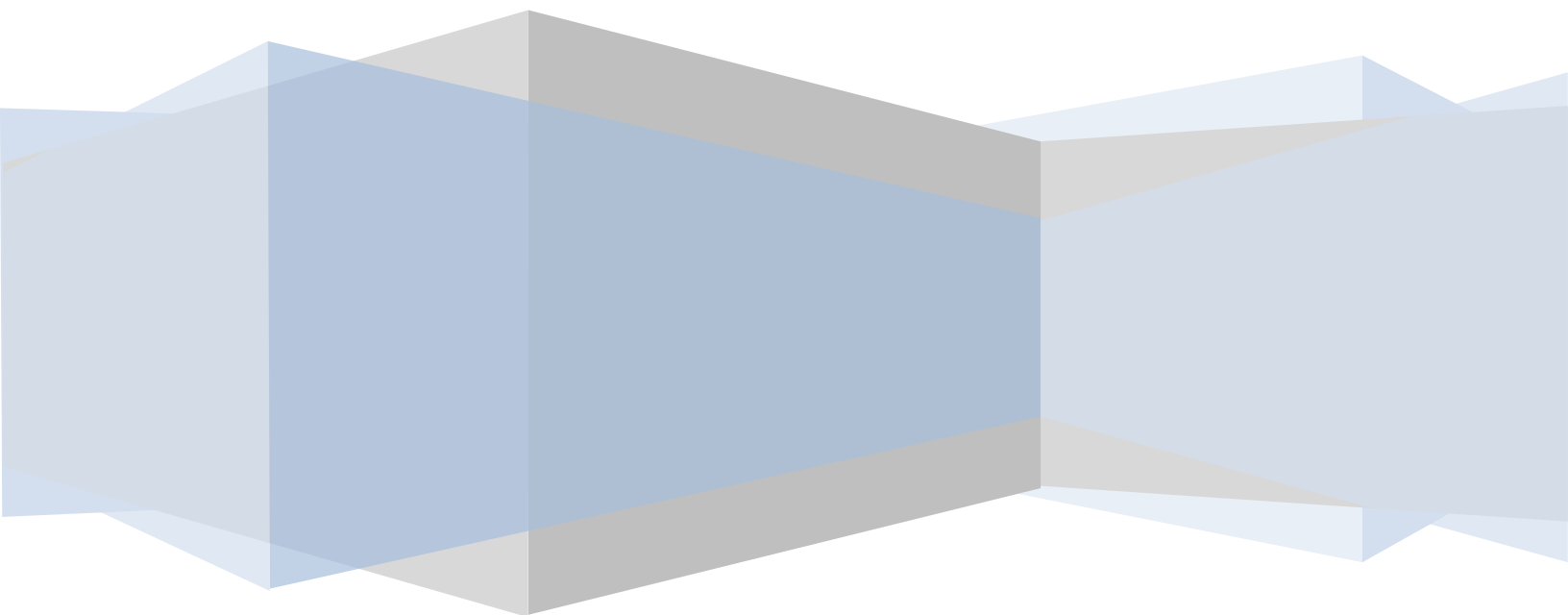


Public Engagement Case Study “Splitting Up is Hard to do”

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Catherine MacKinnon, Deputy Minister of Energy in Nova Scotia, heaves a sigh of relief. After a series of discussions with taxpayers, stakeholders, and other government officials, her policy team has handed her a recommendation to extend the province's review of hydraulic splitting, the *Onshore Petroleum Resources Management Plan*. In addition to extending the review, the briefing note outlines a recommendation that no hydraulic splitting take place during the review.

Hydraulic splitting, otherwise referred to as 'splitting,' is a method of gas extraction that involves injecting a mixture of water, sand, and chemicals into underground shale rock bed formations. The pressurized fluid, known as splitting fluid, causes cracks to form in the rock to allow the fluid to penetrate the rock formation. When the pressure is released, the fluid returns to the surface (now referred to as 'produced water') and collected in fluid pools before disposal. The gas is then collected for extraction by being brought to the surface. Generally speaking, this mixture contains approximately 0.5% to 2.0% chemical components, some of which have been proven to be toxins, carcinogens, and pollutants. In many jurisdictions, the composition of this mixture is considered proprietary information.

