

**By the People, For the People or Of the People: Influences Shaping the Social Licence  
Discourse of Hydraulic Fracturing in New Brunswick**

Master's Thesis

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### **Dedication and Acknowledgements**

To my parents, Janie & David. Together they were my lighthouse. They guided and taught me so much more than can ever be put into words. But the values of education, hard work, integrity, and the belief it was possible for me to achieve anything if I put these values into action spring to mind. And while I have failed (a.k.a. actively sought out learning opportunities) as much as I've succeeded, it is because of their constant love, wisdom, and support that I sit here typing this today. I only wish they could be here with me to see the culmination of this journey. I miss and love you both dearly.

Returning to school is a significant endeavour. It takes time, commitment and support; and my family, friends and colleagues have had my back in countless ways. Thank you for always being there, understanding my long absences, and listening while I chatted about my studies and made sense of these new learnings.

I am deeply appreciative of my thesis advisor Dr. Amy Thurlow and committee members, Dr. Scott Stoneman and Dr. Jeff Young, without whose guidance, insight, perspectives and patience I also would not be penning this capstone message for an exhilarating, albeit brain-busting, body of work. You've curated with care and expertise my intellectual growth, curiosity, and perhaps even future research endeavours.

To this end, I returned to my alma mater in 2017 because after nearly two decades in the field of communications, I realized I didn't know what I didn't know anymore. So much has changed since I began my career. I believed I might learn something new by pursuing graduate studies in communication, and indeed, I did. In fact, I received much more than I ever expected by doing this, including new friends. So, to all of my professors and kindred spirits I found in

fellow graduate students who I now count among my ring of good friends, my sincere gratitude goes out to all of you. You are awe-inspiring and all total rock stars in our profession.

That admiration also applies to the lengthy list of epic communications professionals I have worked with and for along the way. From each of you, I have revelled in our camaraderie and soaked up immeasurable knowledge and inspiration that fuels my continued love of this profession to this day. You have all had a hand in shaping this path I found myself on, and I thank you for being part of it.

I also wish to thank those I worked with on all sides of the debate during the time of the hydraulic fracturing controversy in New Brunswick. The deliberations were as informative as they were often lively, and I truly learned a lot from the experience. It fuelled my curiosity and ultimately, my interest in pursuing this research.

Finally, thank you to R.G. Boutilier. While he may not know it, he took the scrambled mess of ideas and theories about social licence that were churning endlessly about in my head, and made sense of the complex, perplexing, and often frustrating concept of social licence in his development of the Narratives and Networks Model of the Social Licence (Boutilier, 2020). Thank you for this important work.

### **Abstract**

The Narratives and Networks (N&N) Model of the Social Licence (Boutilier, 2020) is a new model proposed by R.G. Boutilier in 2020, which may have the potential to create more understanding about social licence (SL), its presence or absence, and how its complexities are navigated and negotiated among various discourse participants. This thesis illustrates the use of the N&N model by applying a qualitative Critical Discourse Analysis (CDA) methodology to a case study (the New Brunswick hydraulic fracturing controversy occurring between 2012 and 2017) to assess the model's usefulness for understanding the presence or absence of a social licence and its practical implications for communications professionals. First, this thesis reviews available scholarship identifying factors that contribute to the influence and establishment of a SL, including: its definition, the rise of activism and engagement, influences on opinion formation, and associated political dimensions. Next, it provides a review of previous SL models, the N&N model, and the theoretical basis for using CDA as the research method. This is the first trial of the model using such a methodology and the hydraulic fracturing controversy in New Brunswick. While several areas for additional research are uncovered, the results reveal the N&N model accomplishes the intended purpose. It provides a deeper understanding of the dominant discourses, the networks and actors influencing those discourses, emerging themes and strategies, the presence or absence of a SL, and the obstacles or facilitators used to constrain or support the capacity to conduct the activity. This research reinforces the importance for narratives to be present in the public sphere, but concludes by encouraging more research investigating the capacity to achieve SL if you are not part of the public sphere.

*Keywords:* critical discourse analysis, narratives and networks model of the social licence, hydraulic fracturing, fracking, natural gas, social licence, discourse, communication

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### **Abbreviations**

Critical Discourse Analysis (CDA)

Discourse Analysis (DA)

Hydraulic Fracturing (HF or hydro-fracking or fracking)

Liberal Party of New Brunswick (Liberals)

Narratives and Networks Model of the Social Licence (N&N)

New Brunswick (NB)

New Brunswick Government - Conservative (NBG-C)

New Brunswick Government - Liberal (NBG-L)

New Brunswick Commission on Hydraulic Fracturing (The Commission)

Non-Governmental Organization (NGO)

Progressive Conservative Party of New Brunswick (PC or Conservatives)

Social licence to Operate, Social Licence or License (SL)

Trillion Cubic Feet (Tcf)

United States of America (U.S.)

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**Introduction and Thesis Overview**

Social Licence (SL) is a polarizing and contested social construct. The presence or absence of SL can have a significant impact on industry and political projects and outcomes. From a communications perspective, it is important for professionals to understand how to communicate so that parties involved in polarizing industry-related conflicts can move forward beyond entrenched positions of either yes or no. It is from this standpoint that I started this thesis research.

Public consultation is often used as a means of building consensus. But in my experience, I believe public consultation has been unsuccessful largely because its purpose and expectations surrounding the public's input and their role in deciding project outcomes are not communicated or managed well. This is reinforced by recent scholarship noting the importance of meeting participants' expectations to ensure they value their involvement (Zang et al. (2018). From this, I highlight the key principles that may be instructive for future public deliberations, including: communicating with the public early on, providing a specific plan for how the public will be engaged, and being transparent about how the government will assess that process to arrive at a decision can improve public perception in "fairness of and trust in" (Zang et al., 2018, p. 1564) of the company and government involved.

Over the course of my career, I have worked in the health, IT, mining, energy, and manufacturing sectors in the area of public and stakeholder communications. My interest in this area stems from this past experience as a communications professional, from my studies as a

graduate student, and more recently, my experience with the oil and gas industry during the time of the HF controversy in NB. Consensus remained elusive, positions entrenched, and any dialogue about the subject seemed impossible. In fact, if the subject is mentioned in the present day, it still gives rise to intense, polarized feelings both for and against and results in more media coverage (Urguhart, 2022). This, along with many other emerging, and increasingly divisive issues over the last decade and up to the present day, has left me to wonder what communications professionals can do to reduce the societal divide that appears to be growing. Is two-way communication even possible or effective when positions are entrenched, no one believes what is being said by others, and no one is talking anymore?

My primary objective is a personal and professional journey to understand how this situation emerged, escalated, divided the citizens, and ultimately resulted in a moratorium. While we already know the outcome, from a communications practice standpoint, it is important to understand the evolution of the SL construct, the narratives and discourse employed, the networks and coalitions and the underlying influences of power that produced this outcome. I hope the learnings from this research will provide insight to fellow communications professionals facing complex, polarized social issues (no matter their industry, sector, association, or interest) and aid in developing two-way communications strategies that build consensus rather than walls.

Finally, as I began this research journey, I will note that I did work with the oil and gas industry during the time of the case study under review. To this end, I have knowledge about the industry, HF technology and its process, as well as experience in communications, public consultation, academic and Commission reviews, and media and government relations from 2013 through 2015. To the best of my ability, I have attempted to practice reflexivity (Dodgson,

2019). I have tried to remain aware of my own opinions as they emerge and the possible influence they may have on interpretations of the text, language and discourse involved in this research. In instances when I noticed its presence, I have tried to stop, reflect on why I interpret something in a particular way, and then reassess based on these reflections. Interestingly, doing so led to my observations and analysis in regard to media frames, tone, visuals, and visual body language analyzed within the media. This will be detailed in the discussion and analysis section of this thesis. While this qualitative research is based on my interpretations of the language and text used in the discourse about HF in New Brunswick, I would be equally interested in other researchers' assessment and results of the new model using the NB case study.

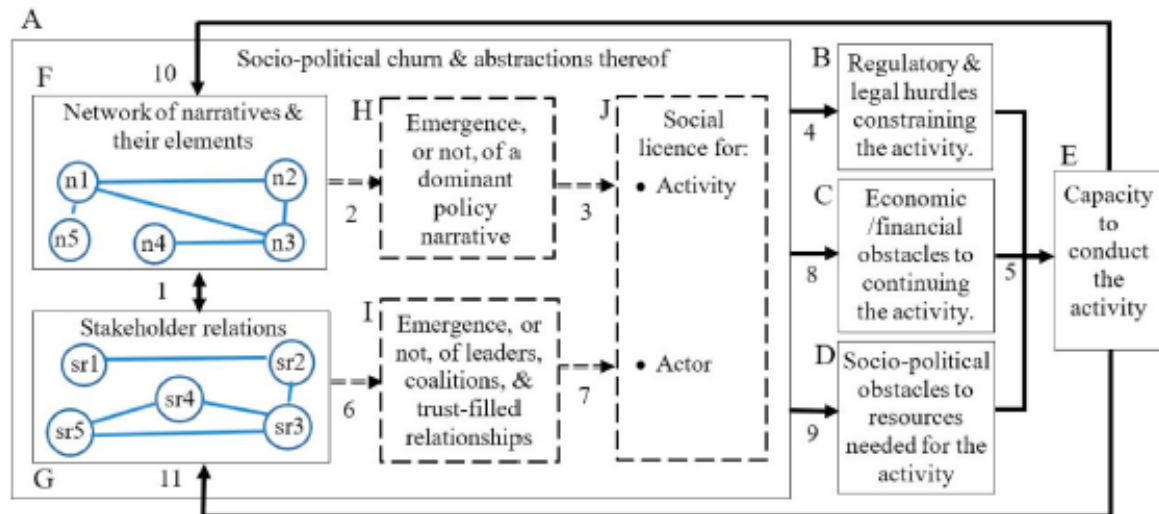
### **Scope of Thesis and Research Question**

While the origins and common definitions will be elaborated upon in the review of literature, it is important to understand from the onset of this research that the term social licence (SL) secured its foundations in the mining industry around 1997 (Boutilier, 2021), but it only gained real traction in the last decade from about 2013 on (Gehman et al., 2017). Within the context of the hydraulic fracturing (HF) controversy in NB, SL emerged and appeared to dominate discourses across many communications channels from about 2012 until about 2019, and again this year, as noted earlier. However, SL is a socially constructed concept which holds no formal licensing requirements (Ethics Centre, 2018), and as such, has generated extensive debate about its meaning, agency, and measurement because it is ambiguous, legally unenforceable, and individuals attribute their own meaning to it (Bursey & Whiting, 2015). The debate about SL in NB fueled my research interest in this area after the moratorium on HF was put in place by the Government of New Brunswick (2014) and required a "social licence be in place" (Government of New Brunswick, 2014, para. 5) as a condition for its removal.

While the public discourse on energy and the environment has advanced in the last decade since the HF controversy occurred, the scope and intent of this thesis and research is not to debate or take a position on the matters of energy or the environment. Herein I acknowledge the topics as part of the large public discourse and note advances in concerns raised, but focus on the language and discourse emerging during the time of the case study from 2012 through 2017. It is my hope this research will contribute to the scholarly body of knowledge and field of communications, as well as help advance the understanding of SL and provide a practical example of how a new model of the SL can be applied to a real-world case study.

The purpose of this research is to test the new Narratives and Network (N&N) Model of the Social Licence (Boutilier, 2020) shown in Figure 1 that was developed by Robert G. Boutilier in 2020. To do this, I use the definition of social licence used in this study as public acceptance and the capacity to conduct the proposed activity (Gehman et al., 2017; Eaton & Enoch, 2018, Gunster & Neubauer, 2018; van de Biezenbos, 2018; Pollard & Rose, 2019; Fraser et al., 2021) and examine the case of how the presence or absence of SL was determined in NB during the HF controversy and the discourse surrounding the use of HF to develop natural gas reserves within the province.



**Figure 1***Narratives and Networks Model of the Social Licence*

*Note.* The Narratives and Networks Model of the Social Licence created by R.G. Boutilier (2020, p. 4).

Using the qualitative approach of Critical Discourse Analysis (CDA), I analyzed media coverage occurring between 2012 - 2017 to test the N&N model and answer my primary research question (RQ): Can Boutilier's (2020) N&N model provide insights and serve as a useful indicator of the presence or absence of the Social Licence?

The HF controversy in NB is an ideal case study because it was highly polarized, centred on the presence of a SL, and it received a great deal of media attention from 2012 through 2017 as multiple discourses transpired among various actors involved and interested in the development of natural gas. However, due to the controversy's prominence in NB, coverage was extensive and beyond the manageable threshold for this thesis. To this end, it is acknowledged

that the shale gas discourse occurred in: both the province's official languages (French and English), within numerous public forums, on social media, in content generated by interest groups and public-and private-sector organizations, and within all forms of traditional media locally, nationally, and globally.

The scope of media analysis within this research includes a sub-set of coverage from English, Atlantic- and National-based print and online media with readership located in New Brunswick. This is because it was ultimately the citizens of NB who would be impacted by the SL, and who could (or should) have been able to affect the decision of whether it existed (Gunster & Neubauer, 2018). The sub-set of media coverage was selected using nonprobability convenience sampling (DeCarlo, 2018). A framework for analysis based on CDA, including a coding scheme, was developed, and used to identify and analyze the dominant discourses, narratives and actors, themes, connections and patterns emerging from the text. The results from this analysis were then used to test the N&N model's usefulness as an indicator of the presence or absence of the SL, as Boutilier (2020) proposes. The full details of the research approach are captured within the methodology and research design section of this thesis.

### **Contribution to the Field of Communications**

This research has methodological and practical potential for the study and practice of communications. From a methodological perspective, Boutilier's (2020) Narratives and Networks Model of the Social Licence is new, so applying it to a complex social issue like the HF controversy in NB will provide insights into its effectiveness in indicating the presence or absence of SL in the future. Practically speaking, reviewing a case study as complex as the HF controversy in NB through the lens of the N&N model has the potential to contribute to the development of more effective communications techniques and strategies as organizations and

groups attempt to build trust and consensus, gain acceptance, and maintain positive relationships with those who may support their position or activities. Finally, the proposed research has the potential to provide a deeper understanding of the roles, collaborations, and influences upon and among the diverse actors, narratives, and networks contributing to the requirement of a social licence as a condition of the moratorium on HF in New Brunswick.

## **Review of Literature**

### **Social Licence Defined**

The foundation of social licence (SL) was established when the term was coined in 1997 (Boutilier, 2021) in the mining industry, and over the last few decades, it has become a popular phrase invented by business for business (Colton, J. et al., 2016; Gehman et al., 2017). Modern use of the term SL has been adopted by those opposed to industry activities or projects, with recent research showing the term's rise in popular use through media article mentions moving from fewer than 10 articles annually between 1997 to 2002, to more than 1,000 from 2013 to 2015, and 2,000 times in 2016 (Gehman et al., 2017). SL is a concept that has been constructed by society and holds no formal licensure requirements (Ethics Centre, 2018). As a result, it has generated extensive debate among businesses, stakeholders, governments, academia and the legal community about its meaning, agency, and measurement because it is ambiguous, legally unenforceable, and individuals attribute their own meaning to it (Bursey & Whiting, 2015). As Bursey and Whiting (2015) suggest, and the key motivation for this research proposal, there needs to be further examination of how SL relates to governance and decision-making because the term is "misleading" (p. 6) and there is "no formal process for obtaining a SLO" (p. 6). As van de Biezenbos (2018) notes, it can't be measured, tracked or proven and has essentially become a "de facto veto" (p. 168). But while the specific conditions, requirements, and measures

(Gunster & Neubauer, 2018) for a SL remain vague, there seems to be general acceptance of a common understanding and definition of SL from numerous online sources. A social licence is: “the informal “license” granted to a company by various stakeholders who may be affected by the company’s activities” (Ethics Centre, 2018, para. 1); “the ongoing acceptance of a company or industry’s standard business practices and operating procedures by its employees, stakeholders, and the general public” (Kenton, 2021, para. 1); or “the level of acceptance or approval by local communities and stakeholders of organizations and their operations. (Learning for Sustainability, 2020, para. 1).

In its report to the New Brunswick Government, the New Brunswick Commission on Hydraulic Fracturing defined social licence as “informed public consent” (Léger et al., 2016a, p. 21) and outlined the meaning and composition of each of those three elements: informed, public, and consent. While the use of the word consent suggests more formality than the above-mentioned definitions, it is described within the report as “community acceptance” (Léger et al., 2016a, p. 21) which aligns closely with the normative public understanding of SL. Like many of the descriptions found in the public domain, The Commission’s report does not contain specific conditions or standards of measure by which SL can be achieved; but rather hosts a broader discussion about the necessity for trust and respect, consultation, communities, research and evidence, regulation, and the complexities of establishing SL in New Brunswick in relation to other provincial, national, and global issues (Léger et al., 2016a) all of which seem to imply a somewhat unachievable quality to The Commission’s findings on the condition of social licence.

The concept of SL being defined as public acceptance is also echoed in scholarship. Eaton & Enoch (2018), noted that social licence “is the increasingly popular notion that a company or industry needs to have broad, ongoing approval and acceptance of society in order to

successfully conduct its activities” (p. 57). The concepts of social approval and acceptance are used regularly by many researchers (Gehman et al., 2017; Gunster & Neubauer, 2018; van de Biezenbos, 2018; Pollard & Rose, 2019; Fraser et al., 2021). Eaton & Enoch (2018) further note that “on the other hand, in more popular commentary, “social licence”—particularly in regards to oil and gas—is increasingly characterized as a futile exercise akin to extortion that can never appease the demands of an insatiable environmental movement” (p. 54) and that “companies attempt to build social licence by diminishing the negative externalities of corporate operations, while encouraging the positive through actions known as corporate social responsibility (CSR)” (p. 57).

