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2 **MEDIA FRAMING OF UNCONVENTIONAL FOSSIL FUELS: THE ABSENCE OF**  
3 **CLIMATE DIALOGUE IN CANADA'S NORTHERN GATEWAY PROJECT**  
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## 1 **ABSTRACT**

2 Canada's Northern Gateway Project is a controversial pipeline proposal that would carry  
3 unrefined bitumen from the Alberta oil sands to the coast of British Columbia for  
4 international export. We analyzed print media for coverage of the Northern Gateway Project  
5 in six Canadian newspapers, including 2097 articles published from 2006 to 2014,  
6 inclusively. The objectives were threefold: 1) to characterize media framing of the project  
7 using a risk/benefit framework; 2) to identify regional differences in framing between the two  
8 affected provinces; and 3) to investigate the framing of environmental risk. Our findings  
9 demonstrate that public discourse surrounding the project is framed as a trade-off between  
10 economic benefit and environment risk, which is fairly typical for energy projects in North  
11 America. Despite a strongly regional distribution of risks and benefits (where Alberta would  
12 experience most of the economic benefits and British Columbia would bear considerable  
13 environmental risk), we did not find substantial differences in framing between the two  
14 provinces. Finally we found that the environmental risk frame was presented predominately  
15 according to potential local impacts due to pipeline or tanker rupture. The global impacts of  
16 climate change were rarely mentioned (less than 5% of the articles), and thus climate change  
17 is largely missing from the media we explored.

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*Keywords:* unconventional fossil fuels; oil sands; climate change; media analysis; energy  
project; climate policy

## 23 **1. INTRODUCTION**

24 This paper examines media framing of a proposed pipeline project in Canada: the Northern  
25 Gateway Pipeline. The Alberta oil sands represents the largest known crude bitumen  
26 reservoir in the world (1; 2). Oil sands production is argued to be heavily dependent on the  
27 ability to transport bitumen to markets (3; 4). Because existing pipelines are reaching  
28 capacity, proponents of oil sands development have proposed the construction of several new  
29 pipelines to better access international markets (5; 6). One such proposal is the Northern  
30 Gateway Pipeline (proposed by Enbridge Inc.), which would extend from northern Alberta to  
31 the coast of British Columbia providing marine access to Asian markets. The regulatory  
32 review process began in 2010 and ended in 2014 with the federal government's conditional  
33 approval of the project. In 2016, the project was put on hold when Enbridge's petition to have  
34 its permits extended was denied. The proposed project and its regulatory review process have  
35 been highly controversial in Canada.

36 Debate over the Northern Gateway Pipeline, other pipelines projects, and oil sands  
37 more generally are framed differently depending on the context and the source/speaker. As a  
38 result, varying degrees of emphasis are placed on the potential economic benefits; concerns  
39 about increased greenhouse gas emissions; risk to local air, land, and water resources (at  
40 extraction sites and along pipeline routes) (7-9); and the role of First Nations (10; 11). While  
41 much of the environmental debate has focused on local risks (e.g. oil spill impacts), there is  
42 potential for the issue to become a major front in the debate regarding increasing production  
43 of Alberta oil sands more generally. Where construction of new export infrastructure is  
44 framed by proponents as necessary for continued oil sands expansion, opposition to new

1 pipelines is a means to protest oils sands development and support for a more proactive  
2 climate change mitigation agenda (12).

3 From a climate change perspective, the issue of expanding the use of unconventional  
4 fossil fuels has obvious implications for a carbon-constrained world. The increased  
5 extraction, processing and distribution of unconventional fossil fuels present a particular  
6 important threat to climate mitigation efforts. The Intergovernmental Panel on Climate  
7 Change and other researchers have stated that to increase the probability of limiting global  
8 warming to 2 degrees Celsius or lower, only about 1000 Gt of CO<sub>2</sub> can be burned—an  
9 additional 500 Gt from current levels which is projected to be exceeded by 2040 even with  
10 existing and planned climate policies (13-15). Researchers estimate that the current  
11 economically viable reserves far exceed this “carbon budget” (2900 Gt CO<sub>2</sub>) with 11,000 Gt  
12 of CO<sub>2</sub> in resources that could become viable in the future (16). To those concerned with  
13 threat of climate change, new pipeline infrastructure may be interpreted as an “emblematic  
14 issue” (17) representing the larger problem of society-wide inaction on climate change. This  
15 climate change framing has appeared in other pipeline controversies such as the vocal  
16 opposition to the Keystone XL pipeline by environmental organization in the United States  
17 (12).