Within the scientific community there is frequent and ideological debate around the practice of splitting, the briefing note tells Catherine. Dr. Tony Ingraffea, Cornell University engineering professor, discussed the risk of splitting at one day anti-splitting conference in Bible Hill a few months ago, Catherine recalled. Dr. Ingraffea was quoted as saying "I don't think the industry is being completely truthful about their technology or the impact the technology as currently practised might have."ⁱ Ingraffea, along with many more scientists throughout North America, claim that safe industry practices have been side-lined in favour of high profit margins. Particular debate centres around a number of issues, including:

- Produced water: possible seepage into soil
- Aquifer contamination: gas and splitting fluid entering groundwater through splitting process
- Pressurization effects: earthquakes caused by splitting process
- Resource viability: reserve life (quantity of extractable resource) of shale gas

Another guest professor from Duke University has stated that there is "not a lot of good scientific analysis to separate rumour from reality,"ⁱⁱ highlighting how difficult it is reach scientific consensus on the issue of splitting. As one *Chronicle Herald* article's title read, Catherine remembered, "I'll see your 'expert' and raise you two."ⁱⁱⁱ This debate has led to uncertainty in the scientific community, making government decisions controversial regardless of the actual decision. How then, Catherine wondered, can government convince lay people of the benefits of splitting when the technical experts can't even agree? And who counts as a trusted source of information in this environment? And if there was scientific consensus, how would you communicate this to communities?

The practice of splitting has not yet been introduced into Nova Scotia; however, there is increasing interest in Nova Scotia's shale gas industry. In response to this interest, the Province committed to conducting a review of the practice and its suitability to Nova Scotia's onshore gas sector. The scope of the initial review, led by Catherine and her counterpart at the Nova Scotia Department of Environment, consisted of:

- Impacts on surface and groundwater resources
- Financial viability of industry and individual developers
- Regulatory measures such as disclosure of splitting fluid
- Impacts on land and environment
- Waste management and site restoration^{iv}

The latter part of the review will be expanded to include technical reviews from other North American jurisdictions.^v This extended review coincides with a federal review by the Council of Canadian Academies of shale gas extraction's impacts on the environment.

Catherine is relieved. She considers the facts—although given an extension to review splitting's use in Nova Scotia, a number of serious questions need to be asked. Catherine reclines in her chair and stares out her window overlooking the Tufts Cove coal fire power generation station across the Halifax Harbour. There's a great deal to consider in the next two years...

The Province's *Renewable Energy Strategy* didn't have much opposition in its creation two years ago. The Strategy outlined a plan to increase the use and development of Nova Scotia's natural gas resources from 13.3% of the Province's energy mix to 20.0% by 2020. At the time of the Strategy's formation, there was little concern expressed about the pursuit of finding natural gas in the Province. Further, the Province has been pursuing offshore natural gas explorations and development near Sable Island for the past few decades. In fact, the Sable Island offshore natural gas explorations, Catherine reminded herself, account for almost 10.0% of the provincial government's revenues.^{vi} So, why, then, is there opposition to splitting? And why now?

There has been considerable reaction to the news of the possibility of hydraulic splitting in Nova Scotia. A variety of community and environmental groups have expressed concern regarding the practice of splitting and its effects on groundwater resources. A particularly vocal group, NOSRAC, the Nova Scotia Splitting and Resource Action Coalition, representing 15 environmental and community groups has continually lobbied the Nova Scotia Government to establish a moratorium on the practice.

Catherine logs onto her computer to see the group has gained more traction on social media sites—147 followers on Twitter and 170 likes on Facebook. Catherine does some more exploring. Protect Lake Ainslie, a group protesting the presence of PetroWorth Resources, a Toronto-based oil and gas company, in the area, now has more than 1,900 likes on Facebook. It appears these groups are gaining support online. It also seems that they're organizing another protest next week in front of the Canso Causeway. And another in Halifax's Parade Square.

It turns out the protest is being led by Occupy Nova Scotia as part of its core ideology of pursuing the "resolution of gross economic inequalities, governmental corruption and environmental degradation."^{vii} Catherine recalls the Occupy movement within the province—a considerable movement considering the province's relatively small protest culture.

That's not to say serious protests haven't happened in the past. Catherine reminded herself of clashes between fishers and the government over the price of lobster, recent reaction to Nova Scotia Power's rate increase application, and student protests in response to funding to school boards. It sure seems like there's been an increase in protests in Nova Scotia in the past five years, Catherine thought. What could explain this?