Boutilier (2021) recently described SL as a “metaphor comparing the need for community approval for extractive projects in remote regions with the equally exigent need for legal licences and permits from government” (p. 1) and notes the metaphor implies a power that communities have over projects equal to regulatory bodies like governments or companies. The polarized view of SL as either a mechanism of permission or veto is echoed by van de Biezenbos (2018), who notes SL has become increasingly important in Canada and further suggests SL is a “dangerous distraction from real issues that can and should be addressed” (p. 158) and has become “functionally meaningless in a normative capacity” (p. 159). Within the context of SL, the view that the public holds equivalent power to that of regulatory bodies is particularly relevant for this research, which will be grounded in the theory and practice of Critical Discourse Analysis (CDA) and will explore the dynamics of power among actors and networks shaping the SL in the NB HF controversy. Conversely, rather than just being a practice for securing public approval, Eaton & Enoch (2018) noted “efforts to efforts to obtain social licence, in these

findings, produced an ideological view of the world that was shared by differently positioned community members” (p. 54).

While SL appears to be commonly defined, there are varying opinions on who awards the SL (Boutilier, 2021). It remains largely ambiguous in terms of the conditions or standards for objective measurement (Gunster & Neubauer, 2018) or if it even can be achieved (van de Biezenbos, 2018). From a risk and reputation perspective, the uncertainty of SL has caught the attention of companies within extractive industries, their legal advisors, and the investment community (First Sentier Investors, 2019). Many natural resource development companies (Trevali Mining Corporation, 2020; Capstone Mining Corporation, 2021; Constantine Metal Resources Ltd, n.d.) now reference maintaining a SL in their forward-looking statements or cautionary notes to investors. The consideration of SL also has moved beyond these industries. For example, in consumer goods manufacturing, Coca-Cola includes SL in its forward-looking statements, noting “damage to our brand image, corporate reputation and social license to operate from negative publicity, whether or not warranted, concerning product safety or quality, workplace and human rights, obesity or other issues” (The Coca-Cola Company, n.d.). It is important companies are mindful of the possible threats from reputational risks and social licence which both play a role in creating social capital for companies (First Sentier Investors, 2019). But similarly, First Sentier Investors point out that “clear and comparable measures, beyond surveying of local communities and case studies, remain elusive” (2019, para. 5).

One current area gaining attention today that should be noted for future research because it can contribute to maintaining a social licence (Jamasmie, 2019; Tavistock, 2021) is the growing focus of the investment community on the Environmental, Social, and Corporate Governance (ESG) rating approach to business (Investopedia Team, 2021). While it was not part

of the discourse at the time of the HF controversy in NB, ESG incorporates all of the aspects of environmental concerns a company faces, the social relationships it has with stakeholders and communities, its accountability, and measures it employs to ensure good governance (Henisz et al., 2019). While ESG clearly has critical elements intertwined with social licence, ESG is a broad area for study on its own and beyond the scope of this research and testing of the N&N model.

### **Introduction to Scholarship**

As the term social licence (SL) has increased in frequency and normative public use, so has the scholarship dedicated to its study, explanation, and modelling in various industries and sectors. Gunster & Neubauer (2018) reviewed media framing of SL and its definers from a Canadian perspective in the context of oil pipelines, which saw SL transfer from being used in the private sector over to its use in the public sector as opposition increased. Their investigation is instructive for this research; however, there remains a limited amount of research on the establishment of the SL, its definers, and subsequent inclusion within public policy by the Government of New Brunswick during the HF controversy.

In spite of the fact SL is usually understood to be public acceptance, there is still a great deal of uncertainty about how SL is achieved or granted. As Newton et al. (2020) note in their examination of SL, “the definitions used in public discourses also carry implications for power. Who defines a term, as well as the meanings deriving from the definition itself, are important for community participation in governance” (p. 3). As the discourse about SL advances, there can be a variety of definitions and left ambiguous, it can be used to serve “powerful interests” (Newton et al., 2020, p. 3).

Some organizations note the requirements of legitimacy, credibility, and trust as components of securing a SL (Ethics Centre, 2018). This is supported by existing scholarship establishing legitimacy, credibility, and trust as necessary preconditions for public acceptance and a SL (Moffat & Zang, 2014; Smith & Richards, 2015; Gehman, Lefsrud, & Fast, 2017; Jijelava & Vanclay, 2017; Boutilier, 2014 and 2021). Trust is particularly notable with respect to this research, as Eaton & Enoch (2018) point out that “academic literature portrays extractive companies as highly “controversial,” receiving low levels of public trust, and in dire need of obtaining, maintaining, and renewing their social licence in order to legitimize their operations” (p. 54). Smith & Richards (2015) note that SL has come under some critique by those who “argue that achieving a social license is unattainable based on the nature of modern society and the structure of governments” (p. 95) and that it devalues “legal licences” (p. 95) and “rejects the rule of law” (p. 95). But given the fact its use gives stakeholders the ability to impose additional costs or further analysis of impacts, and the fact SL is difficult to quantify, it is “a critical tool in evaluating the risk associated with community opposition to a project and identifying the appropriate measures to minimize that risk” (Smith & Richards, 2015, p. 96). As Boutilier (2021) suggests, it is not always clear who grants the SL and on what basis.

Legitimacy, credibility, and trust will not be expanded upon in this literature review because existing scholarship has established them as the criteria for a SL. Rather, this review will build upon that foundation through the lens of uncertainty surrounding SL (Boutilier, 2021), exploring the themes within scholarship related to the rise of activism and the role of public engagement; how people process information, form opinions and perceive risk; the role of media framing and agenda setting; the political dimensions of SL; and the available models for understanding social licence, while noting some theoretical frameworks associated with SL.



In the New Brunswick HF controversy, while the New Brunswick Commission on Hydraulic Fracturing's findings provide a great deal of insight regarding concerns and perspectives, there is uncertainty around SL which is further reinforced when they offer no clarity as to whether the moratorium condition requiring a SL could be met or, alternatively, who gives it, who receives it and who is responsible (Boutilier, 2021)? While the Commission states up front that the determination of SL was not its role (Léger, 2016a), it does paint a picture of the complexity of factors that contribute to a SL in the context of fracking in New Brunswick.

Uncertainty is the constant that persists as organizations continue to try and secure a SL. Even after decades years of using the term (Boutilier, 2021), there remain no obvious or specific approaches, processes or tools organizations can use to achieve it. But it is clear, as in the case of fracking in New Brunswick, when a SL doesn't seem to exist. Practical guidance only seems to come from watching the experience of others as they attempt to navigate the multi-faceted, ever-changing configuration of actors, alliances, activities, and authorities with no guarantee of success. Oftentimes only seeing clear winners or losers following several years of debate and conflict (Shanahan et al., 2013). A better understanding of who grants SL and how it is awarded would potentially aid in the development of mutually beneficial strategies with the goal of consensus building and resolution to situations like the HF controversy in New Brunswick.

### **Societal Change: The Rise of Activism and Engagement**

**Social Movements and Activism.** Social movements and activism have been part of human history for centuries; whether it takes the form of a campaign, protest, or revolution, or if it is peaceful or violent (Hayward, 2018), people have banded together to influence “social, political, economic, or environment” (Activism, 2021) change in society. According to the annual *Trust Barometer* from Edelman (2021), which monitors the trust and credibility of

institutions in society, 67 per cent of consumers believe they have the “power to force corporations to change” (p. 26). That belief in the power and ability to affect change has shaped society from movements such as those for civil and LGBT rights, women’s right to vote, apartheid, and the environment (Schwartz & Sanchez, 2016). Moreover, such movements can help empower people who may feel unable to create change on their own (Nardini et al., 2021). But as Carter & Fusco (2017) note in their study of the of the rise of mobilization against fracking in Newfoundland, “prior to the rise of 1960s protests, social movements were commonly conceptualized and explained on a micro level and were viewed as irrational responses to malfunctioning institutions and norms (p. 99).

Today, there are more social movements than at any other time in history (Nardini et al., 2021). The rise and popularity of social moments is even celebrated and expertise for success is now even shared at events, as Hitchings-Hales and Marchildon (2017) highlight in their article featuring advice for leading activities during the *Global Citizen Festival*. This falls counter to the notion such movements are impulsive and unplanned, but rather supports the fact that they are organized, organizing, and organizations (de Bakker et al., 2017). Nardini et al. (2021) support this by offering that it takes time, often years, to build to create change, and that it “happens not by chance occurrence, but rather by linking individuals, organizations, and their networks together in a common cause and shared purpose” (p. 112). The work of Carter & Fusco (2017) also supports this noting several coordinated activities used to oppose fracking in Newfoundland, including: traditional and social media, public events and ceremonies, signage, engagement with international organizations, and personal contact and connections that resulted in “number of unprecedented policy steps” (p. 108) by government. As Haluza-delay & Carter (2016) also note in their research relating to oil and gas production in Alberta “social movements as discursive

and cultural agents that challenge the legitimacy of the oil sands status quo and that therefore have real, material impacts on power relations” (p. 456).

While change in society starts from a grassroots perspective (Nardini et al., 2021), strategies are also evolving and becoming more sophisticated, such as creating profile by fueling more controversy (Shanahan et al., 2013). Environmentalists have long held a great deal of experience gaining profile through strategic activities (Horwitz, 1994) and de Bakker et al. (2017) note the new use of “Statactivism” (p. 207), which is the development and use of statistics to support the issues of concern in social activism. In relation to fracking, an online search reveals toolkits (The Council of Canadians, 2013; Richardson & Garfield, n.d.) people can use to help them stop the practice in their community. Further, the addition of social media has provided access to and amplified the voices of people who may not have been able to participate in the past (Nardini et al., 2021). As Eaton & Enoch (2018) note “social opposition led to a ban on fracking in New York State and France; and more than 1,000 groups from 64 countries participated in anti-fracking actions coordinated by Global Frackdown in 2015” (p. 55).

The area of health activism is also rising and Zoller (2005) notes the roles of power and agency within social changes. In this context, Zoller (2005) details the types of social actions ranging from individual to societal, noting that “transformative efforts aim for fundamental change in broad-based social structures” (p. 350). Transformative social actions would seek to change things like industrial practices and would tend to use protest or other direct actions to build public profile (Zoller, 2005), similar to those seen in the HF controversy in New Brunswick.

Nardini et al., (2021) show how social movements grow and are successful, contending that people and groups join in shared purpose and act in a decentralized manner locally, but

always channelling their efforts in a unified and organized way to influence and affect change (Figure 2). Within social change, a ground-up approach where people feel their voice matters is often key to influencing public policy (Nardini et al., 2021). For the purposes of this research, it is important to note the power and influence of such grassroots movements as they cultivate networks through trust and establish bonds based on shared purpose, values, and identity (Nardini et al., 2021).

**Figure 2**

*How Social Movements Grow: The Ripple Effect*



*Note.* This shows how people act in a decentralized manner locally but channel those efforts in a unified way to affect change. From *Together We Rise: How Social Movements Succeed* (Nardini et al., 2021, p. 115).

**Environmental Consciousness and Protection.** Although environmental stewardship is centuries old, there has been heightened and increasing awareness within the public domain in recent decades. Schwartz & Sanchez (2016) note that the environmental movement began with

public concern about the safety of water and air and nuclear energy, which paved the way for the creation of the National Environmental Policy Act, the Environmental Protection Agency, and the first Earth Day in 1970. Over the last several decades, environmental consciousness and the movement have continued to increase as countries and groups engage in the discourse about global warming, climate change, the risks and impacts of human activity, and appropriate solutions (Maizland, 2021). As countries, communities, groups, scientists, and others debate science, data, approaches, and many other aspects of climate change, there have been, and continue to be, ongoing talks and agreements negotiated and implemented to combat global warming and climate change (Maizland, 2021). One such agreement, noted in the New Brunswick Commission on Hydraulic Fracturing's findings, was the Paris Agreement (Léger, 2016a). In 2015, the Paris Agreement, the world's first climate agreement treaty, was adopted by 196 parties that would support the goal of limiting rising temperatures to 1.5 C of pre-industrial levels (United Nations Climate Change, n.d.). The agreement went into effect in 2016 and, as the New Brunswick Commission on HF noted, "will require Canada and the rest of the world to be carbon-neutral sometime between 2050 and 2100" (Léger et al., 2016a, p. 8).

Further, we have seen leaders and pioneers in the environmental movement emerge that have helped raise public awareness. In 2019, the world experienced the "Greta Effect" (Jamasmie, 2019, para. 14), which saw a teenager become a leading voice and activist seeking action on climate change following her speech at the 2019 United Nations Climate Action Summit. More recently and notably, in September 2022, Patagonia's founder and family donated the \$3 billion company to a non-profit that will work to fight climate change, which will see roughly about \$100 million of the company's profits that can be put towards climate change

initiatives (Gelles, 2022). These are some of the key occurrences in the evolution and change taking place in the environmental movement.

There is considerable public awareness about environmental issues and humans' impact on the world, and the reasons for this span a diverse range of motivations (Horwitz, 1994). Such concerns about issues and impacts have been outlined extensively in existing scholarship (Smith & Richards, 2015; Gunster & Neubauer, 2018; Lachapelle et al., 2018 ; O'Brien and Hipel, 2016; Shanahan et al., 2013) and in recent studies of energy projects in Canada (Michael Cleland et al., 2016) and in New Brunswick (Léger et al., 2016a). The environmental movement and activism by non-government organizations have increased in the last several years largely in response to climate change, with groups becoming more sophisticated in their approach and globally organized (First Sentier Investors, 2019). In its whitepaper on SL, First Sentier Investors (2019) notes the Climate Action Network (CAN) includes more than "1,100 member organizations from 120 countries around the world" (p. 1) and with reputational and SL risks within several industries, like HF and oil and gas, recommends the inclusion of SL as a key component of company decision making.

In western democracies, there has been a rise in the power of and alliances among non-governmental organizations, community groups, local associations, and environmental groups because of their influence (van de Biezenbos, 2018). Although companies, particularly those in the energy sector, began to respond by taking steps to address concerns and secure a SL, van de Biezenbos (2018) notes they face a great deal of opposition from environmental groups, some of which "fundamentally are opposed to certain energy projects" (p. 164) and for whom there will never be a SL. The lack of trust in public institutions and governments undermined the credibility of and arguably their ability to reach a resolution on such matters (van de Biezenbos,

2018), a trust deficit clearly consistent with the findings of Edelman (2021). It is likely a SL, or any type of resolution would remain elusive if those opposed were to strategically continue to engage on issues using narratives for the purpose of expanding the “scope of conflict” (Shanahan et al., 2013, p. 460).

Contrary to First Sentier Investors, (2019) recommendation of SL as a key element of decision-making for companies, others find SL inefficient to adequately address the concerns of so many different stakeholders, and contend a need for a community-level focus and for better engagement with the community about concerns and agreements (van de Biezenbos, 2018). As Eaton & Enoch (2018) note “local communities are often the key arbiter in the process by virtue of their proximity” (p. 57) and that SL “derives from communities’ perception of a company and its operations, comprised of a company’s ongoing acceptance and approval from stakeholders” (p. 57). While van de Biezenbos (2018) looks at the concept of formal agreements with communities in further detail, that area requires further investigation and is beyond the scope of this research. However, the importance of community and Indigenous engagement (Léger et al., 2016a), on the other hand, is a key component of the fracking controversy in New Brunswick and merits further exploration.

Climate change has emerged as part of a significant and broad global discourse currently taking place. However, climate change is not a specific focus for this thesis, but it would be an interesting case study for further research and testing of the N&N model on a larger scale. Nevertheless, while not the focus of this thesis, it is important to note that land, air and water protection emerged as key narratives within the local discourse during the HF controversy and as such, these are explicitly included in this research to determine their role as narratives and within networks in terms of formation and influence of the SL.

**Public Engagement and Participation.** In a democratic society, the very exercise of democracy facilitates the creation of opinions on issues (Encyclopedia Britannica, n.d.). Public opinion is simply the collection of beliefs or views about a particular topic (Davison, 2020). Throughout history, there are some who maintained public opinion as means of keeping government authority in check and that transparency of rules is required, while others believed following the mass majority could result in tyranny; however, most would likely agree public opinion should not be ignored and that it influences politics and governments (Encyclopedia Britannica, n.d.). There have been many methods used throughout history to ascertain the public perspective, but the last 30 years have seen an increase in the use of public participation to engage with people on the issues that may affect them, as well as the introduction of more formal practices and training by which to conduct such engagements (International Association of Public Participation, n.d.). It has been established that obtaining a SL from the public requires trust (Moffat & Zang, 2014) and acceptance (Gehman et al., 2017). However, Zhang et al. (2018) reveal public acceptance also implies trust in the procedural fairness (p. 1559) of the process involved, meaning “community members feel that their voice is heard and respected in the decision-making process (p. 1559). This is echoed in recent years by Smith & Richards who stated that the “key element that underscores the current barrier of engagement is simply this: the historical lack of trust between the industry and its stakeholders” (2015, p. 101). The work of van de Biezenbos (2018) aligns with this reasoning and notes that with the focus on a SL debate, there may be gaps with respect to public participation and the larger questions of community impacts.