18 The present study had three research objectives. The first was to characterize media  
19 framing of Canada’s Northern Gateway Pipeline using a risk/benefit framework. The second  
20 objective was to identify any regional differences in framing between the two affected  
21 provinces, Alberta and British Columbia. For this particular project, Alberta stands to gain  
22 economically while British Columbia will bear a disproportionate amount of the  
23 environmental risk. Moreover, a 2014 study by Axsen (18) found greater support for the  
24 project in Alberta even when controlling for demographics and individual values. As a result,  
25 our study was designed to examine whether there was a quantitative difference in how  
26 national and regional media framed the project. The final objective of the study was to  
27 investigate the role of environmental risk framing—particularly the role of climate change  
28 versus other environmental impacts.

29 We analyzed print media for coverage of the Northern Gateway Pipeline, specifically,  
30 2097 articles published by six major Canadian newspapers between 2006 and 2014,  
31 inclusively. We found that the controversy was, as expected, framed predominately as an  
32 issue of economic benefit versus environment risk. Despite the regional distribution of risks  
33 and benefits, we did not find significant differences in framing between Alberta and British  
34 Columbia. In terms of environmental risk framing, climate change was only mentioned in  
35 4.5% of the articles. Thus instead of framing the risk as global due to impact of climate  
36 change, environmental risk was presented as primarily local impacts due to terrestrial or  
37 aquatic bitumen spills or general environmental risk.

## 38 **2. BACKGROUND: THE NORTHERN GATEWAY PIPELINE**

39 Oil sands are large bitumen deposits that consist of crude bitumen, silica sand, clay, minerals,  
40 and water. Extraction from Alberta’s oil sands has increased significantly from 0.2 million  
41 barrels per day in 1990 to 1.9 million barrels per day in 2013 (19). Oil sands production is  
42 argued to be heavily dependent on the ability to transport bitumen to markets (3; 4). Because  
43 existing pipelines are reaching capacity, proponents of oil sands development have proposed  
44 the construction of several new pipelines to better access international markets (5; 6).

1 One such proposal is the Northern Gateway Pipeline that would extend from northern  
2 Alberta to the coast of British Columbia providing marine access to Asian markets. Proposed  
3 by Enbridge Inc., the project would include approximately 1170 km of twinned pipeline  
4 carrying on average 525,000 barrels per day of unrefined bitumen west for export and, in the  
5 opposite direction, 193,000 barrels per day of condensate. In addition, a marine terminal with  
6 two tanker berths and 19 tanks for bitumen and condensate would be built in Kitimat, British  
7 Columbia. The terminal would have the capacity to serve 220 ship calls per year.

8 The NGP proposal was first launched in 2005 and in 2006 the federal Minister of the  
9 Environment referred the project to a joint review panel between the National Energy Board,  
10 the regulatory body charged with overseeing pipeline construction, and the Canadian  
11 Environmental Assessment Agency. In May 2010, Northern Gateway Pipelines Partnership  
12 Limited (a division of Enbridge Inc.) formally filed a regulatory application under the joint  
13 review panel. This signaled the beginning of what would become a highly contested review  
14 process.

15 The project was strongly opposed by environmental organizations in British  
16 Columbia out of concern for the impacts of an oil spill in remote and potentially fragile  
17 ecosystems along the pipeline route or in the coastal waters of northern British Columbia  
18 (12). A number of First Nations also opposed the project based on the potential impact to  
19 their ancestral lands and claims that the consultation and decision-making process violated  
20 their territorial and treaty rights.

21 Opposition flooded the joint review panel's public hearings, so much so that the  
22 review process was extended by a year. There were also issues with the terms of reference of  
23 the joint review panel particularly the fact that it did not officially account for the upstream  
24 greenhouse gas emissions from oil sands production even though the economic benefits of  
25 the same production were included in the project rationale. In addition, in the midst of the  
26 review process, the federal government made significant changes to the legislation governing  
27 the process. Among other things, the changes set a two year timeline for project review,  
28 limited the scope of the "environmental effects" considered, limited public participation, and  
29 allowed the federal cabinet to override the ruling of the joint review panel (20). Fuelling the  
30 controversy, in 2012 the Prime Minister and several cabinet ministers made negative public  
31 statements about opponents of the project (21). The provincial government of British  
32 Columbia also weighed into the debate formally opposing the project in the review process  
33 and issuing five conditions that would need to be met before it would support the project.

34 In December 2013, the joint review panel submitted its report to the federal  
35 government recommending approval provided 209 conditions were met. The panel  
36 concluded: "The potential adverse environmental outcomes are ... outweighed by the  
37 potential societal and economic benefits" (22). In June 2014, the federal government formally  
38 granted conditional approval based on the joint review panel's recommendations. In 2016,  
39 with the certificates due to expire at the end of the year, Enbridge filed for a three-year  
40 extension. At the time, the project was facing a multitude of legal challenges from eight First  
41 Nations, four environmental organizations, and one trade union. It had also failed to secure  
42 supply contracts that were necessary conditions to proceed with the project. In July 2016, the  
43 extension was denied meaning that for the project to go ahead, it would have to reinitiate the  
44 review process.