Catherine reads on. The text reads:

"Because we are trying to involve as many residents of Nova Scotia as possible in this public outcry, we ask that you forward this information to everyone you know who might possibly be concerned about [splitting] and the grave harm we believe [splitting] will likely bring to the Province and everyone living here now and for generations to come."^{viii}

We should prepare a response, noted Catherine. We might even need to assign someone to monitor this information to keep us up-to-date—this isn't exactly something we're, or I'm, familiar with, thought Catherine. Thanks to Facebook and other social media platforms, Catherine thought, these groups can now organize much more quickly than we can. It's going to put an extra burden on our staff if we try to prepare a response for next week.

Meanwhile, next door in New Brunswick, shale gas development has been the relative undoing on of the current government. After promising to engage with communities through a whole-of-government review of the issue during the most recent election, Premier Cyr went ahead with commercial development. Recent polls in the province have shown that citizens are not supportive of splitting. In fact, 44% of New Brunswickers surveyed support oil and gas exploration, but this number drops drastically when ‘splitting’ is mentioned.^{ix}

New Brunswickers have expressed frustration through petition, protest, and vandalism, claiming the government is blindly pursuing job-creation and royalties rather than environmental integrity. This is particularly disturbing, Catherine thought as she reminded herself of a case last year where vandals destroyed a splitting firm’s geomatics equipment in one of New Brunswick’s shale rich areas. How severe is the tension in New Brunswick, she wondered. Does this example represent a ‘one-off’ or is something more serious bound to happen? Catherine’s previous work experience in the federal government reminds her of how Public Safety Canada has been monitoring domestic terrorist activities on energy infrastructures. She wondered, should we be looking this close to home?

The situation was recently complicated further when federal opposition leader, Michel LaFleche, while assisting in a local by-election campaign spoke against the provincial government’s decision to pursue splitting:

"[New Brunswick has] a beautiful pristine source of drinking water. That would be put in danger with [splitting]. Look at the American experience. Look at what's happened in states like Pennsylvania. People have to be made to understand that this is a false choice."^x

Gasland once more, Catherine sighed. *Gasland*, a controversial film documenting one man’s experiences with a poorly-managed gas well in the United States, has been the catalyst for much of the opposition to shale gas splitting in Nova Scotia. The film’s director highlights through a series of vignettes the feeling of powerlessness and neglect of home- and land-owners living near shale gas splitting wells in America’s pursuit of natural gas. Groups like NOSRAC have had several public showings of this film despite much criticism of its bias, methods, and lack of complete research. The rhetoric coming from both sides of the debate has further exacerbated ideological differences between groups. Catherine reminded herself of a quote attributed to the Premier—something about developers and splitting opponents remembering that *Gasland* was nominated for an Academy Award, not a Nobel Prize for Physics.

The American experience with natural gas has had a large influence on how Nova Scotians and Canadians view the shale gas industry. Many state governments have pursued commercial shale gas development despite citizen concerns as part of the promise of American energy security. Some gas wells have ‘gone bad,’ and in some cases, regulations have been amended to reflect changes in technology, research, and public opposition. And in the past two decades, shale gas production has increased by 21% in the United States. The American shale gas industry has been more advanced than Canada’s for a while now—lessons should have been learned from their experience, Catherine thought.

These aren’t the only jurisdictions with cases of shale gas opposition. Even in oil-rich and non-renewable familiar Alberta, landowners and shale gas firms have come into conflict over environmental and health effects as well as resource rights associated with splitting practices. The CBC’s *Passionate Eye* did a special on this, Catherine reminded herself, called *Burning Water*. A couple had claimed gas had contaminated their well water like those highlighted in *Gasland*—they could, as a result, light their water on fire. *Split Estate* is another popular film that highlights concerns Rocky Mountain area landowners have, Catherine recalled. The term, ‘split estate,’ describes the rights of landowners, who while owning the surface of their land, do not own the resources held within the land, which are owned by government and/or industry.^{xi} “People before profit,” they say. As a result, landowners have felt abandoned by their governments, and public opposition has increased. Catherine continued looking out her office window. Another factor to consider—land rights.