Engaging with the public plays a larger role in the decision-making process, but similar to the ambiguity surrounding SL determination, the actual practice can vary in implementation and



upon motivations for doing so, and overall, the term “does not convey a well-defined method or regulatory procedure” (Zhang et al., 2018, p. 1560). But scholarship has shown across several sectors, the principles of transparency, communication, and inclusivity are upheld when engaging with the public (Zhang et al., 2018). The intention for community engagement is to create understanding and to help build consensus with those involved in something that may affect them; however, as experience and scholarship have shown, the process often falls short of meeting public expectations and thus, success at meeting the purpose of consulting (Zhang et al., 2018). This could be due to the fact the method comes into question, how much information is accessible, or the timing of consultation is perceived to be too late; but in all cases, much appears to be left open to interpretation by those involved in the process (Zhang et al., 2018). Lack of clarity regarding the public consultation process in general may contribute to greater ambiguity surrounding the existence of a SL. Despite this fact, the process is still largely used by government to explore a significant number of issues with its constituents (Government of Canada, 2021; Government of New Brunswick, n.d.); it is an area of professional practice and training (International Association of Public Participation, n.d.); and remains an area of study among scholars to help inform and improve the process (Zhang et al., 2018).

In my experience, public consultation raises questions about the importance of managing the expectations of everyone involved in the process. What Zhang et al. (2018) revealed in their research validated the importance of this and can be instructive in this thesis looking at the HF controversy in NB: communicating with the public early on, providing a specific plan for how the public will be engaged, and being transparent how the government will assess that process to arrive at a decision can improve public perception in “fairness of and trust in” (p. 1564) of the company and government involved.

## **The Influences on Opinion Formation**

**Features of Individual and Group Opinions.** In the discourse surrounding HF, many claimed to want more information and that they didn't know who or what to believe as they sought to inform their opinion on the practice. This would seem to align with the work of Smith & Richard (2015) noted early regarding the lack of trust and public perception of information adequacy. But while it appears that acceptance is only constrained by the lack of information (McNally et al., 2018), there may be other contributing factors. While trust is a precondition for SL (Moffat & Zang, 2014), it is also accepted that it can also be a predictor of support (Boudet et al., 2014). Polling can reveal the level of support or opposition (Boudet et al., 2014), but there are a variety of factors that contribute to how people form their supporting or opposing opinions beyond the variable of trust, as existing scholarship on fracking demonstrates.

Boudet et al.'s (2014) examination of fracking using national survey data to determine predictors of support revealed that opinions were shaped by a complex host of factors such as familiarity, proximity, perception of risks and benefits, imagery, media use, political ideologies, socio-demographics, and world views. The work of Howell et al. (2017) is instructive because their research on fracking in the U.S is similar to the circumstances in New Brunswick, where the experiences and concerns that shaped opinions may also shape policy. Similarly, Howell et al. (2017) highlight the complexity of people's opinions being "shaped by individual values, characteristics, and perceptions, as well as macro-level political, geographic, and industrial experiences" (p. 354). They also note that these are influenced by perceptions of risk or benefits associated with HF (Howell et al., 2017).

Moussaïd et al. (2013) looked at the differences between individual and group-level opinion formation. Their research revealed that people tend to be largely biased toward their own

initial opinions, and display confirmation bias because they pay attention to information that confirms their original view and discount or ignore contradictory information (Moussaïd et al., 2013). Further, Moussaïd et al. (2013) note that influence occurs in groups sharing the same views where the collective opinions can be directed and reinforced by the “presence of a highly confident individual” (p. 2) and the “presence of clusters of low-confidence individuals sharing a similar opinion” (p. 2), but social influence doesn’t occur when “opinions are too distant” (p. 6). This scholarship exhibits the complexity of a number of factors that contribute to opinion formation, but also in how they are formed and influenced at the individual and group level.

**The Role of Media Framing, Agenda Setting, and Spokespeople.** The work of Jurgen Habermas and his concept of media shaping the public sphere (Çela, 2015) is foundational for understanding the importance of discourse taking place within the mainstream media. As Çela (2015) points out in his review of Habermas, “media have an important role in the social changes by powering the public sphere” (p. 195) and that this role contributes to “shaping our own ideas and establishing our position in society” (p. 195). Çela (2015) further notes Habermas has argued the media “contributed in the democratization of Europe by creating an environment suitable for discussion and agreements between the citizen involved politically” (p. 195). To the public, the media is really a “public discussion arena, informed and resonating” (Çela, 2015, p. 195) and it “accessible for a large amount of people and inside it should be involved different arguments and point of views as a part of rational discussions” (Çela, 2015, p. 195). Berardo et al. (2020) reinforce this notion in their recent examination of HF and discourse influence on policy in the United States, noting that news media coverage of “changes in public discourse” (p. 2) can sometimes affect policy change. This particular holds true for “attention-getting policy issues” (Berardo et al., 2020, p. 2) and they add, “news media reports reflect the tenor of public

discussions about policy topics, which are frequently characterized by high levels of conflict, particularly when different parties in the discussion hold deeply entrenched and opposing views” (p. 2). In lockstep with Habermas’ view on the media and influencing the public sphere (Çela, 2015), Berardo et al. (2020) also note that public attention is fueled by the media coverage an issue receives.

While trust remains low among many sources of information (Edelman, 2021), the media remains a key contributor to awareness and information, particularly in situations involving risk (Peak & Hove, 2017) and for conveying scientific information (McNally et al., 2018). In fact, McNally et al. (2018) point out that even with low levels of trust in the media’s reporting, they actually “contribute more to public understanding of hydraulic fracturing than the energy industry, regulators and environmental groups, as shown in regional newspaper analyses” (p. 308). Gunster and Neubauer (2018) reinforce the importance of media and its consideration “as one of the principal societal arbiters of legitimacy” (p. 13). Even though readerships are declining with the introduction of other information sources, a lot of news content is repurposed and used on social media (Gunster & Neubauer, 2018). While social media is notably a key channel for public information, a critical analysis of the role and influence of social media would lend further insight into the achievement of SL, but is out of scope for this thesis and research exploration.

The media plays an important role in influencing public perceptions about risk in several ways including: how they present an issue, how much coverage they give it, the tone that is used to report about it, and the channels used to convey the news (Peak & Hove, 2017). The media can frame a story by bringing attention to some aspect of a story or by making correlations “to promote a particular interpretation, evaluation, and/or solution” (Peak & Hove, 2017, p. 7). The

choice of language can be used to produce a response (McNally et al., 2018), as can visuals, to create impactful frames (Rebich-Hespanha & Rice, 2016). When combined in the media, they can be a key source for the public for information, but also contribute to establishing opinions (Rebich-Hespanha & Rice, 2016). Framing can influence many of the diverse and complex factors that shape opinions discussed herein, but the media's capacity to influence generally takes place through a "complex interaction of audience characteristics, message features, and resonance with existing cognitions, as well as other situational and contextual factors" (Rebich-Hespanha & Rice, 2016). Additionally, if the media frame negative risks, this could produce emotions like fear, which, according to the negative dominance model, causes people to focus on the messages that are negative (Peak & Hove, 2017). The importance of which narratives are selected and highlighted, may potentially influence public opinion and the outcomes for an issue.

Instructive is the work of Gunster and Neubauer (2018), who considered how media framed social licence in Canada for oil pipelines over the last two decades. They revealed that while SL originated within the industry communications, as opposition grew, so too did the use of it as policy or democratic narrative by governments (Gunster & Neubauer, 2018). However, the amount of media coverage of the term was rare when industry used it, but it increased significantly when it was adopted by government officials (Gunster & Neubauer, 2018). While the government SL narrative seemed to prevail in the media, Gunster and Neubauer (2018) found it was the "columnists and editorial boards, who served as social licence definers in more than half of all items" (p. 18), thus framing what SL is for its audience.

How much coverage an issue receives also signals how important an issue is to the public (Peak & Hove, 2017) and can help shape public opinions due to frequency, which is known as agenda-setting (Mazur, 2018). Mazur (2018) demonstrates through the quantity of coverage

theory, founded upon agenda-setting, that the quantity of coverage matters more than the actual information within the stories and that the amount of activism increases, or decreases based on the amount of coverage in the media. Mazur's (2018) work further reinforces other themes discussed in this thesis, that people soak up impactful images (especially when repetitive) and spend less time processing content contained within a story. This could potentially trigger an availability heuristic (Paek and Hove (2017), which is the ability to recall information (Dale, 2015), among the public as a topic that appears frequently may be easier to recall. HF fracturing garnered significant coverage over several years during the controversy, and as noted previously, was reported by the media as one of the top stories to watch (Poitras, 2014). It becomes important to watch how narratives play out and which becomes dominant, and this is why a case study using media as the data set is appropriate for this research.

Public opinion may also be influenced by who is speaking on behalf of an organization or group. Trust is a key determinant for SL (Moffat & Zang, 2014) and some have argued that the lack of trust in public institutions and governments has undermined the capacity to reach a resolution in some circumstances (van de Biezenbos, 2018). This, coupled with the trust deficit among information sources Edelman (2021), points to the critical component of spokesperson selection. This is particularly true for situations involving risk and controversy, and according to the trust determination model, people's trust of a communicator can shape perceptions of and reaction to risk (Paek & Hove, 2017). Selecting the right spokesperson can play a critical role in shaping the trajectory of an issue like HF. Lachapelle et al. (2018) discuss how public attitudes toward HF can be shaped by cultural bias and in particular, an "anti-American bias" (p. 636) which could result in low trust in U.S. corporations and from a sense of Canadian economic nationalism. Their research notes the prevalence of U.S.-owned companies within the oil and gas

sector, and reveals there was somewhat greater support for HF when a company is Canadian versus when it is American.

Just as framing and cultural bias can influence the perception of a spokesperson and narratives, so too can the use of a hero (Shanahan et al., 2013). There are many drivers that shape public opinion, but the use of heroes can be “particularly powerful in shaping opinion about climate change” (Shanahan et al., 2013, p. 456). As will be discussed further in the next section, policy narratives, like those seen in the HF controversy NB, are used to advocate for a particular goal (Shanahan et al., 2013) such as stopping fracking. A unique feature of policy narratives is their attribution of the roles of “hero, villain, or victim” (Shanahan et al., 2013, p. 457). This can easily be seen through examples in the media celebrating heroes, like Time’s 2019 Person of the Year, environmental activist Greta Thunberg (Alter et al., 2019), who mobilized countless people globally in response to the urgent need for climate action (Jamasmie, 2019) or the more recent coverage of the donation of the company, Patagonia, and its profits to a non-profit to fight climate change (Gelles, 2022). As the N&N model is tested, it may lend an understanding of how the media frames an issue like that of HF in New Brunswick, what narratives prevailed and who delivered those narratives, as well as may it provide insight as to how the outcome of establishing SL as a policy mechanism transpired.

**The Role of Imagery.** Another important area that influences and contributes to opinion formation, is the use of visual imagery. Images can be a powerful influence and are a significant component of communication today (Dewan, 2015) and discourse (Gee & Handford, 2013). From images in the media to the use of videos and documentaries, like Gasland and FrackNation, imagery also played a role in shaping the discourse of HF in New Brunswick.

It is important to note that when processing information, images are processed faster because they are top of mind (Boudet et al., 2014; Rebich-Hespanha & Rice, 2016). In fact, when the human brain stores an image, it uses both a visual and verbal code, whereas words are stored only with one code, thus, the “dual-coding nature of images allows for two independent ways of accessing visual memories” (Dewan, 2015, p. 2). While images can aid in understanding and learning (Dewan, 2015), they can also influence perceptions of benefits, risks, support, or opposition (Boudet et al., 2014) for a topic like HF. Since they can easily be recalled, they influence the availability heuristic (Paek and Hove (2017) for faster decision-making, and affective imagery can serve to produce positive or negative responses (Boudet et al., 2014).

Visuals are particularly useful in communicating scientific information or something that can't be seen (Rebich-Hespanha & Rice, 2016), thus helping people to imagine or visualize a topic. This is the case with HF, where images and videos are used to demonstrate a process that takes place deep below the earth's surface. The challenge with images, however, is that they can be interpreted and viewed in different ways, correlations can be implied, or they can be used to highlight a certain aspect of something (Rebich-Hespanha & Rice, 2016), which can lead to misunderstanding and miscommunication. Further, images can be used to frame an issue and suggest, directly or indirectly, a certain interpretation of the information or to evoke a particular emotional response (Rebich-Hespanha & Rice, 2016). In the context of environmentalism, iconic imagery is often used to ensure they are easily remembered and recognizable (Rebich-Hespanha & Rice, 2016). From a decision-making and opinion-formation perspective, it is important to note the effective role images may have in influencing perspectives and their use in framing any narratives employed over the course of the HF controversy in New Brunswick.



**The Role of Risk Perception.** In the HF controversy in New Brunswick, understanding the risks associated with HF was a key concern for the government of NB (Government of New Brunswick, 2014) and a key pillar of the public opposition to the practice. McNally et al. (2018) noted that public acceptance was limited by the lack of information on benefits and risks. It is therefore important to understand how risk plays a role in shaping public opinion, how the cognitive processes employed affect opinion formation, and who contributes to shaping risk perceptions.

It is first important to consider the individual orientation toward risk. An objectivist approach considers risks from a quantifiable perspective based on probabilities and outcomes (Pollard & Rose, 2019). A constructivist considers more of the intangible associations based on values, beliefs, and world views (Pollard & Rose, 2019). Mazur (2018) demonstrated this in his review of the quantity of media coverage featuring industry spokespeople and those opposed use very different narratives. In this context, industry is more likely to take an objectivist approach, reviewing the probabilities of outcomes to identify the potential for any risk with HF, whereas opponents to HF would likely take a constructivist approach, assessing the potential for risk of other intangible elements such as perceived changes to the community or lifestyle.

Risk perception, or how people interpret or judge risk, is a critical influencer of opinion formation because it “determines what hazards people care about and how they deal with them” (Paek & Hove, 2017, p. 1). According to Paek and Hove (2017), risk has cognitive and emotional components, involving what a person understands about risk and what they feel about risk. They contend that an expert relies more on research and evidence (Peak & Hove, 2017) and that a layperson, or person with less objective knowledge than an expert would have about potential risks, is more likely to rely upon “subjective perceptions” (Paek & Hove, 2017, p. 3).

These perceptions are related to an “affect heuristic” (Paek & Hove, 2017, p. 3), which “refers to people’s tendency to rely on their current emotions when they make judgments about risk” (Paek & Hove, 2017, p. 3). Paek and Hove (2017) also note the “availability heuristic” (p. 2) or the tendency for a person to believe a particular risk can happen more often than it does if they are more aware of the risk, also contributes to the formation of a risk perception. In an environment where fear and uncertainty exist, people tend to focus on negative messages according to the negative dominance model (Paek & Hove, 2017). Further, events with a higher degree of risk may also decrease the ability of people to process risk information, create more “mental noise” (Peak & Hove, 2017, p. 5), and increase the perception of risk.

While media framing will be addressed later, it is important to note the media’s role in presenting risk information and the sources they choose. Trust in sources plays a key role in influencing risk perception, and the media can use sources to fuel a debate or balance a story (Peak & Hove, 2017). As Peak and Hove (2017) note, the media “tend to use government, industry, and expert sources to represent the “safe” side of risk debates, and they tend to use activists and laypeople to represent the “risky” side” (p. 8). Hence, the choice of risk narratives by media could significantly contribute to public perceptions of risk associated with HF.

Understanding the risks associated with HF was a key component of the moratorium (Government of New Brunswick, 2014). Such a question by the government tasked with regulating the industry, could potentially influence the perceptions of risk associated with HF. This warrants further exploration in the context of objectivist and constructivist approaches to risk communication and any risk narratives that could have contributed to influencing and shaping opinions of HF.

**Information Sources and Science in Communication.** As scholarship has established, trust and credibility are preconditions for social licence (Moffat & Zang, 2014). However, building on the low rates of trust found in the Edelman 2021 report (Edelman, 2021), people's faith in many institutions continues to diminish significantly as seen in the updated 2022 Edelman Trust Barometer (Edelman, 2022). In 2022 a few significant indicators emerged that are relevant to this research proposal. First, whether it is for business, government, NGOs or media, trust has declined in these institutions and remains low between 52 and 55 per cent (Edelman, 2022, p. 4). People believe government (58 per cent), business leaders (60 per cent) and journalists (61 per cent) "are purposely trying to mislead people by saying things they know are false or gross exaggerations" (Edelman, 2022, p. 9), and that media (44 per cent) and government (45 per cent) are in fact divisive forces (Edelman, 2022, p. 20). Further, 59 per cent believe Canadians are unable to "have constructive and civil debates about issues they disagree on" (Edelman, 2022, p. 10). Such significant trust shortages could play a significant role for those seeking to obtain a SL, influencing the public participation discourse.

Edelman (2022) reveals 75 per cent of people trust scientists as one of the few groups trusted. Alternatively, the Pew Research Centre (2015) shows there is often a wide spread between how the public views an issue and how scientists view it, which is incongruent with the Edelman findings. But on the issue of fracking in the U.S., whether there is a high or low level of scientific knowledge, the public and science community are closely aligned with only 39 and 31 per cent respectively, in favour of increasing the use of fracking (Pew Research Centre, 2015). McFadden (2016) notes there may be such gaps and suggests "cognitive characteristics may cause some within the general public to form beliefs that disagree with scientists" (p. 2). O'Brien

and Hipel (2016) note that many believe the opposition to fracking is constructed upon misinformation.

As noted early, scientific information or data is often disputed within the discourse of polarized issues or controversies (Smith & Richards, 2015). Shanahan et al. (2013) note in their work that “the contested nature of facts” is a concept put forward by “postpositivists” arguing that “facts were malleable social constructions” (p. 455). Shanahan et al. (2013) point out that science can be used to either contradict or legitimize policy solutions, and in relation to policy debates that are highly technical, it seems likely groups would use science to support the policy positions. It is important to note that while narratives are constructed, they are subjective to the receiver’s perception of the narrative and lack scientific validity or reliability (Shanahan et al., 2013). However, there was very little scientific evidence used to support policy narratives in the work of Shanahan et al. (2013). This raises the question of how often science-based narratives were employed and to what effect in the HF controversy in New Brunswick.

