviews. We surveyed media, websites, and documents to create a preliminary list of powerful people within key organizations and individuals with exceptional knowledge or history of participation in the conflict. We interviewed stakeholders representing the full range of views on the case, from the developers proposing the transmission line to the grassroots groups in opposition to it (see Table One). We elicited suggestions of other key individuals and groups from interviewees using a “snowball” or “chain sampling” method. To encourage participation in the study and build trust with individuals, we described the goal of our research in as neutral and nonpartisan a fashion as possible (Patton 2002).

We took interview questions from the suggested list that Susskind and Thomas-Larmer (1999) provided; almost all of them were open-ended to encourage detailed answers. After we conducted interviews, they were transcribed from the audio recordings, and then we qualitatively analyzed all transcriptions using the software program HyperResearch. We coded the interviews based on the framework developed by Deborah Shmueli and Michal Ben-Gal (2003) in their study of conflict over river pollution. We focused on the *phrasing* (win-win vs. win-lose), *substance* (issues and outcomes), and *process* (procedures and relationships) frames for this study. Interview responses were coded and analyzed based on the interests, concerns, and opinions expressed by stakeholders. The factual accuracy of responses was not verified, because we were primarily concerned with what stakeholders’ statements revealed about their interests and concerns.

One criticism of a standardized approach to conflict assessment is that it lacks the flexibility to address varying situational contexts (Bean, Fisher, and Eng 2007). We have thus attempted to adopt the conflict assessment framework to the particulars of this case. For instance, some

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practitioners assume that a consensus building process will automatically follow a conflict assessment (Bean, Fisher, and Eng 2007); we, however, held open the possibility of recommending another means of resolution (e.g., continuing with the standard presidential permitting process).

## Results

We organize the results of the stakeholder interviews first by *main interests and concerns*,<sup>4</sup> and then by the potential *opportunities and obstacles* that the interviewees identified. Many views overlapped across stakeholder interest groups; unless otherwise attributed, a particular view was expressed by interviewees representing *all* stakeholder groups (grassroots/landowners, environmental, business, the developers, and government).

### *Economic Impacts*

Narratives supporting economic development, voiced by business and government stakeholders, were focused on job creation. As one respondent noted: "I see it as an absolute mega job creator for the construction industry." (Quotations in this section are verbatim primary data from interviews undertaken with anonymized stakeholders.) Interviewees also stated that taxes paid from the transmission line could have a positive impact on communities. Stakeholders also said they were interested in the prospect of lower electricity rates for the region because of a more diverse energy pool, and by the potential strengthening of trade relations between the United States and Canada as a result of the project.

Stakeholders with negative views of the project's potential economic impacts suggest that the scale of development could damage the tourism and recreation industries. "Basic blight on a landscape that fosters tourism, which is now one of our only means of livelihood," said one of them. "That's a key issue here, everybody makes that link. We have lost everything else, we have lost our manufacturing base . . . So we're down now to tourism and that depends utterly on our scenery."

Stakeholders were also concerned that property values and sales would decrease as a result of the transmission line, resulting in reduced community tax bases that could not be mitigated by tax revenues from the project. These interviewees worried that any jobs created by the construction of the project would be temporary, low paying, and largely filled by nonlocal laborers; some also feared that local jobs would be lost in other sectors. They were also concerned that the power line would put competitive pressure on local, small-scale energy generators and cause a rise in electricity rates. Another point of contention was the fact that economic profits from the line would be exported to a foreign corporation (Hydro-Quebec) rather than staying in New Hampshire.

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### ***Environmental Impacts***

Some stakeholders from the business and government sectors expressed interest in bringing renewable energy to the region for its environmental benefits: “The project was really born from a demand on the environmental side to reduce carbon,” noted one respondent. Others pointed out that hydroelectric power provides the most reliable opportunity for renewable power: “The wind doesn’t always blow, the sun doesn’t always shine. So there’s a challenge to establish significant sources of renewable energy that are reliable.”

Other interviewees expressed concerns about potential environmental degradation of wetlands and forests, including the White Mountain National Forest. Some stakeholders were also concerned about environmental damage resulting from large-scale hydroelectricity generation by Hydro Quebec: “Well from the environmental aspect of it all, actually looking at the big picture I think the greatest negative environmental impact is at the source of the power not the actual construction of the line or the existence of the line. When you flood an area larger than the state of New Hampshire to provide cheap power for an endless appetite south of New Hampshire, that’s where the impact is.”