Land rights remind Catherine of another discussion she’s heard in the news lately. Recent letters to the editor have claimed the government’s shale gas review is motivated by ‘suits in Halifax’ while rural areas, who will be affected

most by splitting, have not been consulted. Further, the editorials express frustration with the ‘tight-lipped’ quality of the review, calling it a closed-door and non-transparent process. This is part of Occupy NS’s argument on its website, Catherine notices, to make up for inequity throughout the province.^{xii} At the same time, however, Catherine is aware that rural development is important—as the economic driver in the province, Halifax revenues are often responsive for the maintenance of the regions. By the very nature of shale gas (in that it is not located within the Halifax Regional Municipality, but in various rural municipalities), it directly affects rural areas instead of urban centers.

Allowing industry to develop in expensive-to-maintain rural regions of the province will help them to be self-sufficient. Helping to develop new industries is consistent with the current Government’s jobsHere strategy, an initiative focusing on growing the provincial economy through innovation, competition, and increased learning and skills. The prospect of new business opportunities and employment through the industry’s pursuit, Catherine pondered, is certainly attractive. Catherine remembered a conversation with a senior advisor from the Canadian Association of Petroleum Producers. “If it is there and accessible, it would mean new jobs and a direct and indirect infusion of money into communities with drilling operations,” the advisor had said.^{xiii}

At the same time, however, these editorials argue that the benefits will only be seen by industry located in Halifax with the costs dispersed throughout rural communities. Much of the opposition, the advisor had also said, “is rooted in outdated information or examples from countries with weaker regulations than Canada.”^{xiv} The advisor had a good argument, Catherine considered—maybe the ‘spook of splitting’^{xv} is standing in the way of progress. Catherine asked herself: how can the pursuit of this industry be communicated to people without offending anyone?

The possibility of stimulating industry and economic development is certainly attractive, thought Catherine. In last few months, Catherine recalled, St. Brendan’s Exploration, an Alberta-based oil and gas extraction firm, has purchased three land blocks in Pictou County with a commitment to spend \$10.4 million in the next three years alone. Eight other companies have also been granted exploration rights throughout the Province’s rural communities—expert reports provided to the Department suggested there is one trillion cubic feet of natural gas potential in Nova Scotia. Just look at how the offshore natural gas projects have helped the Province:

- >\$400 million in 2007/2008
- 8,000 person years of employment from 1998 to 2007
- \$2 billion in exploration and development from 2011 to 2020^{xvi}
- From 2011 to 2020, mineral fuels will comprise 4.3% of provincial GDP^{xvii}

In 2006 alone, fuel extraction represented one of the province’s top ten industries,^{xviii} contributed 2,267 direct jobs, more than 5,300 person year jobs in Atlantic Canada, 50.0% of which were in Nova Scotia.^{xix}

If, and when, the review is complete, these companies’ projects would represent significant royalty opportunities and job creation for the Province. Catherine looked at data from other provinces with oil and gas deposits—38% of provincial revenue in Newfoundland and Labrador comes from non-renewable energy royalties. That number is 24% in Alberta, 21% in Saskatchewan, and 8% in British Columbia.^{xx}

Why would a seemingly pro-industry government want to delay commercialization? Catherine reviewed the briefing note in her hand, focusing on the recommendations section. An election’s likely to come next spring, Catherine mused. Could this review extension, although much needed, be a political tactic?

Catherine picks up today’s Globe and Mail. After leafing through a series of political articles, news of international conflict, and reviewing the previous day’s sporting highlights, she comes across an editorial, *Echoing Obama, let’s have more [splitting] and faster*. Catherine reads the article’s concluding thoughts:

“I’m no expert on [splitting] technology, and I’m in no position to evaluate the risks. I have to rely on experts for that. The real issue is whether the risks can be managed, and whether the public thinks the risks are worth the rewards.

European countries such as France and Bulgaria have decided not. But we'll have to power up our iPads somehow. Our energy needs are forecast to grow by another 15-20 per cent over the next few years. And it seems to me that tapping into a supply of cleaner, greener, abundant and reliable energy is a no-brainer.^{xxi}

There are many other factors to consider when it comes to the shale gas industry, Catherine reminded herself. This issue, Catherine mused, extends into many other policy fields beyond energy. The word 'silo' comes to mind...