Kahan et al. (2017) reviewed the area of science curiosity in relation to reasoning that is politically motivated. Science curiosity relates to how likely people are to search for and read science information (Kahan et al., 2017). As one would assume, people differ in their levels of knowledge and their motivations to seek information out. But in general, they found those with a low science curiosity often engage more with information that confirms their positions, whereas those with high science curiosity likely look for new or unique information (Kahan et al., 2017). Kahan et al. (2017) consider the effect of *bounded rationality*, which refers to the notion that people make the best decision they can given the available information, mental capabilities, and time available (Bounded Rationality, 2021) and found it held true particularly in the case of politically motivated reasoning (p. 181). Within this context, people with lower science curiosity

engage more with material that confirms their outlook or aligns with their political identity, and those with higher science curiosity “remain open to new information and respond more uniformly across the political spectrum to the best available evidence” (Kahan et al., 2017, p. 197).

Edelman 2021 also reports on people’s level of *Information Hygiene* (p. 37) which is a measure of their engagement levels with news, opposing points of view (e.g., avoiding echo chambers), verification of information, and whether they spread misinformation. Only 20 per cent of Canadians reportedly have good information hygiene, and 46 per cent have poor information hygiene (Edelman, 2021), which suggests more people do not engage with news or opposing views, validate the information they find, and spread misinformation.

Westerman et al. (2014) recognized in their work that people will “actively engage in information seeking,” will “seek information from a variety of sources” and will “constantly update their information” (p. 172) where there is a great deal of uncertainty or danger. Juxtaposed with Edelman’s (2021) annual survey revealing a lack of trust in information sources and credibility, this raises questions regarding the type of information people seek, the sources used to inform their decisions, but also where and with whom they share information they gather. The combination of decreased trust, heightened suspicion, possible lack of science curiosity and increased political alignment when science curiosity is low, could all potentially contribute to amplifying the uncertainty associated with technical industries, like those using HF, as they attempt to secure a SL.

### **The Political Dimensions of Social Licence**

Existing scholarship notes SL encompasses relations among private sector (business), civic sector (non-governmental organizations (NGO’s) and communities) and public sector

(government) actors (Boutilier, 2021). The notion of shared governance is emerging within the literature suggesting the three sectors each have a licence that can be granted or rescinded (Boutilier, 2021). SL is considered to be “a multi-stakeholder, multi-sectoral state of acceptance or rejection in the stakeholder network at any point in time” (Boutilier, 2021, p. 3) and the private sector would not be able to secure one on its own. The concept of political licence is emerging comprising two dimensions, the legitimacy society gives governments to govern, and the authority governments have to regulate organizations (Boutilier, 2021).

It is within the scope of a political licence that the dynamic between public policy and politics appeared to play a significant role in the HF controversy. The two largest political parties in New Brunswick each took a side on the issue and their policies and politics fueled: further study of HF, the 2014 election campaigns, and the moratorium, all from the standpoint of opposing views, narratives, and strategies.

While in office, the Progressive Conservatives supported the development of the natural gas industry and launched the NB Energy Institute in 2013 (O’Brien & Hipel, 2016) to conduct scientific and peer-reviewed research to help inform opinions and actions with respect to the energy sector (New Brunswick Energy Institute, 2013) and developed the new Rules for Industry (Government of New Brunswick, 2013). In equal fashion, when the Liberals, who were in opposition to the industry without understanding the full risks, established the moratorium (Government of New Brunswick, 2014) upon taking office and struck the New Brunswick Commission on Hydraulic Fracturing to review if the moratorium’s conditions could be met (Léger et al., 2016a). Both employed similar approaches, but initiated them on the basis of contradictory policy narratives.

Boutilier (2021) describes SL as a metaphor that equates the power of the community to that of regulating bodies. While SL is not a formal legal licence (Bursey & Whiting, 2015), in New Brunswick it was the first condition of the moratorium on HF (Government of New Brunswick, 2014), a public policy leading to the discontinuation of natural gas development in the province. Boutilier (2021) examines SL in relation to left- and right-wing political positions and further describes it as a “contest between industry and civil society” (p. 2). On the left there are community groups and academics using SL in their “push for wider interests and involve citizen participation in decision-making” (Boutilier, 2021, p. 2) and on the right, the belief there is “something fundamentally undemocratic about a minority of protestors being able to dictate policy, even to the point of vetoing projects” (Boutilier, 2021, p. 2). In Canada, left-wing groups have been able to derail projects and investment (Boutilier, 2021) as witnessed in New Brunswick.

Boutilier (2021) also notes all organizations need a SL when they start activities and that it may involve competition with one another, which adds a “conflict and power struggles” (p. 2) dynamic to the policy debate. This also applies to governments who can influence SL in favour of or against an organization, which “implies a need for “political alliances” (Boutilier, 2021, p. 2), as well as instances where they need to be involved for an organization to secure a SL (Boutilier, 2021).

It is important to recognize the position of power the government holding office has in determining the outcomes of the SL debate (O’Brien & Hipel, 2016; Boutilier, 2021). As O’Brien and Hipel (2016) point out in their analysis using game theory to understand conflict resolution in the context of the HF controversy, the strategies of the government are the most significant of the game, because “their actions can most readily cause the game to evolve” (p.

75). However, they note that whichever government is in power it is unlikely to change the positions of any of the other groups involved (O'Brien & Hipel, 2016). But their research closely aligned with what occurred in New Brunswick where the NBG-C proceeded with the industry development while in office and the NBG-L halted its progression for further study when elected to office. This will be an important aspect to watch for in testing the N&N model.

**Policy Narratives and Strategy.** Narratives and strategies are commonplace when controversies arise and can be used to expand or contain an issue (Shanahan et al., 2013). When advocating for a policy goal in relation to a particular issue, organizations and individuals construct policy narratives (Shanahan et al., 2013). To be considered a policy narrative, there must be a “policy stance or judgement exists on a policy related behaviour” and at least one actor involved must be considered a “hero, villain, or victim” (p. 457). Policy narratives are established regularly in the energy sector as new projects, regulations or policies are considered or debated. I anticipate this will be seen from a macro perspective of the HF controversy in New Brunswick as positions were established and behaviours are judged as good or bad, but also as the roles of villain, victim and hero are cast to the natural gas developers, environmental groups, and government respectively.

This is validated by Berardo et al. (2020) in their study of discourse and how public attention can shape policy, noting “Both decision makers and policy stakeholders adjust their political strategies to accommodate new available information—some of which may be shaped by the shifts in public attention regarding particular issues of interest” (p. 2). They also note the scholarly work suggesting that conflicts can “become contagious across space and time” (Berardo et al., 2020, p. 2) and that if they are intense, these policy conflicts can shape and structure opposing coalitions. They do note that debates and deliberation regarding policy



conflict are normal in governance systems that are complex, but that “excessive levels of conflict can act as a destabilizing force in policy systems, leading to the breakdown of the deliberative processes that could have produced mutually advantageous policy decisions to actors with dissimilar goals” (Berardo et al., 2020, p. 2). This seems to align with the impasse that occurred in NB with the implementation of the moratorium and required conditions.

At a micro-level, I expect this will also play out in the context of the political campaigns deployed during the 2014 election, where party leaders cast themselves in the role of heroes and their opponents in the role of villain. The Progressive Conservatives could establish a hero position on the basis of the economy, regarding the potential for royalties from the new natural gas industry used to invest in education, health care and proceed-sharing with communities and landowners (O’Brien & Hipel, 2016). Conversely, the Liberals could take a position as the hero on the basis of protecting public health and the environment with commitments to fully understand the risks to health, water, and the environment before moving forward with a natural gas development (New Brunswick Election, 2014).

While oil and gas company proponents and fracking opponents commonly use cost-benefit narratives, the policy alternatives established by each party in the 2014 election may demonstrate the use of a cost and benefit distribution narrative strategy regarding costs that are diffused and the benefits amassed (Shanahan et al., 2013). In this example, the costs could be the risks from fracking and benefits could be the financial returns or protecting health and the environment. Both parties may advocate a position of understanding and mitigating the risks (reducing the costs), but I anticipate the Liberals would maximize the benefit of personal and community (environment) protection and the Progressive Conservatives the benefit of economic stability.

Narrative strategies are simply ways in which actors use a narrative to enlarge or limit coalitions, but they can also be used in a similar fashion for policy issues (Shanahan et al., 2013). It could be possible that narrative strategies could be employed by the Progressive Conservatives to contain the fracking controversy and by the Liberals to expand it, both in an attempt to gain ground in and win the election, rather than the controversy serving to determine the actions of the government after being elected to office as Sellnow and Seeger (2013) suggest in the face of crisis.

Other narrative strategies often used in a political context are the devil shift and angel shift strategies found within the Advocacy Coalition Framework (Shanahan et al., 2013). Shanahan et al. (2013) note these strategies are used in high-conflict situations, whereby with the devil shift, actors amplify the “power and “evilness” of their opponents while simultaneously understating their own power” (p. 460) and with the angel shift the actors “emphasize their own side as a hero capable of fixing the problem” (p. 460). While political attacks on opponents during an election are seemingly common, it would be worthy to explore these strategies in additional research of the context of the election and the HF controversy in New Brunswick.

Further, the risks and uncertainty associated with fracking, whether real or perceived, addressed or not managed, elevated over a period of years leading up to and beyond the moratorium. As crisis scholars note, if left unchecked, risk paves the way to crisis which can alter institutions, economic stability, and beliefs, but also can be a “significant force in political and social change and may determine actions taken by government” (Sellnow & Seeger, 2013, p. 8). The HF controversy polarized citizens, companies, and communities, shaping their beliefs and the provincial economy along the way, but whether the controversy determined the actions of the government or it was a narrative strategy of government design remains uncertain.

The literature review for this research demonstrates that the scholarship supports the notion of SL as a complex and dynamic social construct. It is multi-faceted, comprising an array of actors, networks, narratives, discourses, and influences. The common elements found throughout the existing scholarship are related to how knowledge is gathered, how opinions are shaped by dominant narratives, what dominant coalitions (networks) are formed, and which narratives or networks have legitimacy or agency. As Boutilier (2020) points out, power and hierarchy play a role in influencing social networks and if his model is to have predictive value then it must employ a theory of power in order to detect who has the power, who is motivated to use it and ultimately whose SL will prevail. Boutilier's (2021) views on dominance are inspired by Michel Foucault's work on narratives and discourses but are grounded in social network analysis. As he states plainly in a more recent study, "a social licence grantor or grantee is dominant if the discourse that it prefers about its own activities is accepted by the most influential stakeholders. More extensive dominance would occur when the entity's preferred discourse about other entities is also the one that is accepted by the most influential stakeholders" (Boutilier, 2021, p. 4).

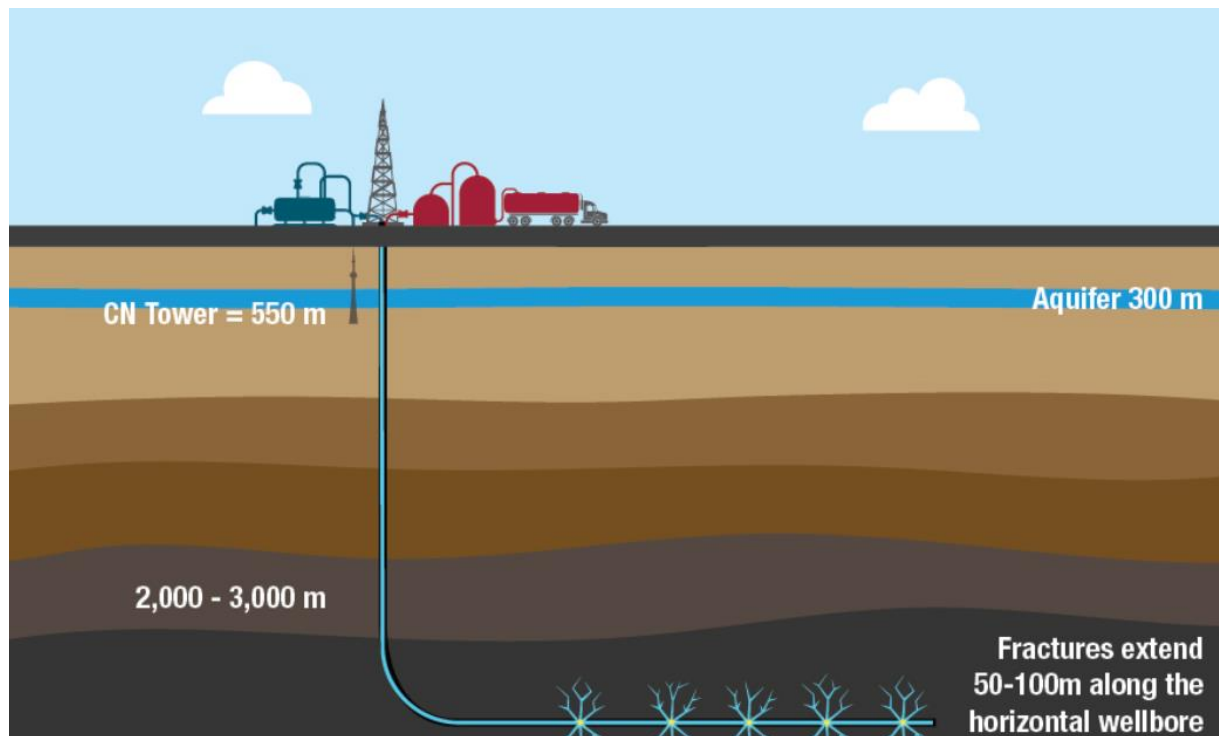
This complexity and the role of power would suggest Boutilier's N&N model (2020) may have potential as a framework for understanding SL, but its capabilities as an indicator of the presence or absence of SL still remains unproven. It is the primary reason for conducting this research and testing the model using the HF controversy in NB as a case study.

### **The Case Study: The Hydraulic Fracking Controversy in New Brunswick**

In the decade leading up to the hydraulic fracturing (HF or fracking) controversy in New Brunswick (NB), the discovery of and access to previously untapped reserves of hydrocarbons deep below the earth's surface resulted in a shale gas boom (Rapier, 2017). Natural gas (also

known as shale gas) contained in the geological formations of shale several kilometres below the surface could now be accessed through a new technological process known as hydraulic fracturing (Rapier, 2017).

HF or fracking is a process in which wells are constructed and drilled vertically into the geological formation approximately 2,000 - 3,000 metres below the earth's surface and then 50 - 100 metres horizontally through the rock (Figure 3). Small perforations (holes) are created in the well-pipe which initially cracks some of the rock around the pipe, but then a mixture of water, sand, and chemicals are pumped at high pressure down the wellbore through the pipe to crack the shale rock further and release the hydrocarbons trapped within it (Canadian Association of Petroleum Producers, 2021a).

**Figure 3***Fracturing / Fracking*

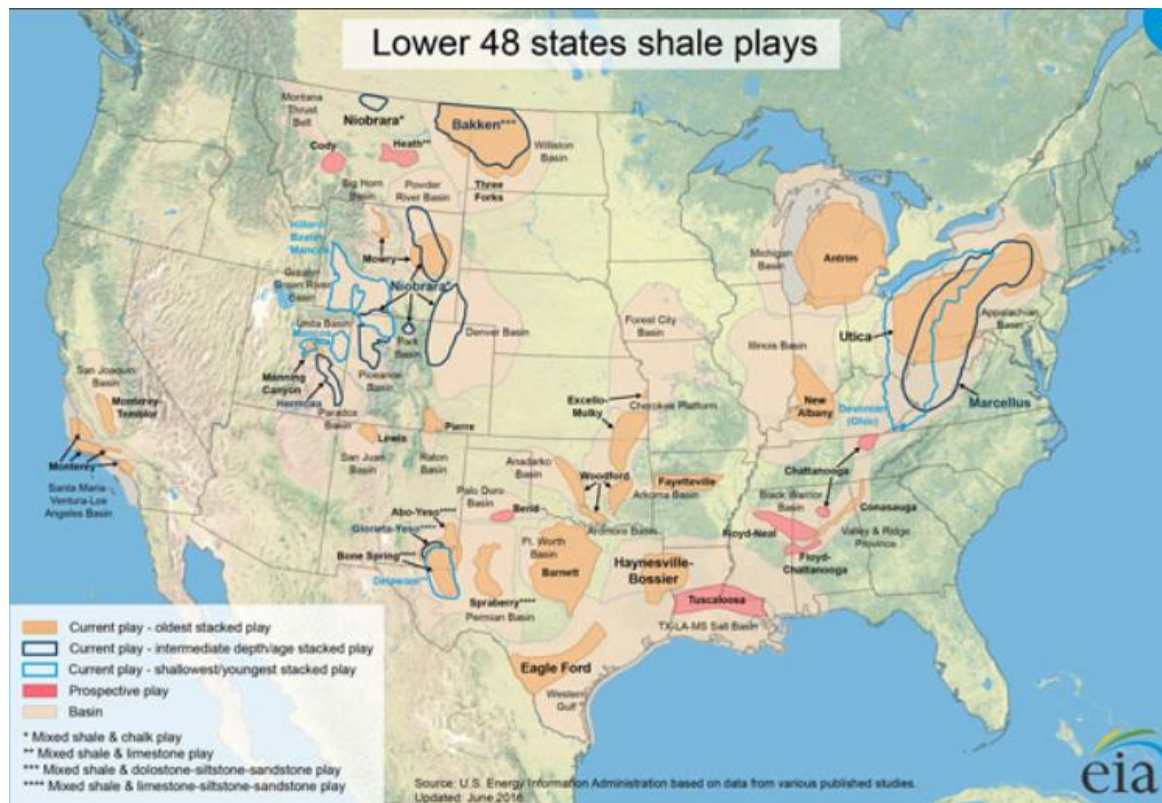
*Note.* This shows a well, drilling, and the process of hydraulic fracturing (or fracking). From the Canadian Association of Petroleum Producers, 2021 (<https://www.capp.ca/explore/hydraulic-fracturing/>).