### 3. LITERATURE REVIEW: FRAMING ENERGY AND CLIMATE CHANGE IN THE MEDIA

Frames are a means through which media and other stakeholders selectively emphasize particular elements or interpretations of an issue (23; 24) in order to affect how individuals and groups understand unfamiliar and complex phenomena with reference to their own experiences and predispositions (25; 26). A rich body of literature exists regarding how framing of technologies, policies, science, and social issues can influence societal perceptions and decision-making processes (27).

One recurring frame within environmental discourses is the trade-off between the economy and the environment (28). The idea that environmental protection necessarily comes at the expense of economic wellbeing is a deeply embedded assumption perpetuated by such things as: environmental standards, educational curricula, engineering and operational practices, and international regimes (28). Media frames environmental issues to align with cultural and moral assumptions (23; 29) and research has shown that public attitudes toward environmental technologies are shaped by media frames (30). Thus, exploring how media frames energy issues can provide insight into public debate and the social acceptance of particular projects and technologies.

There are a number of studies documenting media coverage of energy issues and, in the past five years, this includes a growing number that examine unconventional fossil fuels. This literature reinforces that technology is “domesticated” differently in different countries (31); that political and geo-political contexts are important to media frames (32); and that the process of development may be as or more important than the technology itself (33). As a result caution is necessary when generalizing across technologies or regions.

At a high level however, analyses of unconventional fossil fuels have found media coverage maintains risk-benefit framing (34) which aligns with the assumption that there is inevitably a trade-off between economic benefits and environmental risks. A media analysis of Canadian bitumen production found that media coverage was predominately framed in economic terms and was less attentive to political, social, scientific, and other dimensions (35). Another study of natural gas fracking in Texas found that media consistently reproduced the pro-development frames used by proponents while there was much more variation in the use of opposition frames (36). The implication of these studies is that the economic benefits of unconventional fossil fuel development, like increased gross domestic product and job creation, may be more frequently and consistently cited in media than the environmental and social risks.

Despite the predominance of a risk-benefit framing with an emphasis on economic benefits, reframing public debate is possible. An analysis of unconventional gas drilling in the Marcellus Shale found that, in some cases, media can be used to reframe environmental issues. In this case, citizens and environmental organizations successfully reframed gas drilling in the Marcellus Shale to incorporate more discussion of environmental risk (37).

Common to many studies is a version of the environment versus economy frame. For instance in an analysis of news articles in the Calgary Herald newspaper, Gunster and Saurette (38) argue that coverage of the Alberta oil industry presents the industry as inept at corporate relations and a unable to protect itself from a well-funded environmental critiques that originate outside the province. This particular framing of industry versus the environment then does further work by justifying government intervention in order to protect a vulnerable, local industry from outsiders. Thus, although the framing of economy versus

1 environment appears straight forward, it has important implications for public debate, public  
2 policy, and the legitimacy of actors engaged in the policy debates.

3 However, the empirical data on media representation of unconventional fossil fuel  
4 development in Canada remains sparse. Given the specificity of technology development and  
5 media representation, the relative absence of Canadian case studies constitutes a gap in the  
6 literature that this study aims to fill.

7 In contrast with the emerging literature on unconventional fossil fuels, there is a well-  
8 established literature examining media representations of climate change. Within this  
9 literature, there is agreement that climate change is particularly challenging issue to  
10 effectively communicate due to characteristics such as its distant impacts and scientific  
11 uncertainty (39). It has also been found that media tends to entangle scientific claims with  
12 ideological standpoints (40) and climate change coverage is strongly connected to policy  
13 developments and does not follow a ‘natural’ cycle (41).

14 In line with international research, studies of Canadian media have found that  
15 coverage of climate change is typically portrayed as a national or global problem rather than  
16 a local issue (42) and that it focuses on impacts and mitigation rather than adaptation (43).  
17 More specific to Canada, a longitudinal study of national print media found that over time it  
18 is becoming less nuanced and thematically narrower with “less attention...paid to issues of  
19 causation, scientific claims, and potential impacts, while more attention is granted to how  
20 climate change superficially intersects with everyday politicking and business issues” (44).  
21 Finally, and of direct interest to our study, a comparison of media framing in the United  
22 States, Canada, and international newspapers found that media in all regions were hesitant to  
23 frame climate change in relation to oil reduction solutions (45).