### ***Visual Impacts***

Some stakeholders expressed concern that the transmission line would cause visual blight on New Hampshire’s scenic beauty and change the rural character of the area. One said, “And by the way it’s not just the towers sticking up in the air, it’s these long dangling cables that are, that just take away your eye from the beauty of what you’re looking at and focus it in on this thing, this man-made thing that’s at odds with everything else that you’re used to looking at.” Some interviewees said they fear similar development projects in the future, and others noted that even areas with existing transmission lines would be affected by taller and more visible towers.

Some stakeholders from the business and government groups said that New Hampshire has had transmission lines across its landscape for decades and that some residents support the project despite the visual impacts.

### ***Project Need***

Those in the government and business groups expressed the belief that the state and region need more electricity to meet increasing energy demands. They stated that, even though the hydroelectricity would be connected to the entire northeast electric grid, New Hampshire would receive some of it, and the project would prevent energy shortages: “Over the next ten years New England is expected to increase its need for electricity. Where will the increased supply that New England needs come from, where on earth is it going to come from?”

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Other stakeholders in the public, environmental, and government groups argued that the electricity is not needed in New Hampshire, partly because the state is a net exporter of electricity. "This state's done a good job of developing its internal sources of power generation from a whole wide array of power," said one of the interviewees. "So we have a pretty wide variety of internally generated power, we don't need this power. . . . there's no net benefit to New Hampshire at all from the power."

### ***Process and Practices***

The use of eminent domain by a private company was a particularly sensitive issue for various stakeholders: "One of the major concerns . . . is simply precedent, that a private energy company can essentially be making decisions about what happens to a local town." Lack of clear and credible communication between stakeholders was also a serious process concern about the project in general.

Supporters of the process noted that permitting and regulations require public input, which leads to project improvements and impact mitigation: "The involvement of stakeholders is exactly what the permitting process envisions and encourages."

### ***Opportunities for Mutual Gains***

Several interviewees referenced the idea of "win-win" as an aspirational goal that suggests that many stakeholders would be amenable to participating in a consensus-building process. Some participants said that they thought such a process would be worth undertaking: "I hope at the end of the day that most of everyone's concerns can be addressed, worked with, and met so that we can have a really nice construction project with as little impact on the environment as possible, and on people's lives." Others felt that Quebec and New England could use regional planning to expand their energy trade in a mutually beneficial way without implementation of the Northern Pass project.

Some interviewees suggested all or parts of the transmission line could be buried, rerouted, or routed along state-owned corridors, thus avoiding scenic areas and the White Mountain National Forest. Some of them also suggested keeping the structures as low as possible through aboveground areas. One respondent suggested that less power could be transmitted to allow for a smaller project. Interviewees also suggested actions that could mitigate the project's impacts, including compensating communities, providing royalties to landowners, ensuring that coal generation would be displaced by the imported electricity, and configuring the transmission line so that local renewable energy generation could benefit from it.

### ***Potential Obstacles***

Stakeholders who were pessimistic about the possibility of a win-win outcome said that relationships between some stakeholders had eroded.

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Interviewees from all sides of the issue accused other stakeholders of employing belligerent tactics such as discrediting others and dismissing others' opinions, which they said has led to a hardening of negative views. One interviewee explained it this way: "Well once we've got the defined battle lines drawn on this project, and we've said that certain parts of the project are unacceptable and other people have said that the whole project is unacceptable, and the developer is just digging in its heels and seems intensely committed to going through the permitting process probably as soon as it can put a line on a map as quickly as it possibly can. . . . it looks like litigation from the start." Several interview participants expressed mistrust — mainly of the developers — which included claims of misinformation, secretive tactics, and lack of open communication.

## Discussion

We think the biggest obstacle to a consensus building effort for the Northern Pass project would be the *refusal of key stakeholders to participate*, potentially because they choose to meet their interests through other channels (Susskind and Thomas-Larmer 1999). Nearly all stakeholders indicated in the interviews that they would be willing to sit down and have an open discussion with other stakeholders. Utility companies and other energy developers, however, have not historically been known to willingly and openly engage with the public, and interviewees said that NPT has been reluctant to have meaningful discussion with project opponents. But obviously, no consensus building process could take place without the involvement of NPT and Hydro-Quebec, which are the key proponents of the project and would control its development (within a regulatory framework). Because the developers are unlikely to have a sudden change of heart and agree to collaborate with stakeholders, we think they would participate only if outside pressures compelled them to do so (Innes 2004).