The trouble is that the energy markets aren't silos. Catherine reminded herself of the International Energy Ministers' Conference coordinated by the National Energy Board held several months ago. The Conference discussed the national and provincial energy futures in light of the international energy context. Global energy demand is expected to increase by 40% by 2030.^{xxii} This is largely dependent on India and China's energy demands who account for more than 50% of this increase, two developing countries extremely reliant on fossil fuels such as natural gas. In fact, natural gas is estimated to represent 25% of the global energy mix by 2035.^{xxiii} For an energy producer, Canada's, including Nova Scotia's, supply of natural gas has found an attractive export market.^{xxiv}

At the same time, increasing policy orientations toward renewable energy sources and cleaner air emission targets has increased the demand for natural gas in developed nations. Natural gas burns 50% less carbon than coal^{xxv} and offers a low cost, low emission alternative to dirtier fossil fuels such as oil and coal. It can, therefore, serve as a temporary solution as nations such as Canada transition from fossil fuels to renewable energy sources.^{xxvi} This is evident in the fact that natural gas consumption rose 2.2% globally in the last year.^{xxvii} This may only offer Nova Scotia short-term gains, Catherine considered, but it is still an attractive option.

After considering these factors, Catherine sets up a meeting with Alex Newman, the Department's Communications Advisor. Realizing that the two year extension may prolong splitting's presence in the media, Catherine wants to discuss communication and consultation opportunities

Alex advises Catherine of the Department's recent commitment to public engagement. Recent experiences with public resistance to wind turbine development in some parts of the Province have taught communications staff the importance of early and long-term engagement rather than one-off consultations. This involves recognizing community differences, being more holistic in entering into discussions with communities, and acknowledging the importance of each participant's contribution to the discussion.

"It's about meeting people where they are—I'm talking about more than town halls," Alex pointed out. "We want to build partnerships in dealing with our emerging energy issues. People want to be included in the process—it's more about the process of inclusion and collaboration rather than one side 'winning' over another."

"Think about hydraulic splitting for a minute. A lot of people have a lot of concerns about the practice—people interpret the risks associated with it differently. Look at the how public opinion often differs with scientific opinion," Alex continued. "In order to address this, we need to establish participative discourse with departmental staff, external experts, industry, and the general public. We need to create tolerance and mutual understanding among these groups in order to move our decisions forward in a way that suits all those involved."^{xxviii}

Tell this to the protestors, or even our developers, Catherine thought to herself. "How do we get the proponents and opponents in the same room though? How do we know who to include? And aren't we bound to create a win/lose scenario?"

"Not if we frame the issues the right way, establish appropriate ground rules, and set the right expectations," Alex explained, "they will develop new ways of working together. Their discussions will become more focused, disciplined and productive. As a result, they will also become more trusting of one another and more willing to make adjustments and compromises to reach solutions."^{xxix}

Catherine sighed. This isn't exactly going to be easy. The Department has been under a lot of scrutiny recently thanks to opposition to wind energy development, proposed utility rate hikes, and the implications of recent mill closures on energy rates. These issues will put a lot of demand on departmental staff and have angered many stakeholders. At the same time, however, the Department has not seen a significant decline in its budget—for the past four fiscal cycles, Energy has received 0.3% of provincial spending.^{xxx} At least we aren't working with less, Catherine considered.

There have been some internal difficulties, however. A recent re-organization has created a great deal of uncertainty in the department and the two newly-created divisions: Oil and Gas Projects, and Renewable Energy Priorities. Further, the re-design has led to organizational confusion and what some have referred to as 'turf wars.' The conflict between these two groups is similar to that within the scientific and local communities—debate over the 'cleanness' of the fuel resource, its industry's safety, and environmental impact. It seems as though they public servants have a substantive interest in the policies they administer.^{xxxi}

Worse still, other industry players affect how the department is portrayed in the media thanks to the number of external players involved in energy decision and implementation processes. Nova Scotia Power, the Utility and Review Board, the federal government, and the Canada-Nova Scotia Offshore Petroleum Board all come to Catherine's mind for the province's gas industry. Establishing trust, controlling messaging, and engagement are going to be difficult challenges.

Exercise 1: Risk Communication & Engagement

Imagine you are Alex, the Department of Energy's Communications Advisor, and Catherine, your Deputy Minister, has requested that you develop a communications plan and an engagement strategy to deal with the media and community reactions and concerns around shale gas splitting in Nova Scotia.