In the ten years leading up to 2015, the United States of America (U.S.) became one of the largest natural gas producers in the world as it developed 27 trillion cubic feet (Tcf) of gas (Rapier, 2017). With the abundance of potential reserves located in plays throughout the U.S. (Figure 4), many states now produce natural gas (U.S. Energy Information Administration, 2021). Natural gas is known to be a cleaner alternative to previous energy sources, with the

expectation that shale gas development would “significantly increase U.S. energy security and help reduce greenhouse gas pollution” (USC US-China Institute, 2009, para. 3).

**Figure 4**

*Lower 48 States Shale Plays*



*Note.* This shows the abundance of potential reserves and plays located within the Lower 48 states in the United States. From the Natural gas explained – Where our natural gas comes from by the U.S. Energy Information Administration, 2021

(<https://www.eia.gov/energyexplained/natural-gas/where-our-natural-gas-comes-from.php>).

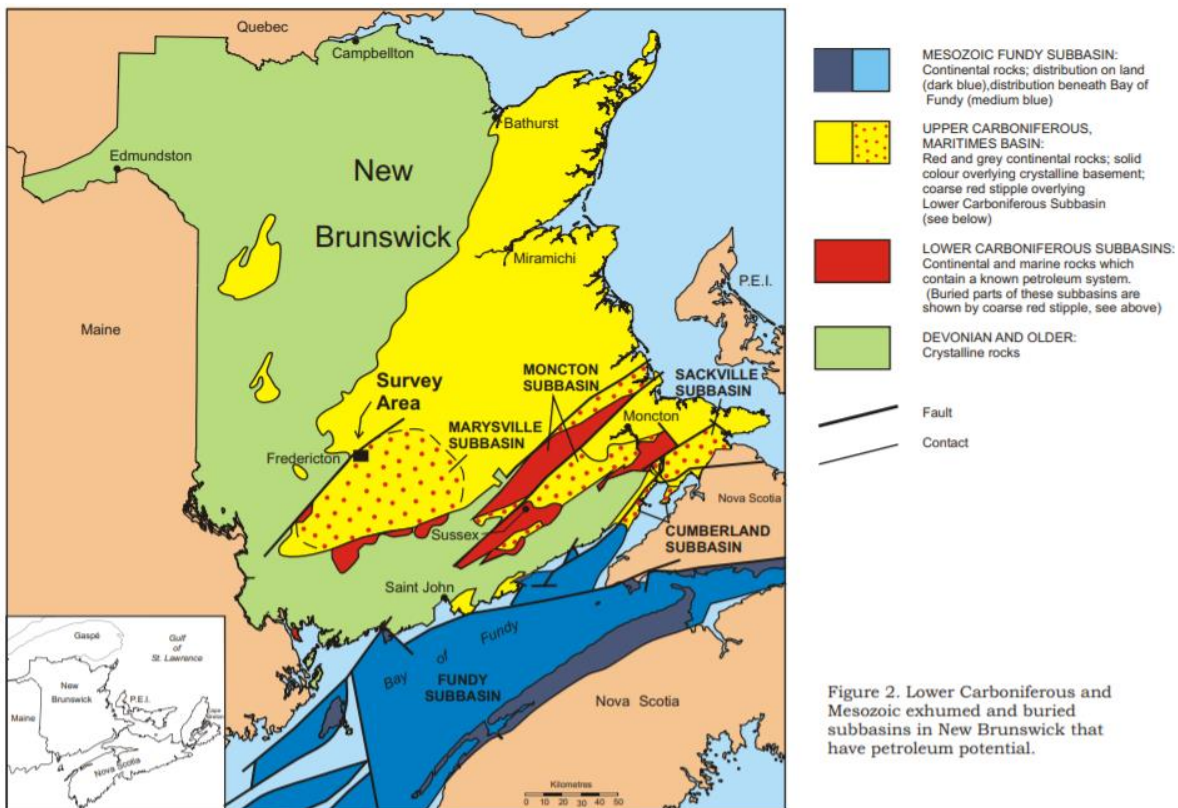
In Canada, there has also been a long history of oil development in the province of Alberta, and it, along with British Columbia and Saskatchewan, were all experiencing growth in the development of natural gas reserves (Canadian Association of Petroleum Producers, 2021b). In western Canada, HF has been used to produce more than 175,000 wells over the last 60 years (ConocoPhillips, 2021). The research of Eaton & Enoch (2018) on psychological identification and CSR practices in oil-producing communities, notes that “rather than conflict and discord, here industry has achieved a uniquely robust level of social licence” (p.54) which is “characterized as “psychological Identification” (p. 54). Psychological identification is a level found within the Pyramid Model that relates to shared ownership in projects that a high level of trust (Gehman et al., 2017). This is discussed further in the review of existing models of social licence in this thesis.

While not as large as Canada’s western provinces, the oil and gas sector has been part of the New Brunswick economy since 1859 when it became host to one of North America’s first oil wells (St. Peter, 2000). It has since grown to 302 wells drilled in the province (Canadian Association of Petroleum Producers, 2021b). Oil and natural gas reserves were also found in the geological formations in New Brunswick (Figure 5), with the potential to recover an estimated 70Tcf of natural gas and 2.1 million barrels of oil (Government of Canada, 2017). Traditionally, provinces that do not accrue resource development revenues (e.g., oil and gas), like New Brunswick, receive equalization payments from the provinces possessing reserves (Government of Canada, 2011) which can be developed and commercialized. From a resource and economic perspective, New Brunswick’s economy was predominantly based on fishing, forestry, and agriculture (Patterson, 2020). The potential for natural gas development similar to western

Canadian provinces held great potential for an economic boost (In Depth, 2011), as well as energy security potential for the province (Commisso, 2013).

**Figure 5**

*Subbasins in New Brunswick*



*Note.* This shows where the potential oil and natural gas reserves are located in New Brunswick.

From Oil shales and oil and natural gas in New Brunswick: Historical and current industry related activities (St. Peter, 2000, p. 3).

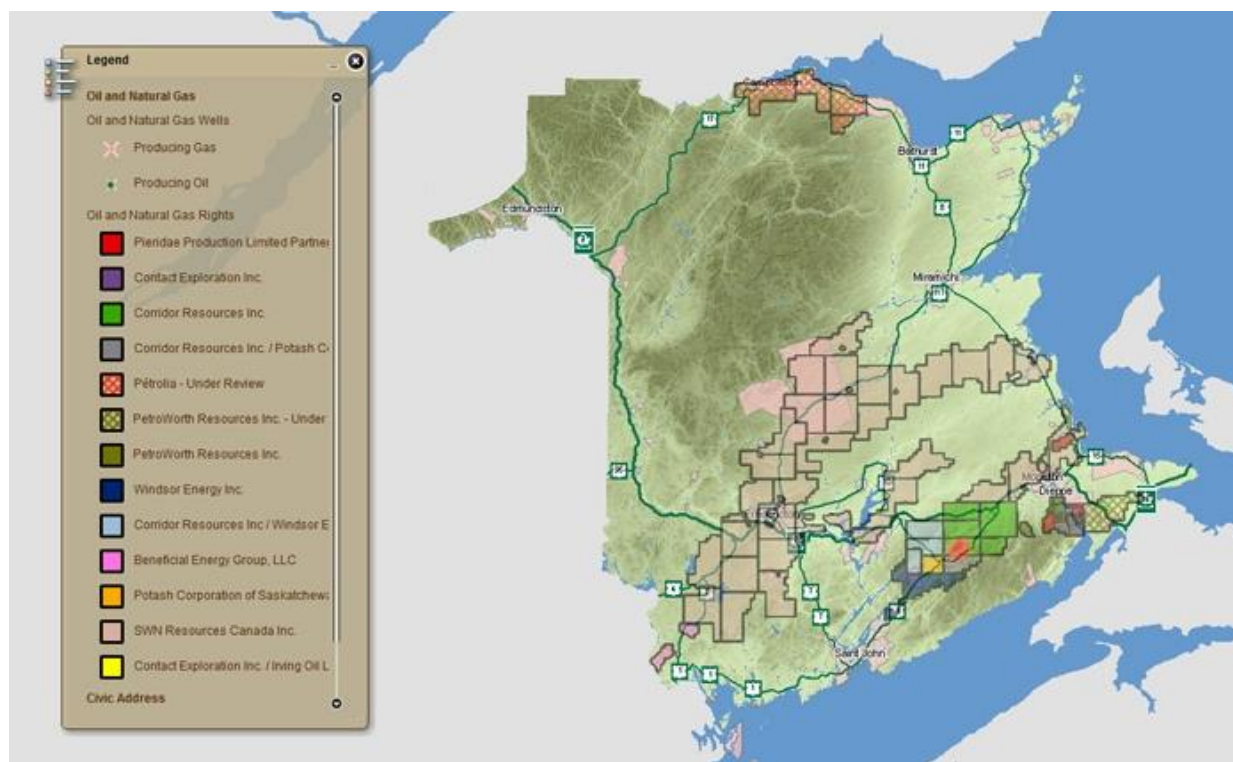
Several companies operated in New Brunswick over the years, developing mostly oil reservoirs with varied success (St. Peter, 2000). With the new potential for development, there



was increased interest in the shale plays located in the province from several companies that held explorations licences (Figure 6) from the Government of New Brunswick. However, Corridor Resources Inc. (CRI) and Southwestern Resources Corporation (SWN) (In Depth, 2011) became the two primary companies engaged in the development during the HF controversy. Note, Corridor Resources Inc. appointed a new management team and became Headwater Exploration Inc. in 2020 (Corridor, 2020), but the former name Corridor Resources Inc. (CRI) is used in this research to ensure clarity and understanding of the specific actors engaged in the controversy and this thesis.

**Figure 6**

*Oil and Gas Production Sites in New Brunswick*



*Note.* This shows the licences that were held by oil and gas development companies in New Brunswick. From What is fracking and why is it so controversial? by C. Commisso, 2013 (<https://www.ctvnews.ca/mobile/canada/what-is-fracking-and-why-is-it-so-controversial-1.1505246>).

As interest in shale gas development grew among exploration companies in NB, so did the public's interest and opposition to the practice. As Smith & Richard (2015) demonstrate in their examination of SL and HF challenges, there are several outreach activities undertaken, but ultimately there is a perceived lack of transparency and openness, which leads to public mistrust of industry practices and whether the public believes "adequate information has been made available" (p. 102). The public is left to rely on their intuition and other third-party sources for their evaluation, which may not "result in a clearer picture of the risks and benefits associated with development" (Smith & Richards, 2015, pp. 102-103). This contributes to and shapes the polarization of the HF discourse.

Energy became a highly controversial topic in 2011, and the Conservative Government of New Brunswick (NBG-C) under former Premier David Alward came under fire for the party's support for "responsible expansion of the natural gas sector" (Moore, 2011, para. 11) which would involve HF. Similar to other gas-producing regions, opposition was building, with concerns being raised about the environment, water, and other risks, as well as creating shared value (Lachapelle et al., 2018). For many of those opposed in NB, concerns centred around the potential health and safety risks from HF, protecting land and water resources, and many believed the use of the process would not be offset by the benefits of potential royalties (O'Brien & Hipel, 2016; Wishart, 2012) from development of the hydrocarbon.

In response to public concern, the NBG-C announced new rules to address concerns about potential risks (Northrup, 2011) and launched extensive rules and regulations later in 2013 for the industry (Government of New Brunswick, 2013). Throughout the ongoing controversy, there was increasing opposition from several groups, including the Conservation Council of New Brunswick (CCNB) and the NB Anti-Shale Gas Alliance (Deveau, 2014); protests (More than 1,000, 2011); and public unrest, arrests, and violence (Logan & Cadloff, 2013). There were also studies conducted by academia on royalties (Hill et al., 2016) and wastewater (Al et al., 2012); reviews conducted by the government (Office of the Chief Medical Officer of Health, 2012), independent organizations like the Council of Canadian Academies (2014) and the NB Energy Institute (2013) in an attempt to inform stakeholders and the public. Further, the controversy was also highly polarized politically as the province headed to an election in 2014, with the NBG-C supporting development and the opposition Liberals calling for more information and noting risks (New Brunswick Election, 2014). The issue received substantial and continuous media coverage over the next several years and was noted as one of the top stories to watch (Poitras, 2014).

As hydraulic fracturing became controversial globally, bans were enacted in some countries, and in Canada, moratoria passed in Nova Scotia, Newfoundland and Labrador, and Quebec (O'Brien & Hipel, 2016). Following the 2014 election in New Brunswick, former Premier Brian Gallant enacted a moratorium (Government of New Brunswick, 2014) shortly after he took office that required five conditions to be met in order to lift the moratorium. First among them was a “social licence be in place” (Government of New Brunswick, 2014, para. 5). Then, early in 2015, the Government of New Brunswick (NBG-L) appointed the New Brunswick Commission on Hydraulic Fracturing (The Commission) (Fracking Commission, 2015) with a

mandate to “study the issue of hydraulic fracturing in New Brunswick to determine whether the following five conditions can be met” (Léger et al., 2016a, p. 4). The Commission further outlined in its report that its mandate was not to decide the issue but rather inform the decision-makers within government who were responsible for decisions about the moratorium (Léger et al., 2016a).

The Commission reviewed volumes of information from government, industry, stakeholders, and communities, including from the public engagement sessions held by the government, which those opposed believed was an “empty exercise” (Léger et al., 2016a, p. 2). The Commission met with 228 individuals and received 135 submissions from a wide variety of groups, including Indigenous, health, faith-based, academics, professionals, environmental protection, farmers, municipal, rural communities, small businesses, energy companies and natural gas producers, and they visited producing sites (Léger et al., 2016a).

The Commission identified six emerging themes, including: 1. a disconnect between government and public regarding land use and economic development; 2. distrust among Indigenous people of the motives of government; 3. government regulatory red tape that is frustrating and confusing; 4. a lack of acknowledgment of problems associated with fracking; 5. a track record for water monitoring by government that is distrusted; and 6. that New Brunswickers “want access to evidence-based, objective information about a variety of human and environmental health issues from a credible source they can trust” (Léger et al., 2016a, p. 6). The Commission’s report emphasized the “forces of change” (Léger et al., 2016a, p. 7) that were occurring as part of the discourse during the HF controversy, including social change, climate change, use of resources (e.g., water, energy), our relationship with Indigenous people, balancing a new economic and environmental reality, risk management and the role of natural gas in New

Brunswick's future (Léger et al., 2016a). Further, the report highlighted several findings it recommended, including the need for a new approach to solving complex problems; broad conversations among communities; an energy and environment strategy, research network and independent regulator; solutions for impacts and wastewater treatment; a royalty structure tied to responsible natural gas development and government priorities; and for government to work with Indigenous communities on consultation (Léger et al., 2016a). Ultimately the Commission noted it is a time of transition and provided five options that ranged from maintaining the moratorium to removing the moratorium (Léger et al., 2016a).

In 2016, the moratorium was extended indefinitely by the Government of New Brunswick (2016) following its release of The Commission's report (New Brunswick Ministry of Energy and Mines, 2016). In a press release (Government of New Brunswick, 2016), the Minister of Energy stated: "It is clear that our conditions cannot be satisfied in the foreseeable future" (para. 1) and "industry has not met the conditions" (para. 4). The government noted a few of the findings from the report it must implement before considering if an HF project meets the five conditions of the moratorium, but provided no further clarity on the first condition of social licence (Government of New Brunswick, 2016).

Those opposed to HF celebrated the moratorium as a legislative win (Conservation Council, n.d.). However, polls revealed the public remained largely divided and polarized over several years. In 2011, a CBC poll revealed 69 per cent were opposed (O'Brien & Hipel, 2016), that 74 per cent wanted fracking to cease, and 61 per cent wanted a ban because there was no social licence (Wishart, 2012). Whereas industry association polling indicated support increased from 41 to 52 to 61 per cent over the period 2014 to 2018 and that opposition decreased to 33 per cent (Atlantica Centre for Energy, 2018).

The moratorium that was implemented in 2014 and reinforced in 2016 remains in place today. The topic of natural gas and HF continues to be a polarizing and contentious issue in the province, as demonstrated when Premier Higgs attempted to lift the moratorium in Sussex, but met with criticism from opponents claiming public discussions and consultation had not taken place (Brown, 2019) and that decisions were being made in secret (Poitras, 2019). With opinions formed and groups entrenched in their positions, the question of whether consensus-building, or a resolution is possible remains elusive. Thus, the HF controversy in NB provides a dynamic case study to test Boutilier's N&N model (2020) and gather a greater understanding of the roles, collaborations, and influences among the diverse actors, narratives, and networks that may have led to the requirement of a SL as a condition of the moratorium.

### **Models of Social Licence**

While social licence has been a relatively new concept in the last few decades (Gehman et al., 2017), scholarship about SL is an evolving field as research attempts to understand and conceptualize the construct and how it plays out in real-world settings. Thus, while many communications theories have been applied, and models and measures have been developed to help gain a better understanding of the SL, it is an evolving field of study due to the extensive and ever-changing dynamics of the SL as a social construct. The key premise for this research is grounded in the notion that further examination of how SL relates to governance and decision-making is required because there is no "formal process for obtaining a SLO" (Bursey & Whiting, 2015, p. 6). The following section describes existing models and measures of SL, culminating with a description the model that is at the core of this research, Boutilier's (2020) Narratives and Networks Model of Social Licence.