24 In light of this literature we expect that media coverage of the Northern Gateway  
25 Pipeline will be presented using the typical economic benefits versus environmental risks  
26 frame. Although the climate change impacts of new pipeline infrastructure are a major  
27 concern, the extent that it will be present in media coverage remains unclear. On one hand,  
28 popular representations of the controversy over the Keystone XL pipeline suggest that new  
29 pipeline infrastructure may be emerging as an “emblematic issue” (17) representing the larger  
30 problem of society-wide inaction on climate change. On the other hand, the difficulty  
31 communicating climate change and the reluctance to frame it in relation to oil reduction  
32 strategies call into question the extent to which environmental risks will be framed in relation  
33 to climate change.

#### 34 **4. CONCEPTUAL FRAMEWORK: ADAPTING THE SOCIO-POLITICAL** 35 **EVALUATION OF ENERGY DEPLOYMENT (SPEED) FRAMEWORK**

36 We base our conceptual framework on the socio-political evaluation of energy deployment  
37 (SPEED) framework (46). The SPEED framework was developed to guide research  
38 exploring the interconnections among various actors and socio-political factors that can  
39 influence the adoption of new energy technologies and infrastructure at the regional level,  
40 including laws, regulations, institutions and policy actors, and perceptions of risk and benefits  
41 (46). The framework draws from theories of transition management, risk perception, policy  
42 analysis, and technology diffusion. It has been the basis for multiple studies in different  
43 energy contexts, including the deployment of wind turbines (47; 48), carbon-capture and  
44 storage (49; 50), and smart grids (51). The framework has been used with numerous methods,  
45 including media analysis, to categorize the framing of energy projects according to technical

1 factors as well as institutional, regulatory, political, economic, and social/cultural factors. It  
 2 has also been used to evaluate regional differences in discourse, policy approach, and  
 3 response to energy technologies (52).

4 For our purposes, the SPEED framework is particularly useful as an energy specific  
 5 framework that is designed to evaluate regional differences. It allowed us to apply a  
 6 risk/benefit framework and examine the regional differences between British Columbia,  
 7 Alberta, and national news coverage. We use the basic categories of the SPEED framework  
 8 as a starting point for our analysis modifying these categories to suit the context of this study.  
 9 As explained further in the next section, we coded risk/benefit statements found in media  
 10 coverage of the Northern Gateway Pipeline for the following frames: Economic, First  
 11 Nations, Technological, Health & Safety, Socio-cultural, Political and Environmental.  
 12 Several frames also included sub-categories relevant to our research objectives.

## 13 5. METHODS

14 This analysis examined newspaper coverage of the Northern Gateway Pipeline from six  
 15 Canadian newspapers. We chose newspapers that represent the top circulating newspapers  
 16 nationally (The Globe and Mail, The National Post) and in the two provinces directly  
 17 impacted by the pipeline, Alberta (The Edmonton Journal, The Calgary Herald) and British  
 18 Columbia (Vancouver Province, Vancouver Sun).

19 The database Factiva was used to retrieve the articles using the search term “northern  
 20 gateway” occurring in the first 200 words of articles that were 300 words or greater. All  
 21 newspaper articles appearing between January 1, 2006 and September 1, 2014 were collected.  
 22 The 2006 start date was chosen to cover the entire range of project from its early development  
 23 through to its conditional approval in 2014. All articles collected were reviewed and classed  
 24 into three categories: category A articles were substantively about the project, category B  
 25 articles included a specific discussion about the project, and category C articles only  
 26 mentioned the project or the search terms in passing. Articles in the category C were  
 27 discarded from the sample leaving 2097 articles with the following distribution across  
 28 newspapers:

29  
 30 **TABLE 1 Newspaper Articles Analyzed**

<b>Newspaper</b>	<b>Number of articles</b>
Vancouver Province	155
Vancouver Sun	445
Calgary Herald	477
Edmonton Journal	394
The Globe and Mail	372
National Post	254
<b>Total</b>	<b>2097</b>

31  
 32 All articles were coded using NVivo 10 qualitative analysis software. One author  
 33 coded a subset of articles developing and testing a codebook with descriptive memos for each  
 34 code. A team of six coders then used the established codebook to code the entire sample.  
 35 Three calibration exercises were completed with a sample of 100 articles to ensure a  
 36 minimum of 70 percent agreement between coders. Each calibration involved testing

1 individual coders against the aggregate of the other coders and follow-up discussions to  
2 refine the codebook and coding procedures.

3 The articles were coded according to several categories. On the first reading articles  
4 were coded for: actors and institutions mentioned; feasibility statements claiming the project  
5 was or was not likely to succeed; metaphors; mentions of other energy projects; and the  
6 component focus (e.g. pipeline, oil sands, marine terminal, etc.) of each statement. On the  
7 coders' second read of the article, statements claiming a risk, a benefit, or a defensive  
8 statement claiming no harm were coded for high-level frames (Economic, First Nations,  
9 Technological, Health & Safety, Socio-cultural, Political and Environmental) with several  
10 frames including subcategories. Each statement could be coded for multiple frames.