1. Who would you engage with on this issue? How would you structure this engagement?
2. What is the role of experts or experts' opinions in this case?
3. What role does trust play in this process?

Catherine had looked at social media sites and how they affect the spread of information, both correct and incorrect, on controversial issues such as splitting.

4. Does social media enhance or diminish public discourse and good government?
5. How should government react to the social media presence of the anti-splitting movement? Does social media change how Catherine and Alex address public concerns and the splitting review?

Exercise 2: Scenario Planning

Remaining in the three groups, each group will be distributed one of the following case studies.

1. Market Failure Pressures
2. Public Opinion Pressures
3. Interest Group Pressures

After reviewing the scenario, each group will answer the following questions:

1. What process would you go through in order to make a policy recommendation?
2. What (generally speaking) is the preferred policy?
3. How would you ensure the policy was implemented effectively?

Use the figure below to help answer the above questions.

	Info Gathering	Standard Setting	Behaviour Modifying
Management Size			
Management Structure			
Management Style			

Government Content

Management Size: the level of aggression and investment a government puts into managing a risk

Management Structure: the organizational complexity of a government regime—who is involved, institutional arrangements, how resources are invested

Management Style: intensity and formality of risk governance

The Cybernetic Model of Control

Information Gathering: the collection and analysis of data

Standard Setting: establishing rules and regulations designed to achieve organizational objectives

Behaviour Modifying: encouraging (or discouraging) particular actions of actors

Scenario 1: Market Failure Pressures

'Market failure' refers to the level of the private sector's involvement in regulating and managing an industry. It asks: At what point should a government intervene in a market practice and what is the private sector's reaction to a particular industry?

Recent research in the United States, the world's largest consumer and producer of natural gas, has proven easier and safer extraction methods for natural gas,^{xxxii} known as Micro-Extraction. Increased and mobilized public opinion against splitting practices, a lower cost of production, and the promise of American energy security prompted this search for safer natural gas extraction commissioned in part by the federal government, a series of state governments, and industry associations.

While details of Micro-Extraction are being withheld by the government for the time being, researchers involved in the projects claim the technique is more environmentally friendly as it limits its use of freshwater resources and will not contaminate local aquifers. In addition, the chemicals used in this process have been determined to be environmentally benign. Further, the new technology used in this extraction process has a higher efficiency rating than hydraulic splitting.

While public reaction has been apprehensive and cautious in accepting Micro-Extraction, public opinion supports this new technique much more than splitting—a local survey found this technique was preferred over splitting nearly 66% of the time. Researchers and industry members expect public acceptance to increase over time as more information is released into the public domain.

Much of the local acceptance of Micro-Extraction has come as a result of the support of key environmental organizations such as the American Water Preservation Society, the Northeastern Environmental Health Association, and the Energy and Environmental Council of America. Now there are increased calls to ban hydraulic splitting indefinitely and await the commercialization of this new technique.

At the same time, however, the increased efficiency of this technology will shorten the long-term viability of the natural gas sector. In Ohio, Micro-Extraction has been in effect as part of the research project for three years. In that time, gas extraction has doubled and the estimated reserve life of shale gas has declined by 34%. This increase in production has led to lower gas prices in the state, which are determined by state market competition,^{xxxiii} and have attracted over a dozen extraction firms to rural parts of the state. One rural community's population has increased by 75% due in part to the construction and operation efforts associated with the Micro-Extraction industry.

On a more global scale, energy market experts at the International Energy Agency (IEA) have predicted that if governments and industry accept Micro-Extraction as a valid technique, global reserve life will be reduced from 100 years to 60 years. Further predictions estimate that gas prices will continue to drop—in the United States, prices have fallen to a 10 year low.^{xxxiv}

Scenario 2: Public Opinion Pressures

Public opinion pressures represent the level of responsiveness of government to the perceptions and preferences of civil society. This pressure asks: how often and to what degree should a government respond to the beliefs of civil society?

Tensions in New Brunswick have mounted in response to recent acts of violence against splitting infrastructure in the province's River Valley Region. A recent RCMP press release read:

District 5 RCMP are seeking the public's assistance in connection with a single industrial related offense in the province's River Valley last night.