### **Understanding Existing Models of Social Licence**

Prior to the introduction of the N&N model, researchers have been attempting to make sense of the complexities surrounding SL using models based upon trust and credibility, politics and policy, governance, multi-faceted acceptance, organizations, and organizational activity, as well as the inclusion of various aspects and considerations from the perspective of those opposed to an organization or an activity (Boutilier, 2020). Boutilier also notes other research that shows, in addition to companies and direct stakeholders, there is a myriad of groups such as politicians, communities, the public, the media, NGOs, and special interest groups that contribute to the determination of the SL (2020). The research of the SL is a body of work that has continued to grow. By way of a short summary, the pre-existing primary models of the SL are described herein and include the Pyramid Model, Three-Strand Model, and the Triangle Model (Gehman et al., 2017). These models build upon many of the other previous models and have been largely used in recent scholarship.

The Pyramid Model is a multi-level model characterized by four levels of SL for projects, including psychological identification, approval, acceptance, or rejection, that are based establishing trust, credibility, and legitimacy (Gehman et al., 2017). Citizen engagement, collaboration, negotiation, and identification through shared ownership and experiences play a role in signifying projects have been approved due to a high degree of trust, those that are accepted because they have achieved a level of credibility, and those that lack legitimacy and are rejected (Gehman et al., 2017). Colton et al. (2016) note the SL can vary with time and the stakeholders involved in the Pyramid Model, but that the SL is “a judgment about the legitimacy of your company or operations” (p. 11).

The Three-Strand Model was founded on studies based on the question of why some companies seem to do better than others when it comes to environmental performance and how

to encourage companies to go beyond existing regulatory compliance (Gehman et al., 2017). The model includes the dynamic interaction between the legal licence (e.g., regulations, permits), social licence (e.g., environmental and community groups), economic licence (e.g., profitability, investors), and the actors influencing each of these areas to determine SL, and ultimately suggests industries which are closely watched tend to depend on these three strands for their SL (Gehman et al., 2017). Colton et al. (2016) note this model emerged to conceptualize the differences observed in environmental performance, but ultimately describes the independent and interactive factors that “shape corporate environmental performance” (p. 14).

Gehman et al. (2017) also detail The Triangle Model, which focuses on a set of three social “acceptance processes” (p. 299) required to achieve SL. Colton et al. (2016) outline the acceptances as socio-political acceptance (e.g., policies and technologies), community acceptance (e.g., residents), and market acceptances (e.g., technological innovations); and note the model was developed from the perspective of renewable energy. Gehman et al. (2017) add that social acceptance is understood as “building confidence, familiarity, and trust in environmentally friendly but unproven technologies” (p. 299). Colton et al. (2016) also note the notion of not-in-my-back-yard or NIMBY and the difference between public support and local support for renewable energy projects. They further note the potential for a “social gap” (Colton et al., 2016, p. 16) and that acceptance of and support for projects may vary.

Each of these three models denotes the critical role trust, credibility, and legitimacy have in determining SL and account for many of the contributors noted in previous models. But as Colton et al. (2016) point out, “social licence is legitimacy and legitimacy is social acceptability, and vice versa” (p. 20) and the three are “essentially synonymous” (p. 20). Essentially, SL is “the



public's acceptance or opposition of development projects or industries in their local area" (Colton et al., 2016, p. 27).

### **Narratives and Networks Model of Social Licence**

Boutilier's (2020) Narratives and Networks Model (N&N) of Social Licence (Figure 1) is the most recent model to build upon the existing body of scholarship and captures the growing body of knowledge established in previous models. It is a development with the potential to create a more comprehensive understanding of the presence or absence of the SL and how the complexities of SL are navigated and negotiated among the various participants or contributors. A few key points of differentiation between Boutilier's (2020) model and others, are the allowance for an explanation of the changing aspects of interaction among those who grant the SL (e.g., those based on ideology), and also how narratives or discourses emerge, evolve, compete between one another, or dominate. Through the N&N model, Boutilier (2020) attempts to address two questions absent from previous models, first, to gain an understanding of the process by which public opinion influences the SL, legal licences, and public policy; and second, if, how, and why stakeholder and public opinion interact with each other.

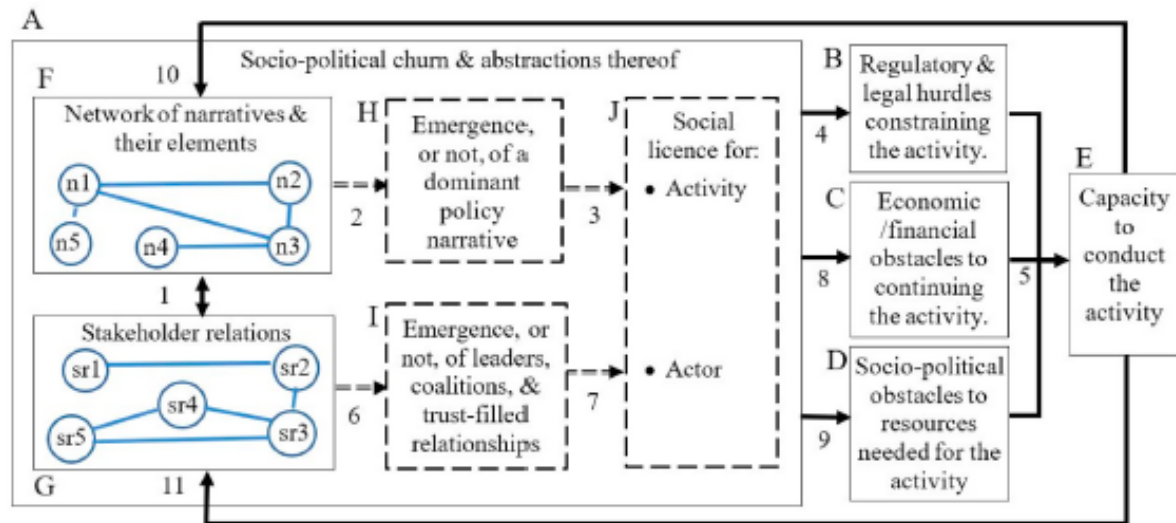
The N&N model (Boutilier, 2020) has the potential to help gain an understanding of the dominant influences on the determination of SL in the context of the New Brunswick HF controversy. As one of the originators of the Pyramid Model (Gehman et al., 2017), Boutilier (2020) advances the thinking on existing models and expands upon the interactions among the various actors, networks and the narratives which make up the "complicated process of socio-political churn" (p. 5) within the N&N model. Boutilier's (2020) approach is dynamic, non-linear and based on relationships that exist and the narratives used. These relationships and narratives appear within the socio-political churn cycle (Boutilier, 2020) he proposes, which can be

repetitive and evolve over an undetermined and indefinite amount of time. Further, Boutilier (2020) notes SL as both a cause and effect in its role as both a pre-requisite to conducting an activity, but also as something to be explained (2020). He captures this in N&N by removing the three categories traditionally used in other models as determinants of the SL (regulatory, economic, and socio-political) and places them in a position of resulting actions (constraining or supporting) that may be taken depending on whether a high or low degree of SL (Boutilier, 2020). But he also includes feedback loops to and from these three former determinants to capture their role as influencers of the SL and the capacity of an organization to conduct an activity (Boutilier, 2020).

The N&N model attempts to explain SL from a macro perspective to the “micro-social processes that explain the macroscopic phenomenon” (Boutilier, 2020, p. 2), and thus, considers the many interactions based on the quality of the interpersonal relationships present (the networks), as well as the evolving narratives created, accepted, and amplified. It also integrates many aspects associated with discourse analysis and narrative research, including how people socially construct their environment, how narratives are framed, what policy narratives and solutions are used, who has agency, how narratives connect various aspects of the SL (e.g., stakeholders, public policy, regulations, and laws) and the “power of discourses to control public opinion and the options that people believe are open to them” (Boutilier, 2020, p. 3).

The N&N model of the SL (Boutilier, 2020), as shown previously in Figure 1 and again below for convenience, portrays a “causal chain” (p. 5) of solid arrows connecting the socio-political churn (box A) to the influencers (both cause and effect) boxes, B, C and D (the regulatory/legal, economic/financial, and socio-political obstacles or facilitators of the SL) to box E (the capacity to conduct the activity). The socio-political churn cycle (box A) in the N&N

model represents where the presence or absence of SL is determined (rather than being established by the categories boxes B, C, and D represent as noted in previous models), by who and which narratives are dominant (Boutilier, 2020, p. 5). It is important to note the reason for including a connection to boxes B, C, and D. Even if a SL is present, these factors can influence the capacity to conduct the activity, such as a failure of an organization to secure a required permit or meet a regulatory requirement (Boutilier, 2020). The distinction of boxes B, C, and D in the N&N model is that these represent actions that can be used to either obstruct or facilitate an activity based on a low or high degree of social licence, whether it be loosening or tightening regulations, the participation or disconnection of investors or employees, or the use of blockades or expert reports (Boutilier, 2020). Further, the capacity to conduct the activity (box E) can influence and contribute to the narratives (box F containing n1, 2, 3, 4, 5) and networks (box G containing sr1, 2, 3, 4, 5) that emerge and evolve throughout the socio-political churn (box A) cycle that influences the SL (Boutilier, 2020). These boxes are contained by a solid line and both represent the networks, and are connected bold arrow 1, where policy narratives, stakeholder collaborations, disagreement and consensus can occur and are mediated repetitively over time (Boutilier, 2020). Boxes H, I and J signify the emergence of a dominant policy narrative, the configuration of the dominant network of/or stakeholders and the presence or absence of the SL in terms of the activity or actor (Boutilier, 2020). These may or may not exist and are subjective to the person examining a specific situation using the model as signified by the dotted line forming and arrows connecting each box (Boutilier, 2020).

**Figure 1***Narratives and Networks Model of the Social Licence*

*Note.* The Narratives and Networks Model of the Social Licence created by R.G. Boutilier (2020, p. 4).

In his article, Boutilier (2020) applies the N&N model to the Cape Cod Windfarm project studied by Shanahan et al. (2013) and reviewed in this thesis as part of the literature review regarding the use of policy narratives and solutions. As a result of its application, he surmises that SL was absent and the project could not continue (Boutilier, 2020). This would be an area for further testing of the model by another researcher to see if a similar assessment of the case study emerges.

Boutilier (2020) notes a few unresolved questions and limitations of the N&N model worthy of consideration, including how the model is used, whether it is expected to “provide legitimization (or delegitimization) for political decisions about the LL and regulatory issues or

for political activists tactics” (p. 8). Similarly, he raises the question of whether “it is enough for SL models to do nothing more than predict configurations of the SL among stakeholders and the effects they have on the continuance of the focal organization’s activities” (Boutilier, 2020, p. 8). I would agree and offer that the expectation or purpose behind using the N&N model is a question that can be answered only by the individual or organization using it.

Boutilier (2020) notes the role, influence, and structures of power concerning the model’s use and suggests that accounting for power “would involve much more than characteristics of network structure” (p. 8). He recommends the “use of a theory of power in order to predict whose SL is going to carry the day” (Boutilier, 2020, p. 8) and suggests there are struggles for power and control of competing narratives on issues of policy, and therefore for control of SL of the “activity governed by policy” (Boutilier, 2020, p. 9). Interestingly, his previous work, Boutilier (2020) notes some findings regarding how the SL determination is legitimized when rivalries and power struggles occur:

“According to Boutilier, when government dominates, it portrays the SL as superfluous to its LL. When business dominates, it enacts a version of the SL that puts more emphasis on appearances than substance. The civic sector then critiques the SL as nothing but corporate public relations. When the activist civic sector dominates, it claims sole legitimacy for deciding who has a SL. The business sector then reacts by decrying the activists’ self-appropriated veto and denigrating the SL as either undemocratic or a complete rhetorical chimera. The contest to win the de facto right to decide whose legitimacy is the most legitimate is thoroughly political. It has neither a scientific nor a philosophical resolution. The most social science can hope to achieve is to develop models that predict characteristics of the struggle and, hopefully, winners and losers.” (p. 9)

Such insights will be interesting on relation to the test of the N&N model in this thesis to see if Boutilier's (2020) contention about how government, business or the civic activist sector position the SL holds true.

Further, Boutilier (2020) notes the challenges associated with the ability to represent the conflicts and how these could be shown possibly through colour coding, as well as how a weighing scheme for conflicting narratives and networks may help with SL strategy development. He also notes the model doesn't show the "tipping point" (Boutilier, 2020, p. 9) because many factors influence the policy changes that also contribute to changes in the alignment of networks and in the level of SL (Boutilier, 2020).

The common threads revealed previously within the scholarship in the literature review (public engagement and activism, opinion formation and influences, political and policy perspectives, media framing, and the existing models of SL) are potential areas within the N&N model where discourse, coalitions and connections can occur at various levels. Shanahan et al. (2013) suggested that "researchers further explore and connect the micro, meso, and macro levels of analysis, as well as develop research methodologies that will search for causal linkages between policy narratives and policy outcomes" (p. 477). It appears Boutilier's N&N model of the SL (2020) is an attempt to do this and hypothesizes the diversity of potential links between the networks of actors involved, the emerging narratives with the power to shape the dominant discourses, and the resulting outcomes.

### **Theoretical Basis and Framework**

As Phillips & Hardy (2002) point out, "without discourse, there can be no social reality and without understanding discourse, we cannot understand our reality, our experiences, or

ourselves (p. 3). Discourse influences perceptions and as a result, can move particular interests forward while diminishing others (Phillips & Hardy, 2002). This is reinforced by the recent discourse, agency and SL research conducted by Newton et al. (2020) who note, “A discourse is a way of apprehending the world in the spoken or written word. It is a social boundary defining what can or cannot be expressed about a matter. Those who adhere to similar discursive forms may thus draw shared meaning from otherwise disparate bits of information” (p. 1) and that “Discourse analysts assume that language choices are not accidental or random, and that discourse reflects existing power relationships” (p. 1)

From a theoretical and practical approach, this thesis research is grounded in Critical Discourse Analysis (CDA), which is part of the tradition of Discourse Analysis (DA) (Phillips & Hardy, 2002). DA is concerned with “texts and the practices associated with their production, distribution and reception” (Phillips & Hardy, 2002, p. 3). Whereas CDA looks at discourse activities and how it creates or sustains power or how power is “enacted, reproduced or legitimized by text and talk of dominant group” (Phillips & Hardy, 2002, p. 25). Analysis using this approach considers how power relations are maintained based on the language selected and used within discourse (Newton et al., 2020). CDA is particularly useful in qualitative analysis as it looks in more detail at the relationship between text and society and helps make meaning of the ideologies that are shaped through power and the attempts to gain power (Mogashoa, 2014). Newton et al. (2020) bring attention to Norman Fairclough, capturing his thoughts on language relating to SL: “The language used to talk about SLO, then, both reflects and affects the power and social relations implicated in the term and its usage” (p. 1).

It is through the lens of power and the complexity of the text and its relations within discourse that we can use CDA to understand how our social reality is produced and becomes

reality (Phillip & Hardy, 2002). Of course, CDA is a very broad area with many schools of thought and approaches, and it does get criticized for lack of rigour and standardization found in other methods, but it does allow for creativity in how a researcher approaches their work and analyzes discourse (Phillips & Hardy, 2002). This is particularly useful for this research, because of the complexity of the discourse, the array of narratives and actors involved, and how power is enacted throughout the HF controversy in NB, as well as the fact SL is a socially constructed reality. CDA will allow for flexibility in the methodology and for any unknown themes or motivations (Mogashoa, 2014) to emerge and provide insight, which is ultimately the primary purpose of the N&N model, to provide a framework for understanding the emergence of SL and aid in strategy development.

Boutillier (2020) notes the need for employing a theory of power in order to determine “whose SL is going to carry the day” (p. 8). In the development of the N&N model and other work, Boutillier (2020) employs Michel Foucault’s theoretical work, which “emphasized the power of discourses to control public opinion and the options that people believe are open to them” (p. 3). However, while the crux of Foucault’s work centres on how discourse is created and power as a relationship that occurs in society (Prasad, 2005), this aspect of control does not align with this research. In fact, there is no single, unified approach to CDA, but rather, multiple areas of focus. Theorists such as Teun Van Dijk approach CDA with a focus on the reproduction of ideologies and how discourse creates social injustice, such as race and gender (Mogashoa, 2014). In contrast, Ruth Wodak’s interest is historical in nature in the overarching structures that produce inequality (Mogashoa, 2014). While there are similarities across CDA and elements of learning from these scholars, Norman Fairclough’s three-dimensional approach to CDA (Mogashoa, 2014), which focuses on understanding the language and how it creates relations and



influences society, better aligns with this research because of the dynamic occurrence and use of language, and the complexity of actors involved. Fairclough's approach is also similar to the N&N model because of the multi-faceted elements and levels contained within the framework.

While it contains complex elements, Fairclough's approach is three-dimensional. It involves interrelated processes of describing and analyzing the text, interpreting and analyzing the process, and analyzing and explaining the social context (Ilyas & Afzal, 2021). Mogashoa (2014) notes Fairclough's approach of analyzing text, considering how it is produced and consumed, and examining the relationships of text and configurations of text and actors, and indicates CDA can help to "understand the social problems that are mediated by mainstream ideology and power relationships, all perpetuated by the use of written texts in our daily and professional lives" (p. 106). While Fairclough's approach is complex, it aligns with the complexity contained in the N&N model. For Fairclough, discourse analysis involves various *semiotic* modes, including language, visual images, and body language (Gee & Handford, 2013), which aligns with the existing scholarship of SL contained in my literature review. Fairclough makes meaning based on *configurations* of what he calls "orders of discourse" (Gee & Handford, 2013, p. 11), which are the networks of social structures, semiotics, and categories of making meaning, including genre, discourse, and style (Gee & Handford, 2013).