Like many other energy disputes, the Northern Pass has been debated in a highly adversarial, regulatory environment, which has not fostered an atmosphere of thoughtful dialogue. *Entrenched positions* may be a real obstacle to consensus building if stakeholders are unable to negotiate reasonably (Susskind and Thomas-Larmer 1999), but in this case, few interviewees were completely resistant to a discussion of the benefits and drawbacks of the project, and several indicated a willingness to make compromises.

*Fundamental deep value conflicts*, which may not be reconcilable through consensus building, are a concern for some stakeholders (Campbell 2003). Unsurprisingly, environmentalists often value environmental issues more highly than other stakeholders (Crowfoot and Wondollock 1990). Such issues as how society should respond to consumers' energy demands — e.g., focus on conservation and efficiency or increase energy supply — have been raised with regard to the Northern

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Pass. But despite their divergent viewpoints on many issues, stakeholders discussed other issues that could potentially be negotiated, including economic effects and aesthetics. The resolution of *some* issues is likely better than no resolution at all (Ducsik 1981).

Because trust seems to be an important issue in ECR processes, the significant *mistrust* and hostility between the parties involved in the Northern Pass — particularly between NPT and project opponents — would certainly need to be addressed, but should not preclude the possibility of a consensus-building process. To build trust between disputing parties, the process should be designed with transparency and fairness in mind, and it should foster relationship building through repeated interactions (U.S. Institute for Environmental Conflict Resolution 2002). As we previously noted, stakeholders may agree to work together despite their distrust when there are strong incentives to participate or in response to strong political leadership (Beierle and Cayford 2002; Raymond 2006).

Some of the things we learned in our interviews suggest possibilities for consensus building over the Northern Pass issue. The multiple stakeholder groups involved have varying interests, which suggests the possibilities for *trade-offs*. For example, some environmental stakeholders may not be fundamentally opposed to large-scale hydropower, and may support an agreement that would reduce fossil fuel generation in New Hampshire as a condition of developing the transmission line. Many opponents' concerns revolve around potential damage to the state's economy — a plan to compensate affected communities could allay their fears (Wheeler 1994).

The northern and central New Hampshire communities that would be most affected by the Northern Pass have displayed *high social capital* through their grassroots organizing and coalition building in response to the proposed project. Such established networks can make it easier to find representatives who can participate in a consensus-building process and effectively communicate the concerns of their communities (Margerum 2011). Additionally, as some stakeholders told us, the working relationship between Public Service of New Hampshire (another subsidiary of Northeast Utilities along with NPT) and New Hampshire communities has often been strong in the past. Knowing that these kind of working relationships will continue into the future also enhances the incentives for various stakeholders to engage in a consensus-building process.

### ***Preliminary Process Design***

We believe that a consensus-building process would be appropriate for the Northern Pass conflict as long as specific challenges are addressed. The main *goal* of this consensus building process could be to reach agreement among the public and the project developers on whether the Northern Pass transmission line should be built and, if so, how it should be built. Drawing from the five social goals of public participation (incorporating

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public values into decisions, improving the substantive quality of decisions, resolving conflict among competing interests, building trust in institutions, and educating and informing the public; Beierle and Cayford 2002), the two social goals that we think are key to a process for the Northern Pass project are incorporating public values into decision making and resolving conflict among competing stakeholders.

We can now identify a preliminary list of *issues to be discussed* by participants. The concerns raised over the Northern Pass suggest that focusing solely on the technicalities of routing or tower design (Whitlatch 1990; Jewell et al. 2009) would not be comprehensive enough. The various issues at play suggest the possibility of trade-offs. Managing such a complexity of issues (Susskind and Thomas-Larmer 1999; Campbell 2003; Ozawa 2006) requires focus: we suggest the agenda focus on economic, environmental, and aesthetic impacts, as well as future communication between stakeholders.

For issues that involve scientific uncertainty, such as the health effects of electromagnetic fields, stakeholders should be encouraged to acknowledge that uncertainty and then determine the range of possible responses, which could include agreements to monitor future conditions and make adjustments if necessary (Ozawa 2006). It is likely that some stakeholders would raise larger energy and development issues (e.g., whether New Hampshire should construct any new aboveground transmission lines, or what energy mix the state should rely on) that such a process would be unable to address.