## 11 6. RESULTS

12 Our analysis of risk and benefit statements (Figure 1) illustrates that the benefits were  
13 primarily framed as economic while environmental risks dominated newspaper coverage of  
14 the project. Economic benefits included, for instance, jobs created during the construction of  
15 the pipeline and the overall benefit of the oil sands industry to the Canadian economy. One  
16 supporter was quoted as saying “As a resource driven economy, there's no question that  
17 Canada needs access to tidewater and the project is going to generate billions in terms of  
18 spinoffs, thousands of jobs and benefits to communities” (Globe and Mail A246). The  
19 economic benefits frame also included some dire predictions for the Canadian economy if the  
20 pipeline were not built. For example, citing an Enbridge lawyer, the Globe and Mail reported,  
21 “Canadians could face “economic catastrophe” if the country continues to rely almost solely  
22 on the U.S. and that export market stops taking oil from Canada” (Globe A161).

23 Environmental risks were by far the most frequently mentioned risk frame. The most  
24 cited environmental risks were 1) general environmental risks (with no specific mention of  
25 details), 2) the risk of oil spill and tanker activity in the coastal waters of British Columbia,  
26 and 3) the risks of oil spills on terrestrial ecosystems. As one BC paper put it,

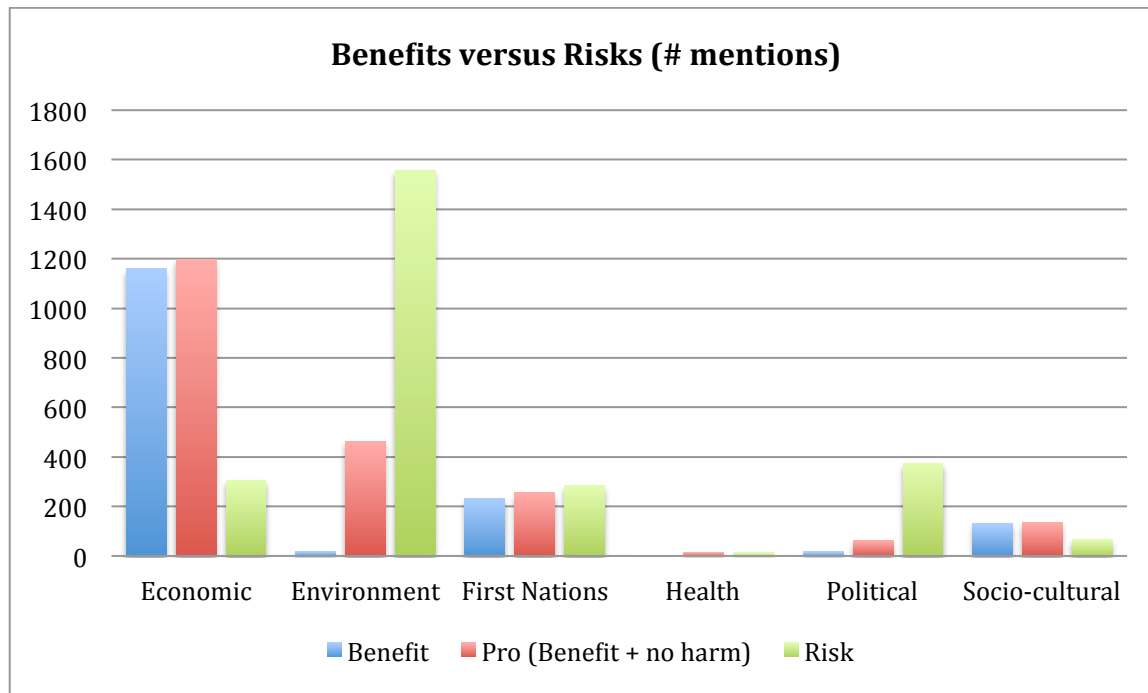
27  
28 *“...ultimately, the most critical element of the proposal is the risk it poses.*  
29 *First, pipelines do leak. Just witness this week's oil spill from an Enbridge*  
30 *pipeline into a river in southern Michigan.... And this northern pipeline would*  
31 *cross a thousand streams and rivers, including two of Canada's most*  
32 *important salmon-bearing watersheds, the Skeena and the Fraser.”* (Province  
33 A178)  
34

35 The second most frequently mentioned risk frame was the political risks of the  
36 project—particularly the possible backlash against politicians for supporting the pipeline.  
37 Several economic risks were cited, including the possibility of stranded assets, the relative  
38 cost and marketability of oil sands product, and public liability for environmental damage.  
39 Finally, First Nations were framed as potentially benefiting from the project and as both  
40 being at risk from the project and being themselves a risk to the project (via their  
41 constitutionally protected territorial rights).