Further, and most importantly, Fairclough's approach to CDA attempts to understand social problems or controversial matters and seeks to find ways past the obstacles associated with the problem (Gee & Handford, 2013). Finding a way past the polarizing controversy surrounding SL in NB and building consensus is the driving rationale for this research as we seek to gain insight and a means of predicting SL through the N&N model. As Amoussou & Allagbe point out, CDA "focuses on social problems, and especially the role of discourse in the production and

reproduction of power” (2018, p. 12) and helps to “analyze opaque as well as transparent structural relationships of dominance, discrimination, power and control as manifested in language” (Amoussou & Allagbe, 2018, p. 12). But Fairclough also asks the intriguing question within the CDA framework of whether society needs the problem to sustain itself (Wodak & Meyer, 2001). In light of the provincial election, which took place during the HF controversy in NB and centred around the issue of shale gas, this will be interesting to consider in the analysis.

### **Methodology and Research Design**

This research tests the N&N model of the SL (Boutilier, 2020) using the qualitative approach of Critical Discourse Analysis (CDA) (Mullet, 2018) to analyze and assess the usefulness of the model to provide insight and serve as an indicator of the presence or absence of the SL. CDA is an interdisciplinary approach concerned with the relationship between language and power (Amoussou & Allagbe, 2018), and its flexibility offers an effective means to “describe, interpret and the ways in which discourses construct, maintain, and legitimize social inequalities” (Mullet, 2018). Further it aims to reveal the motivations and enactment of power so that we can understand “social problems that are mediated by ideologies and power relationships” (Mogashoa, 2014, p. 106). To this end, CDA is particularly well suited to test the N&N model by analyzing text produced during the HF controversy in NB.

To test the N&N model, a framework for analysis was developed based on Fairclough’s CDA approach in conjunction with key components of the N&N model to identify dominant discourses, narratives, and actors, as well as the connections and patterns that emerge from the text. Fairclough’s CDA approach is founded upon eight principles which align with the NB case study selected, including: 1. addresses a social problem; 2. power relations are exercised through discourse; 3. discourse can transform society and culture; 4. discourse can create ideology; 5.

discourse is understood through a historical lens; 6. discourse is mediated via connections between society and text; 7. discourse can be interpreted and explained through analysis; and 8. discourse can create action in society (Amoussou & Allagbe, 2018). Based on these principles, we can look at the discourse during the HF controversy in NB to identify, interpret and explain how SL was used and became a social reality in relation to the N&N model. It's important to note that Fairclough believes there is a reason text is selected, that it is usually fuelled by an underlying motivation to serve an ideological end, and as he argues "the exercise of power, in modern society, is increasingly achieved through ideology" (Amoussou & Allagbe, 2018, p. 14).

Further, Fairclough views discourse through a lens of semiosis which includes all forms of making meaning (e.g., language, images, and body language) and sees life in society as "interconnected networks of social practices of diverse sorts (economic, political, cultural, and so on)" (Wodak & Meyer, 2001), comprising elements of semiosis. Semiosis is important in the context of analysis because it influences how we practice social activity and represents our and others' language in discourse, as well as how our own characteristics influence semiosis (Wodak & Meyer, 2001). There are three ways semiosis relates to social practices and events, and that is through *genres* (ways of interacting and use of language), *discourses* (how language is positioned and represents an understanding of the world) and *styles* (an identity or way of being), which combine to create what Fairclough calls *orders of discourse* (networks of social practices and configurations of these three categories) (Wodak & Meyer, 2021). From an analysis standpoint, Fairclough refers to the combinations that occur in terms of *interdiscursivity* and to the relationships between text as *intertextuality* (Gee & Handford, 2013). The question ultimately becomes, which order of discourse dominates, and this is what Fairclough refers to as hegemony (Wodak & Meyer, 2021).

Using this as a frame and Fairclough's three dimensions mentioned earlier as the frame of reference for this research, I designed and implemented a qualitative analysis method to identify, interpret and explain the interdiscursivity, intertextuality, and hegemony of the narratives and discourses (Medelyan, 2021) through codification (Table 1) using deductive manual coding (Medelyan, 2021) of the elements contained within Fairclough's CDA approach and the N&N model. The coding enabled the identification and occurrence of themes and relations as I conducted a three-dimensional analysis of the text, discourse and configurations of text and actors emerging from the media coverage that occurred during the HF controversy.

The initial terms and participants selected for use as codes for discourse analysis were developed based on my personal knowledge and experience with the topic, as well as from readings of the various studies on hydraulic fracturing and the literature review as part of this thesis. While this initial collection of terms and participants did align appropriately with what I anticipated would appear in news articles, the scope of some of the codes was adjusted to include unanticipated participants (e.g., CMO) and terms (e.g., moratorium, consultation).

**Table 1**

Codification Scheme for Critical Discourse Analysis

<b>Codification Scheme</b>					
D1	Environment	D2	Economy	D3	Social Licence
dn	dn1 - Water dn2 - Health/safety dn3 - Land dn4 - Air dn5 - Climate change dn6 - More info/study	dn	dn7 - Jobs dn8 - Rules/regs dn9 - Royalties dn10 - Econ. Stability dn11 - Cost v. benefit dn12 - Quality of life	dn	dn13 - Have/Support dn14 - Don't have/Don't Support dn15 - Is required dn16 - Moratorium dn17 - Consultation
NC1	Pro-Shale Gas	NC2	Anti-Shale Gas	NC3	Neutral Shale Gas
a	a1 - Co./developers	a	a7 - NBASA	a	a13 - Academia/CMO

	a2 - Business Assoc. a3 - Industry Assoc. a4 - GNB PC a5 - Citizens a6 - Indigenous		a8 - CCNB a9 - Interest grp/assoc. a10 - Citizens a11 - GNB L (opp.) / other parties (opp.) a12- Indigenous		a14 - Energy Inst./Neutral Org. a15 - NB Commission on HF (NB CHF) a16 - GNB L (in office)
H1	Regulatory	H2	Economic/Financial	H3	Socio-Political
T1	Positive	T2	Neutral	T3	Negative
G	Language use G1- Scientific/tech. G2 - Lay terms G3 - Political G4 - Corporate G5 - Emotive	P	Position P1 - Dominant P2 - Inferior	MF	Media Framing MF1 - For MF2 - Against
V	Visual General V1- Pro Shale V2 -Anti-Shale	VBL	Vis. Body Language VBL1 - Positive VBL2 - Negative VBL3 - Neutral		
<b>Legend</b>					
<b>N &amp; N Mode</b>		<b>Fairclough CDA</b>		<b>Other</b>	
D	Overarching discourse	H	Hurdle (obstruction or facilitation/support)	T	Tone
dn	Sub-discourse or narrative	G	Genre (ways of interacting /use of language)	MF	Media Framing
NC	Network or Coalition	P	Discourse (position)	V	Visual
a	Audience, actor, group, or stakeholder	NC	Style (Identity) *	VBL	Visual - Body Language

*Note.* This shows the codes developed using Fairclough's CDA approach and Boutilier's N&N model of SL (2020). Own work.

\* The Style and Network Coalition are similar ideologies; therefore, NC will represent *style* for the purposes of this research.

Within this analysis of media coverage, I reviewed the headlines, text and any images associated with the media stories. At the text level, I considered vocabulary, word choice, grammar, and sentence structure. At the discourse level, I examined the tone, genre, positions, emphasis, omissions, connotations, identity, and ideologies. Finally, I looked at the relationships and configurations of text, actors, and authority positions. As Phillips & Hardy (2002) note in their guide to conducting discourse analysis, it's important to look for what is represented in text, how narratives or themes are relating, how and whose narratives are being portrayed, and how this all comes together to construct the social reality.

Based on the frequency and juxtaposition of the coded elements in Table 1, I anticipated the orders of discourse, combinations, and relations (interdiscursivity and intertextuality) that emerged would illustrate the socio-political churn section of Boutilier's N&N model (2020). Similarly, I expected this approach would help identify the emergence of any dominant narratives and actors (hegemony), the presence or absence of the SL, any hurdles that serve as obstacles or facilitators of the SL, and the capacity to conduct the activity as Boutilier (2020) suggests in the N&N model.

The data source I used to obtain content related to the HF controversy in NB was newspaper articles from local and national media. As Berardo et al. (2020) note in their discourse research, in "multiple studies of public discourse and narratives, written news media remains one of the most cost-efficient, consistent, and reliable data sources for gauging policy conflicts" (p 2). While recognizing NB residents would make the ultimate determination of the SL, a broader discussion about the HF controversy in NB was occurring in local and national media. Thus, both also had the potential to influence the public sphere in NB. I collected dated from 2012 to

2017 from 14 newspapers most likely to provide broad coverage on the issue. Similar to the method employed by Gunster & Neubauer (2018) in their analysis of media framing of social licence in Canada, the qualitative analysis for this research was conducted using a keyword search using the terms: “fracking”, “hydraulic fracturing”, “shale gas”, “natural gas”, “social licence” and “New Brunswick” to return a sample population for review.

First, I used media trend analysis data from Comscore for the period March – December 2018 (the earliest data currently available) for Atlantic Canada provided to me by a research manager at Postmedia, which outlined the monthly average of top media outlets read within Atlantic Canada (Vachon, 2022) to identify the predominant media outlets read at that time. The media based on average monthly totals in order of predominance included: CBC-Radio Canada Sites, CTV News Sites, Toronto Star Group, BuzzFeed, Globe & Mail, MSN News, National Post Sites, HuffPost News, Brunswick News Inc., Macleans.ca, Global TV (Vachon, 2022). From this analysis (Vachon, 2022), I identified four to five (4-5) Atlantic English print and online media sources (CBC, CTV, Global TV, Brunswick News outlets) which yielded eight (8) media outlets during the search due to the fact Brunswick News has several local newspapers throughout the province. Then I identified relevant four to five (4-5) national English publications read within NB (National Post, Globe and Mail, Toronto Star, MacLean’s, Huff Post Canada) to capture the broader national discourse (Gunster & Neubauer, 2018). Where present, content from Indigenous media outlets (e.g., APTN) was included in the selection of media. But as noted at the outset, understanding the occurrence of the various voices of those involved in the HF controversy in NB and which emerged is key. Thus, the Indigenous voice is reflected within the coding scheme to determine its presence and impact. These formed the basis

for media inclusion in the analysis. The data source media outlet identification yielded content from 14 media outlets.

Second, using the search terms above, I conducted an online search via Google (all and news), and then repeated this search on the Mount Saint Vincent University Library portal using ProQuest's Canadian Newsstream Database. I conducted the search via Google to secure media content with images that do not appear when using the ProQuest Canadian Newsstream Database. I conducted a search for each year during the six-year period of 2012 to 2017, reflecting the primary years the HF Controversy took place. This search yielded 2,319 articles (Table 2). This is not surprising due to the issue's prominence in NB during those years, and as mentioned within the literature review, it was one of the top stories to watch (Poitras, 2014).

From this group, I selected 10-15 articles for each year using nonprobability convenience sampling (DeCarlo, 2018). I attempted to obtain a range of articles occurring throughout each year, as well as a ratio of 5 national and 10 local media articles based on availability and timing (about a 30/60 per cent breakdown of national to local media). This provided a total of 83 media stories to analyze from 14 media outlets (Table 3) and generated a mix of primarily news story stories, and a few editorials and op-eds. I created an alphabetized reference list of the articles, sorted them by year, and numbered them A1 through A83 for ease of reference, analysis, and recording. The articles are available in Appendix A.

During my selection, I noticed each year included between 1 and 4 articles written by the Canadian Press (CP). The outlets using the CP content were primarily national media and local TV outlets, which have limited staffing resources in this region. Understanding this content is developed for the purpose of sharing among media outlets, and because they are often used due



to limited staff resources, I retained them in the data set in the event I could ascertain a particular media frame regarding what parts of the CP content was used by an outlet.

**Table 2**

*Media Article Yield*

<b>Data Source Acquisition - Media Article Yield</b>	
Canadian News Stream (Pro Quest Search)	
Year	Search (N=Yield)
2012	300
2013	763
2014	729
2015	239
2016	139
2017	27
	<b>2197</b>
Google Search	122
<b>Total Articles</b>	<b>2319</b>

Note: This shows how many articles were found while conducting media search. Own work.

**Table 3**

*Media Outlet Article Counts*

<b>Media Outlet Article Counts</b>	
CBC News	22
Telegraph Journal	19
Times and Transcript	9
CTV News	7
Globe and Mail	7
National Post	4
Global TV	4
Daily Gleaner	3

APTN National News	3
Miramichi Leader	3
MacLean's	3
Toronto Star	3
Bugle Observer	1
Huddle Today	1
<b>14 Media Outlet Total</b>	<b>83</b>

Note: This shows the breakdown of articles selected from each media outlet. Own work.

To prepare the text for the multi-level analysis, I created a three-column table in MS Word. Within this framework, I pasted the media article text in the centre column. I used the left-hand column for the 1<sup>st</sup> level unit analysis, to apply the codes according to the codification scheme I developed. The right-hand column was used for the next level of analysis, where I identified language, themes, patterns, trends, positions, connections, narratives, and other phenomena that occurred. A sample of the analysis table is in Appendix B.

While using media articles as a data source and analyzing the content they contain is a “well-established research methodology” (Macnamara, 2005, p. 1) and efficient (Berardo et al. (2020), the analysis can be highly subjective to the individual researcher. Therefore, it is acknowledged that “intercoder reliability is essential, a necessary criterion for valid and useful research when human coding is employed” (Macnamara, 2005, p. 10). To record intercoder reliability, my thesis advisor and I independently coded an article using the codification scheme in Table 1. The coding was then reconciled to ensure an acceptable level of reliability was present (Appendix C).

The first stage of my analysis began with an interrogation of each article at the unit level by identifying relevant text and coding as appropriate. I reviewed headlines, text and images and

applied the codes in Table 1. After reviewing of the first two articles, I included the CMO with academic (a13) and neutral organizations with the Energy Institute (a14) to reflect their participation. Also, two more codes were added to the scheme: moratorium (dn16) and consultation (dn17), as this language was appearing regularly in the media coverage. It also became apparent that some codes had a duality to their use. Codes for environment (D1), economy (D2), health/safety (dn2), more information or study (dn6) and consultation (dn17) were used interchangeably within competing narratives and discourse by NC1 (pro-shale gas), NC2 (anti-shale gas) and NC3 (neutral shale gas) actors. Creating additional subordinate codes would have increased the complexity of the coding and analysis while yielding very little research value regarding the presence or absence of SL and testing of the N&N model. In the end, I decided to capture the frequency of occurrence and note the duality of use. Thus, all occurrences were recorded with the original code, and the duality is noted in the discussion and analysis of research results. In future research, this may be an area where a weighting scheme or colour-coding could be applied to represent conflict or competing narratives, as Boutilier (2020) discusses in the limitations of the N&N model, or using the approach of Berardo et al.'s (2020) to understand the amount of conflict associated with topics may be appropriate.

The second stage of my analysis continued with a second review of the text, considering the word choice and language used, its placement, how the discourse was positioned, if any policy or narrative themes emerged, trends that occurred, any apparent absences, and any other phenomena. Key narrative themes and strategies began to emerge early on that aligned with the findings in my literature review. I then added began recording instances of these themes and strategies within all articles: 1. trust, legitimacy, and credibility (TLC), 2. Hero, victim, and villain (HVV), 3. power and agency (P&A), and 4. conflict.

The results from both stages of analysis were recorded in an MS Excel file for the six-year period (2012-2017) and for each year within those six years. I recorded a 1 to indicate the presence or a 0 to indicate the absence of each element of analysis. I also tracked any notes from the second level of analysis within the comment section. Below the frequency tracking, I analyzed the results within each element based on the CDA and N&N model elements. With this information, I was able to analyze the full period, each year, and perform a year-over-year comparison of trends and positions. Excerpts from the MS Excel file are contained in Appendix D.

The final stage of my research involved testing Boutilier's (2020) N&N model. To accomplish this, I recreated the model on a MS PowerPoint slide and entered the data contained in the MS Excel record for each year and for the six-year period (2012-2017). This provided an effective way to visually identify trends, the narratives and networks of actors involved, emerging positions of dominance, and if a SL was present or absent, as Boutilier (2020) suggests. It also provided insight regarding the occurrence of hurdles being used as obstacles to or facilitators of SL and whether the activity could or could not be conducted (Boutilier, 2020). These visual representations of the N&N model and analysis are found in the next section providing a detailed discussion and analysis of my research results.

### **Limitations**

It is important to note some of the limitations of this research. First, as mentioned earlier there is no single unified means of conducting CDA (Mogashoa, 2014); and thus, my approach and method may fall victim to criticism. This is certainly a personal choice based on my understanding of CDA, but of course, there may be other approaches, and I encourage additional research using other methods to provide additional insight for professional application.

Second, others may not agree with my approach to selecting a data set from media coverage, particularly given the broad range of content potentially available from the private sector, public sector, and interest groups on numerous other communications channels. However, I believe the media is where a place where a large part of the discourse occurred and was mediated, as Çela (2015) suggests.