Determining how many *stakeholder representatives* should participate could be a challenge. Because it would be impossible to involve the entire public in the Northern Pass consensus building effort, it would be important to engage organizations and individuals who are representative of the various stakeholder groups (Beierle and Cayford 2002) including the grassroots, environmental, business, and government sectors. A thorough stakeholder analysis would ensure that key stakeholders are not excluded, which is necessary to give the process legitimacy. Most importantly, as noted earlier, Northern Pass Transmission and Hydro-Quebec would need to agree to participate fully throughout the process and in any agreement that is reached; this may require certain safeguards agreed upon by the parties (e.g., binding contingencies or deadlines) so that neither the developers nor other stakeholders withdraw or renege.

The *time frame and schedule* of a consensus-building process could vary greatly depending on the specific conditions that could arise along the project timeline, and this should be negotiated early on in the process. Complex and contentious issues like the Northern Pass typically require hours of meetings over several months before agreements can be reached. Developing *ground rules* for the process will require transparency, and

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those ground rules should be specific and should ensure that parties treat each other respectfully. Because he who pays often makes the rules, we recommend that multiple stakeholder groups contribute *funds* for the process — so that one entity would not be able to use its funding leverage to control the process and the outcomes (Susskind and Thomas-Larmer 1999).

Lastly, this consensus-building process must have a *relationship to other decision-making* processes over the Northern Pass, such as the federal and state permitting processes. The outcome of this effort could transform the project from what was described on NPT's original application for a presidential permit, in which case submitting a new application might be necessary. Although public officials involved in the presidential permitting process may participate in the consensus building, any agreement would still be subject to that separate review process — of course, as required by federal law, the public at large will also have opportunities to comment on the project application.

## Conclusion

Utilizing the prescriptive literature on the negotiation of environmental disputes, this article considers the factors that contribute to and detract from the feasibility of environmental conflict resolution processes as applied to a specific ongoing case. Because every conflict has unique characteristics, no single list of indicators can accurately predict the success of consensus building (Susskind and Thomas-Larmer 1999), nor is such standardization necessarily desirable (Bean, Fisher, and Eng 2007). We can, however, bring greater rigor to the conflict assessment method with the goal of reducing the costs of initiating processes that are doomed to fail.

The Northern Pass transmission line project may initially seem to be an intractable conflict, but we argue that our interviews with stakeholders reveal that the tough public positions are actually full of nuance, and parties have underlying interests that are not always diametrically opposed. We found that a consensus-building effort would be feasible if the process were designed to include the participation of key stakeholders, to build trust, and to focus on the issues specific to this transmission line rather than on a larger discussion of renewable energy and electricity use.

Our findings in this case, which has much in common with other contemporary energy siting projects, can inform the environmental conflict resolution, planning, and energy communities as they consider other energy corridor projects. We believe that, despite potential pitfalls, reaching more widely accepted and ecologically sensitive solutions to environmental conflicts through participatory and collaborative approaches is possible and worth the effort.

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## NOTES

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1. The following local groups have formed and been active in opposition to the Northern Pass: Responsible Energy Action LLC, Alliance against Northern Pass, and No Northern Pass Coalition. These groups have held informational meetings, organized protests, lobbied legislators, and conducted research and analysis. They also maintain websites and blogs to disseminate information and opinions; additionally, at least two other blogs have been created solely to oppose the Northern Pass: Bury the Northern Pass and Live Free or Fry.

2. Some of the steps in the original methodology that we were unable to take include securing the support of the convening regulatory bodies; providing drafts of the interview summaries to the interviewees for final review; producing a preliminary composite assessment for review by interviewees for their comments; and drafting a summary of the assessment with proposed timetable, procedures, and proposed strategy.

3. Concerns over health and safety risks associated with high-voltage transmission lines were expressed by some stakeholders but were not included in the main list due to the lesser prevalence of these comments. These fears included cancers and contamination of soil, water, and air.

4. Stakeholders were solicited for interviews based on their high level of activity and/or authority regarding the Northern Pass. Leaders from all local grassroots groups involved in the Northern Pass were interviewed, in addition to a sample of landowners active in such groups but speaking from their individual perspectives. These local citizens are in the same stakeholder group because the grassroots groups are also made up of landowners. The greater number of individuals in this group (eleven) is due to the number of individual landowners interviewed as well as the desire for two or three individuals to be interviewed representing a single group. For other stakeholder groups, there were fewer instances in which multiple representatives desired to be interviewed. Local, state, and regional environmental nonprofits highly involved in the project were contacted, and interviews were held with those who responded. Representatives of large companies and business associations who have been most vocal regarding the Northern Pass were interviewed, including the developers proposing the project; small businesses were not interviewed due to their lesser involvement and organization around the project. Finally, a sample of municipal and state government officials were selected due to their active involvement and authority.

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