42 The pattern of economic benefits versus environmental risks repeats itself when “no  
43 harm” statements are combined with benefit statements to create a category that we call “pro”  
44 meaning statements that support the project. This reclassification adds over 400 statements to  
45 the environmental benefit frame, suggesting the project would not create significant



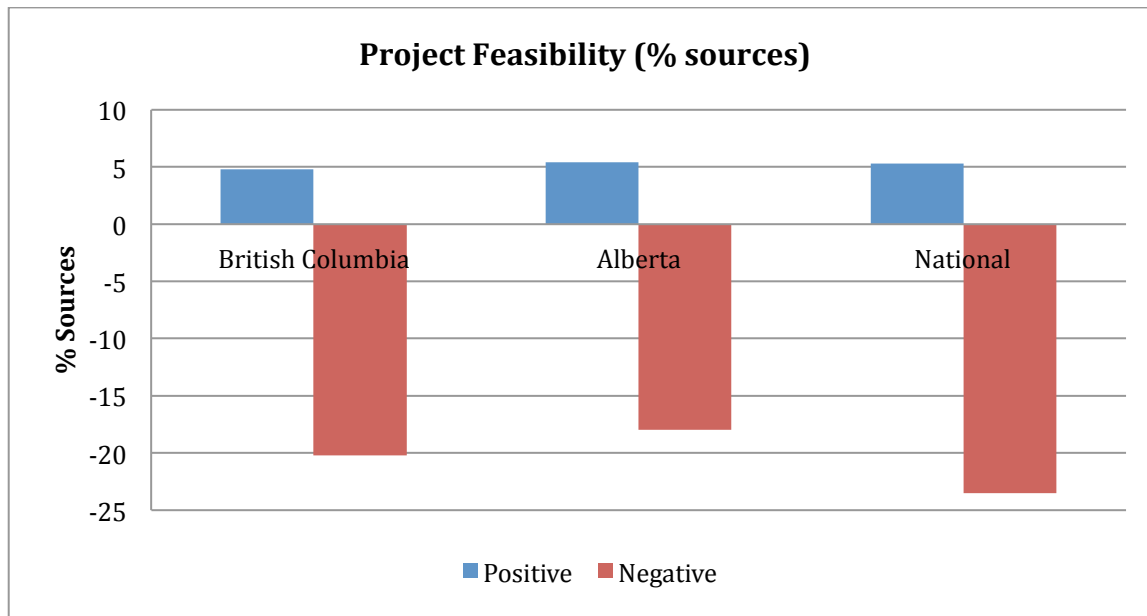
1 environmental harm. For the other frames, the benefits and the pro columns are not  
 2 significantly different.  
 3



4  
 5 **FIGURE 1 Distribution of benefit, pro, and risk statements**  
 6

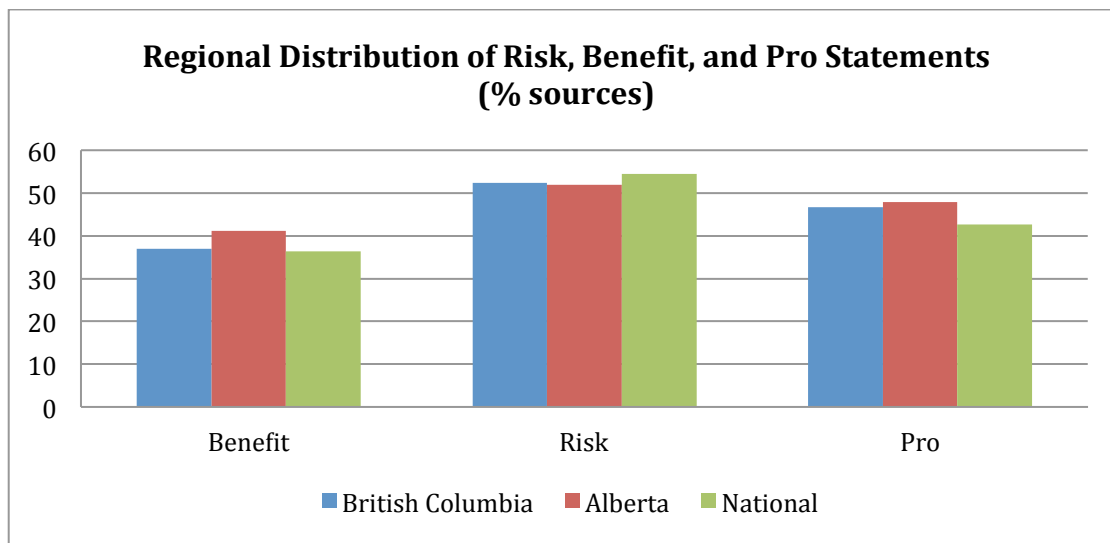
7 Thus, as anticipated, the Northern Gateway Pipeline project is framed primarily as a  
 8 trade-off between economic benefit and environmental risk. The large number of “no harm”  
 9 statements in the environment category compounds this finding by illustrating the extent to  
 10 which the media coverage weighed the overall environmental risk of the project.