At approximately 2 a.m. Monday morning, the RCMP received a report of suspicious activity and possible fire near the Natura Gas hydraulic splitting facility on the Brown's Cove Road in Sussex, New Brunswick.

The fire burned for approximately 4 hours after which local fire crews contained the blaze. Environmental clean-up activities led by staff from the University of New Brunswick's environmental program remain ongoing.

Police suspect the fire was caused by a Molotov cocktail initiated by a lone male driving a dark-coloured sedan heading south past Highway 222 after the incident. Police have reason to believe the suspect is affiliated with an anti-splitting group located in southern New Brunswick, but was acting on his own.

Police continue to investigate this incident although they have made an arrest in several related offenses. Natura Gas has offered a reward for information regarding the attacks. The *Kings County Record* has reported that Natura Gas received and continues to receive threats against its facilities throughout the River Valley.

Citizens have reacted to this arrest positively and have, conversely, reacted negatively and suspiciously to the Anti-Splitting Alliance of New Brunswick, the environmental group the media identified as the group the suspect is affiliated with. Due to the anti-splitting opposition's association with the attacks, public debate has quieted both in communities and the media. The membership of the Anti-Splitting Alliance is also reported to have dropped since the news of their connection to the attack was released.

Industry groups have been quoted as saying, "such actions demonstrate the lack of professionalism of these groups. These actions, regardless of one's point of view, are intolerable and are the actions of what can only be called a borderline terrorist."

Rumours have also begun to circulate that RCMP is investigating the incident as an act of 'domestic terrorism.'

At the same time, however, shale gas splitting continues to receive strong opposition throughout Canada and the United States. Recent images of endangered bird species in British Columbia's splitting wastewater ponds have received international attention. The images published by *The Edmonton Journal* have drawn similarities to controversial images of ducks stuck in Alberta's tar sands' tailing ponds

These images have spread throughout the internet, particularly through social media sites such as Twitter, Facebook, and YouTube. As a result, online discussions of splitting practices, science, policy, and environmental impacts have spread throughout social media. The 'anti-splitting song' on YouTube has over 290,000 views alone.^{xxxv}

Scenario 3: Interest Group Pressures

'Interest group pressures' refer to the concentration and distribution of groups within a particular sector or industry. This pressure asks: Who are the winners and losers and how is control distributed?

After a period of regulatory review, the federal government has changed the regulation regarding the taxation of energy industries. This policy, known as the Taxation Relief for Emerging Energy Industries Program (TREE-IP), provides taxation relief to qualifying energy companies and industry associations. The taxation relief is offset by increased taxation of specified polluters within the energy industry, particularly coal, oil, and gas extraction companies.

A TREE-IP brochure explains the policy intent behind the change in regulation:

"Canada's resource sector offers a diversified economy that generates jobs and stimulates local economies. The Taxation Relief for Emerging Energy Industries Program provides provinces with the opportunity to attract industry, grow the economy, and generate revenues associated with the development of emerging clean energy technologies to meet our growing energy demands while protecting our environment."

Although TREE-IP has not gone into effect yet, Nova Scotia is already feeling the impacts of the policy. Over a dozen oil and gas companies in Nova Scotia's offshore and onshore gas industries have expressed their concern about the policy's impacts—three companies have stated in the media that such taxation puts their business viability at risk.

"Peripheral industries will be affected," explained Natura Gas' COO. "TREE-IP not only punishes oil and gas firms for trying to innovate, but it also punishes port authorities, engineering firms, and other local industries that rely on oil and gas production to keep afloat."

Natura Gas and others have lobbied both the federal and provincial governments to reconsider the TREE-IP initiative.

The announcement has spurred competition, however, among renewable energy companies within Nova Scotia who praise the federal initiative.

"TREE-IP acknowledges the value of renewable energy to ratepayers and citizens," commented president of Canada's Renewable Energy Council. "The fact is that renewables such as wind are the way of the future. But there are technical challenges associated with their development. Programs such as TREE-IP will provide clean and reliable electricity to Canadians at a stable price."

Some experts have criticized the federal government for excluding natural gas firms from the taxation relief; they point to the use of natural gas as a 'transition' fuel source as provinces such as Nova Scotia move from fossil fuels such as petroleum products and coal towards renewable energy sources such as wind, tidal, and biomass.

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