11 We also coded feasibility statements indicating that the project was likely or unlikely  
 12 to succeed. Figure 2 illustrates that overall, feasibility statements tended to be negative with  
 13 20% of the articles making a negative statement about feasibility. First Nations, and their  
 14 ability to delay and/or halt the project through legal processes were the most cited reason  
 15 (11% of the articles) the project might fail. Also cited, in decreasing order, were general  
 16 statements about project infeasibility (6.3%), political infeasibility (4.3%), regulatory  
 17 infeasibility (2.7%), and economic infeasibility (0.5%). Only 5.1% of all articles made  
 18 positive statements regarding project feasibility and these were most likely to be general  
 19 statements (1.6%) that did not specify economic, political, or regulatory feasibility. Although  
 20 Figure 3 shows some difference between Alberta, British Columbia, and National media,  
 21 overall the coverage is pessimistic about the project.



**FIGURE 2 Distribution of project feasibility statements by region**

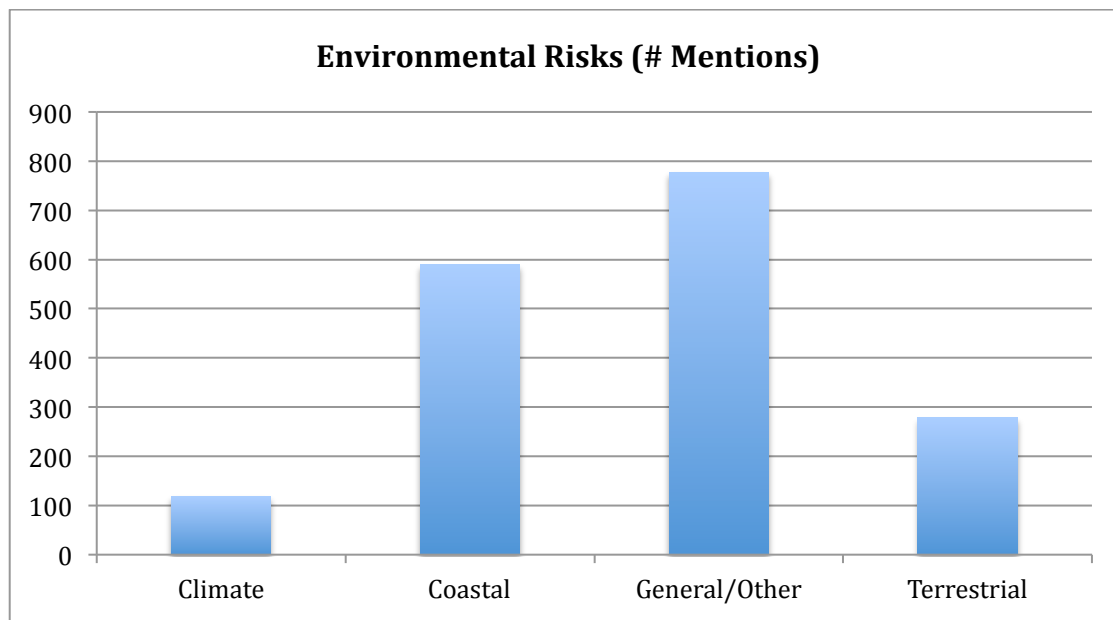
The similarity in coverage between British Columbia, Alberta, and the national newspapers is also seen in the aggregate of risk, benefit, and pro statements as broken down by region (Figure 3). The Alberta newspapers have a slightly larger percentage of articles citing the benefits of the project (42.1%) while the national papers show a slightly larger percentage of articles referring to risks (54.5%).



**FIGURE 3 Regional Distribution of benefit, risk, and pro statements**

These differences are relatively minor suggesting that, in a quantitative assessment, the coverage of the project does not vary substantially by region. However, this finding does not speak to the qualitative differences that might be found between individual papers or regions (e.g. through discourse analysis demonstrated by Gunster and Saurette (38)).

1 Finally, Figure 4 illustrates the distribution of environmental risk mentions in our  
 2 sample, according to frame sub-categories: climate change risks, coastal risks, terrestrial  
 3 risks, and a “general/other” risk category that includes other types of environmental risks, as  
 4 well as general statements of environmental risk without further specification. General  
 5 environment risk or “other” environmental risks (not fitting into any of the other categories)  
 6 dominated the media coverage, indicating that environmental concerns were rarely explained  
 7 in any depth. Coastal risk was the next most frequently mentioned sub-category, followed by  
 8 terrestrial environmental risks. The risk of climate change is present in only 4.5% of the  
 9 articles, and is thus the least frequently cited environmental sub-category. In other words, in  
 10 the media coverage of the Northern Gateway Pipeline global environmental risks, and  
 11 particularly, the risk of climate change, are overshadowed by the local impacts of the  
 12 proposed pipeline and the associated tanker activity on British Columbia’s northern coast.  
 13  
 14



15  
 16 **FIGURE 4 Distribution of environmental risks by sub-categories**

17  
 18 Moreover, a qualitative analysis of statements that include the risk of climate change  
 19 found few articles that elaborated on climate change or positioned the project against climate  
 20 mitigation efforts. Instead, there was a tendency to simply mention the risk of climate change,  
 21 often in a list that included other environmental risks or First Nations objections to the  
 22 project. For instance, an Alberta paper summarized opposition with the following statement:  
 23 “The proposed line has prompted fierce opposition in B.C., particularly from environmental  
 24 and First Nations groups concerned about potential oil spills and increased greenhouse gas  
 25 emissions from expanding the oil sands.” (Herald A119)

## 26 **7. DISCUSSION AND POLICY RECOMMENDATIONS**

27 Overall our analysis shows a predictable trade-off between economic benefits and  
 28 environmental risk where the debate over the project is largely focused on whether the  
 29 economic benefits (e.g. jobs and increased production of the Alberta oil sands) warrant the

1 environmental risks of shipping diluted bitumen over ecologically and culturally significant  
2 landscapes and waters. This debate may simply be the unconscious repetition of a deeply  
3 embedded assumption that underpins many discussions of environmental risk. It may also be,  
4 in this case, exacerbated by the strongly regional distribution of risk and benefits that may  
5 support an us-versus-them debate rather than encouraging broader discussions regarding  
6 alternative energy futures or greening the economy.

7 However, despite the regional distribution of risks and benefits along provincial lines,  
8 we did not find differences in framing between Alberta and British Columbia. This finding  
9 would suggest that media may not be a major factor in the regional differences in support  
10 found in Aksen (18). Alternately, it may be necessary to analyze individual newspapers  
11 and/or to use qualitative analysis (38) to capture the differences in coverage.

12 In terms of the environmental risk frame, we find that media coverage often did not  
13 explain such risks beyond the general term “environment”—that is, articles did not elaborate  
14 on particular impacts. When a specific environmental risk was made explicit, it most often  
15 referred to local impacts (coastal and terrestrial) due to bitumen spills and other issues related  
16 to tanker activity on British Columbia’s coast. Climate change was marginal in the media  
17 coverage, mentioned in only 4.5% of the articles. This finding supports others findings that  
18 climate change is difficult to communicate (39) and that there may be reluctance to align one  
19 of the country’s major industries with climate change. Further, empirical research indicates  
20 that only minorities of British Columbia and Alberta citizens believe that the Northern  
21 Gateway Pipeline will increase overall greenhouse gas emissions (18). As a result, project  
22 opponents may have been strategic in their emphasis of local environmental impacts;  
23 choosing to appeal to the immediate interests of affected communities. The absence of  
24 climate change from the public debate may also be related to the terms of reference of the  
25 joint review panel that did not officially account for the upstream greenhouse gas emissions  
26 from oil sands production.

27 Regardless of the reason for the relative absence of climate change in the media  
28 coverage, our findings suggest that the media coverage of the Northern Gateway Pipeline did  
29 not present the project as an “emblematic issue” (17) standing in for the larger problem of  
30 societal inaction on climate change. Although climate change is evoked and (occasionally)  
31 referenced, the media tends to frame the project on the grounds of more immediate, local  
32 environmental concerns.

33 As of November 2015, a newly-elected national government (Liberal party) has  
34 broadened the scope of on-going review processes to include both upstream and operational  
35 greenhouse gas emissions. Although this new government will likely not reverse the  
36 conditional approval of the Northern Gateway Pipeline, it has made commitments to ban  
37 tanker traffic on British Columbia’s northern coast. The effect of the political and regulatory  
38 changes appears to be twofold. First, if the government maintains its commitment to ban  
39 tanker traffic, the Northern Gateway Pipeline will not be built. Second, and more generally,  
40 official acknowledgement and accounting for upstream greenhouse gas emissions in the  
41 regulatory review process has broadened the terms of the debate. Whether or not this will  
42 influence future media coverage (or citizen perceptions) of the Northern Gateway Pipeline or  
43 other the pipelines currently in the review process remains a question for future research.

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