Finally, the analysis of the data is based on my interpretation of the discourse under review (Mogashoa, 2014), which others may not agree with or may interpret differently. This research emerged because of my previous work experience in public and stakeholder communications in other sectors and my experience working with the industry during the HF controversy. While we already know the outcome was a moratorium with a condition requiring a SL, as a communications professional, my goal is to gain an understanding of how the discourse and events transpired, escalated and divided the province. I hope the learnings from this will help me and my communications peers (no matter their industry, sector, association, or interest) to develop two-way communications strategies that build consensus rather than walls. To this end, I will practice reflexivity during the analytical process (Mullet, 2018; Dodgson, 2019).

### **Discussion and Analysis of Research Results**

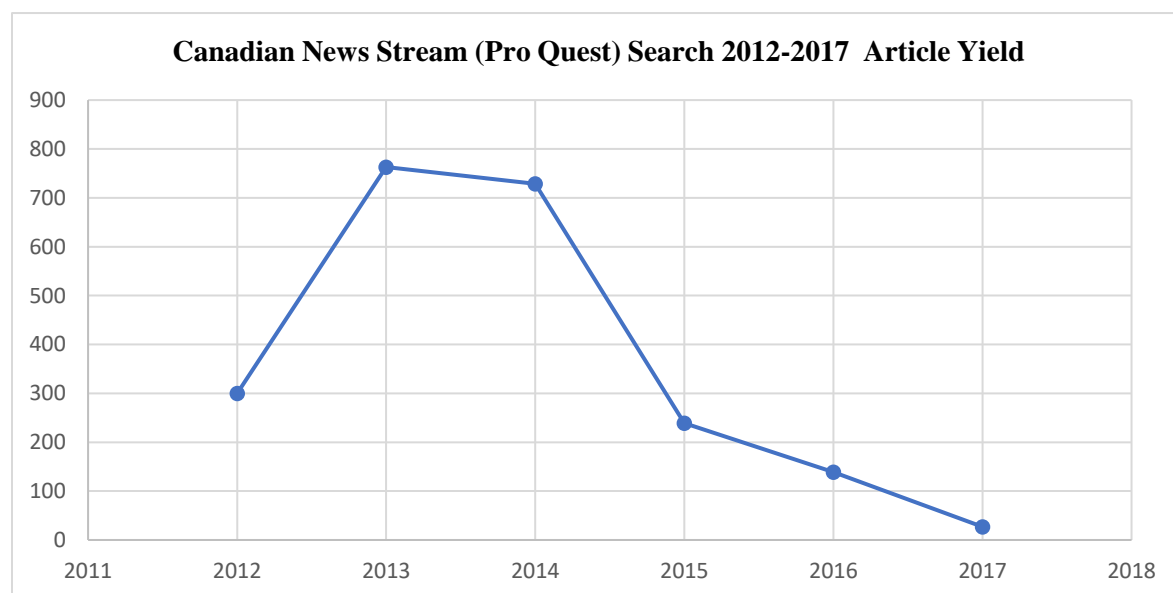
The purpose of this research is to understand how the SL discourse was influenced and established in NB during the HF controversy by testing the new N&N model of the SL (Boutilier, 2020). Using the CDA theoretical approach and framework I developed for this research, this section presents the results of the N&N model trial for the six-year period (2012 – 2017) and then for each year within that six-year period to assess the emergence and patterns of influences on the presence or absence of the SL.

To begin, it is interesting to note the volume of media coverage that occurred during the six-year period. This aligns with the scholarship presented in the literature review noting the volume of coverage can signal the importance of an issue to the public (Peak & Hove, 2017). The increase in the volume of coverage would be an example of a “media storm” (Berardo et al., 2020, p. 4).

Mazur (2018) also note that fluctuations in the quantity of coverage align with fluctuations in the amount of activism. The prevalence of media coverage, combined with the presence of protests and blockages (that will be discussed shortly in this analysis), suggest that these prior findings hold true in the case of the HF controversy in NB. It also demonstrates the media’s role in influencing changes in society and its ability to shape the public sphere, as Çela (2015) notes in his review of Jurgen Habermas’ work.

### Figure 7

*Media Article Yield 2012 - 2017*



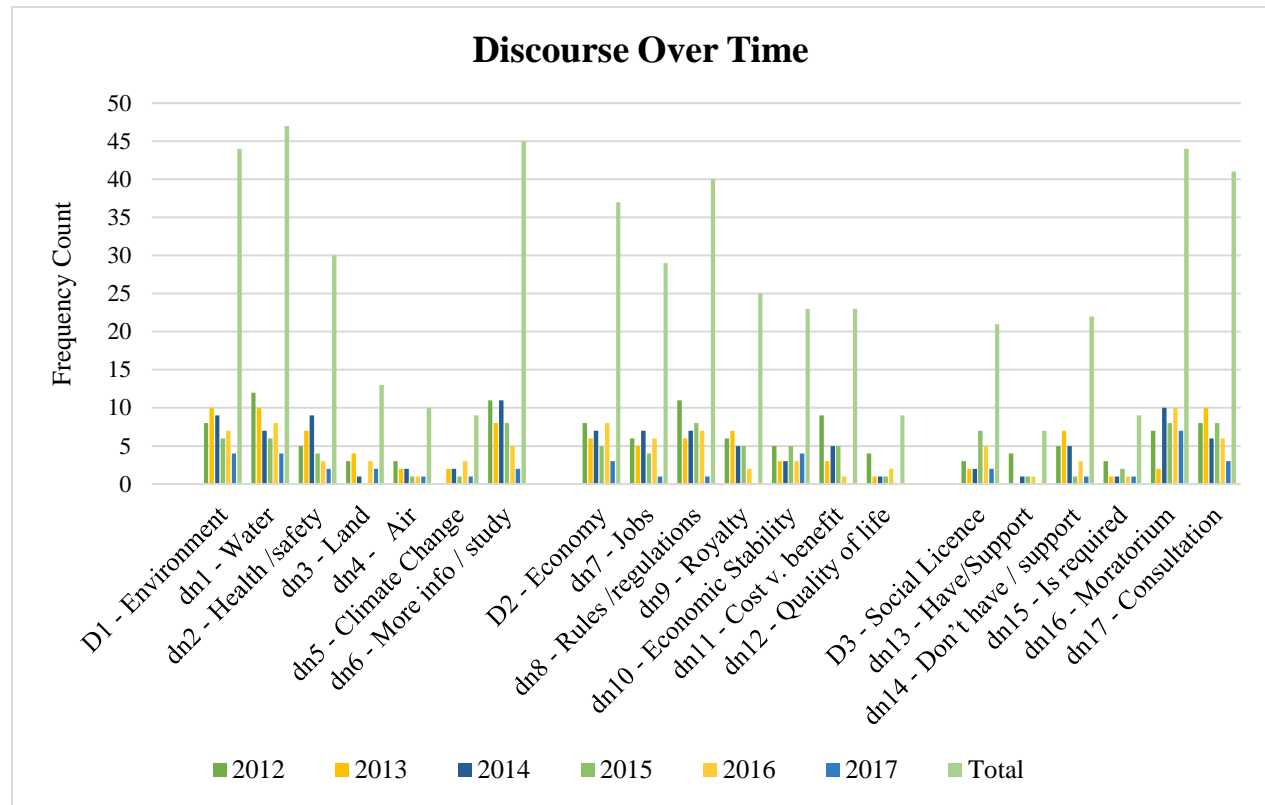
*Note.* This shows a visual representation of the volume of media coverage during 2012 – 2017.

Own work.

### **Discourse: 2012 – 2017 Overview and Yearly Analysis**

**2012 – 2017 Discourse Overview.** The prevailing discourse throughout 2012 to 2017 were water (dn1), more information or study (dn6), environment (D1) and moratorium (dn16) in equal measure, consultation (dn17) and rules and regulations (dn8). Due to the frequency of occurrences of “moratorium” and “consultation”, these were added to the codification scheme for CDA analysis in 2012 as subordinate discourses. Subsequently, articles were re-evaluated for the occurrence of these codes.

While the environment (D1) was the more prominent of the overarching discourses compared to economy (D2) and social licence (D3), subordinate discourses were more predominant in the text. Water (dn1) was noted more often as the primary concern, and the need for more information or study following closely behind it. As competing discourses ensued, dialogue centred upon the moratorium (need for and lifting of it) and consultation (the need for it, or that it wasn't done). These were used largely as narrative strategies within competing discourses. Rules and regulations (dn8) also featured significantly. They were debated and used as possible narrative strategies by those opposed (we need better and more) and those supportive (we have the best and created new). The economy (D2), jobs (dn7) and health/safety (dn2) were secondary discourses present to a slightly lesser degree. Safety was a narrative also used within competing discourses to substantiate claims by proponents or opponents. These results are shown in Figure 8.

**Figure 8***Discourse Over Time 2012–2017*

*Note.* This shows the prevailing discourses by frequency of occurrence during 2012 – 2017. Own work.

**2012 Discourse Analysis.** In 2012, the primary discourse of environment (D1) was largely present, however, the subordinate discourses prevailed as primary areas of concern and discussion, namely the protection or contamination of water (dn1), and the need for more information or study (dn6). Regarding “study”, this emerged as a point of discourse for all actors, with some asking for more information and more study, and the others countering that studies were conducted and no additional studies were required. The primary discourse of economy (D2)



was also present, but the subordinate discourses regarding rules/regulations (dn8) in relation to the government's new rules, as well as the weighing of costs versus benefits (dn11), took precedence. As a primary discourse, social licence (D3) was largely absent, while the calls for a moratorium (dn16) and consultation (dn17) prevailed in coverage.

**2013 Discourse Analysis.** The year 2013 was characterized by protests, blockades and the lead up to the 2014 provincial election in New Brunswick. While the Environment (D1) primary discourse figured prominently, it was closely followed by subordinate discourses water (dn1), more information and/or study (dn6), and health and safety (dn2). The Economy (D2), while present, is superseded by the subordinate discourse royalties (dn7). Consultation (dn17) figures prominently in 2013 among all actors within competing discourses and becomes a point of division. It, along with more information or study, is used interchangeably to substantiate positions that both (consultation and more information or study) are either needed or have been done already. Moratorium (dn16) has significantly reduced in frequency in 2013 compared to 2012.

**2014 Discourse Analysis.** The subordinate discourse of more information or study (dn6) and moratorium (dn16) prevailed in 2014. As in previous years, more information or study are used in competing discourses by those opposed to or in support of the industry to substantiate claims that more are needed or that they have been done already. The primary environment (D1) discourse and subordinate health and safety (dn2) discourse emerged slightly more than water (dn1) in 2014. Economy (D2), jobs (dn7) and rules and regulations (dn8) are found in equal measure but are secondary to the environment or subordinate discourses mentioned above. While consultation (dn17) was a prominent feature in 2013 in association with the protests, it falls

behind the calls for a moratorium (dn16) in 2014. This is largely due to the partisan policy narratives featured in the lead up to the provincial election in October 2014.

**2015 Discourse Analysis.** In 2015, subordinate discourses of moratorium (dn16), consultations (dn17), more information or study (dn6) and rules/regulations (dn8) prevailed in equal measure as competing discourses play out in the media. As a primary discourse, social licence (D3) emerges prominently as a condition of the moratorium enacted near the end of 2014. Environment (D1) and water (dn1) still appear in narratives, as do the economy (D2), royalties (dn4), economic stability (dn10) and cost versus benefit (dn11), albeit to slightly lesser degrees.

**2016 Discourse Analysis.** The subordinate discourse of the moratorium (dn16) continued to prevail and continues to be the specific concern related to fracking noted by actors. This is followed closely by water (dn1), the economy (D2), environment (D1), jobs (dn7) and consultation (dn17). Social licence (D3) was mentioned slight less than in 2015 and generally is used in references the moratorium conditions.

**2017 Discourse Analysis.** The prevalent discourse centres upon lifting the moratorium (dn16) in 2017. Other primary and subordinate are discussed but to a significantly less degree than in previous years.

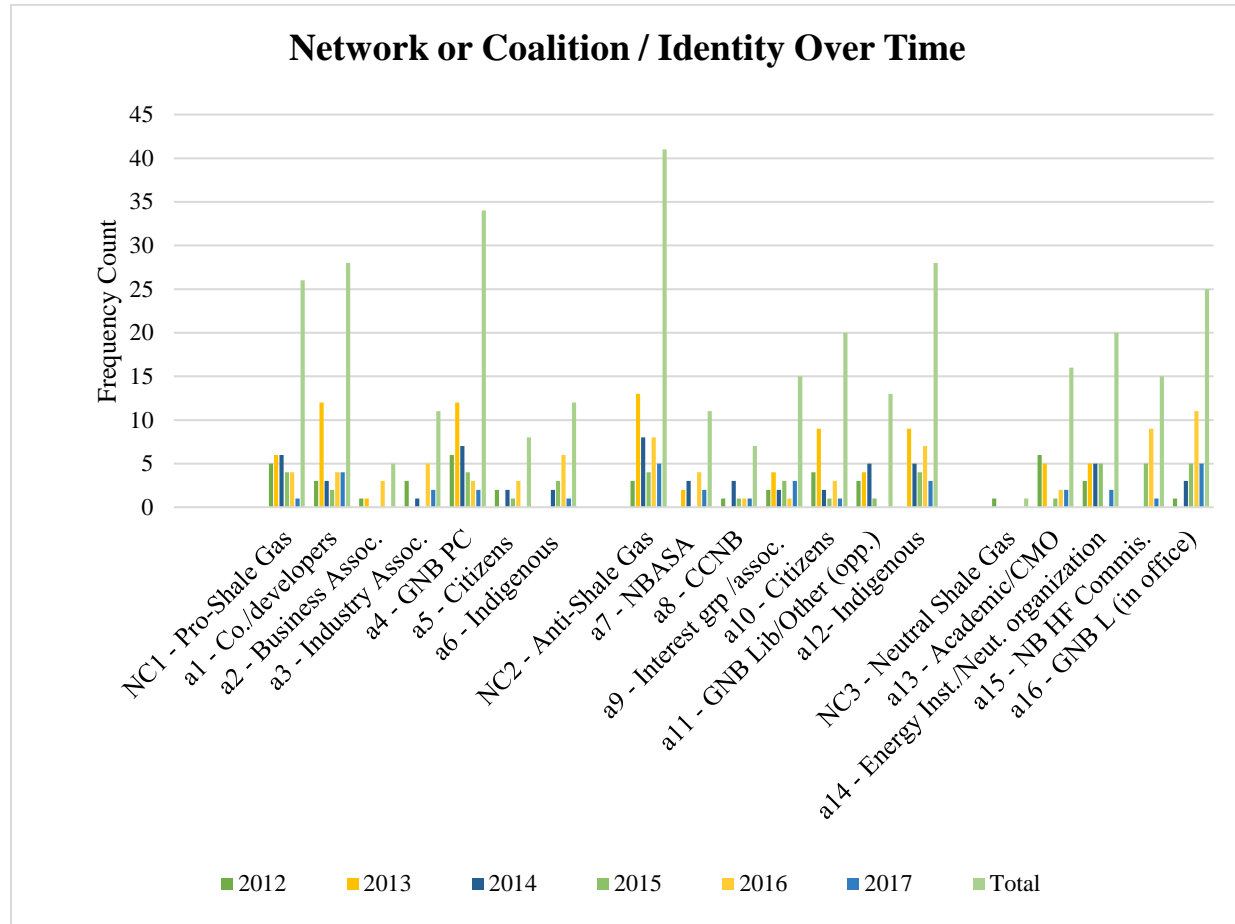
### **Network or Coalition / Identity: 2012 – 2017 Overview And Yearly Analysis**

The anti-Shale Gas (NC2) network or identity emerged most predominant throughout the controversy, versus those holding a pro- (NC1) or neutral-shale gas (NC3) orientation. Within the anti-shale gas network or identifiers, Indigenous people (a12) and citizens (a10) opposed to the activity were present in the coverage more often. While not predominant, it is important to

note that prior to being elected, the opposition government (a11 GNB L/other opposed parties) was aligned more with those opposed and called for a moratorium and more study often within the coverage between 2012-2014.

Within the pro-shale gas (NC1) network or identifiers, the GNB PC (a4) was present most often during 2012-2017, followed closely by companies/developers (a1). This seems logical as the debate ensued between those opposed and those defending their practices and/or oversight of the industry and fracking. However, it is notable several other actors or audiences with the potential to be supportive, namely business associations (a2), industry associations (a3), citizens (a5) and Indigenous (a6), were largely absent from the coverage.

With respect to those within or who identify a neutral-shale gas (NC3), the new government (a16 GNB L) enacted the moratorium and called for more information (and established the Commission (a15 CHF) to report on the conditions of the moratorium), along with the neutral organizations (a14 Energy Institute/neutral organizations and a15 NB CHF) that studied or provided reports were the prevailing voices over 2012-2017. These results are shown in Figure 9.

**Figure 9****Network or Coalition / Identity Over Time 2012 – 2017**

*Note.* This shows the prevailing network or coalition and/or identity by frequency of occurrence during 2012 – 2017. Own work.

**2012 Network or Coalition / Identity Analysis.** In 2012, the more prominent actors engaging in discourse were the government of the day (a4 GNB PC), the Chief Medical Officer (a13 academia/CMO) in New Brunswick, and other academia that had conducted studies or reports. The network or identity (NC) that figures prominently is the pro-shale gas ideology (NC1), which aligns with the GNB PC position.

**2013 Network or Coalition / Identity Analysis.** The primary network or identity emerging in 2013 was the anti-shale Gas (NC2) ideology, with Indigenous (a12) and citizens (a10) who are opposed being the two groups of actors emerging most often in the coverage concerning the anti-shale gas position. While the pro shale gas (NC1) network/identity only featured half as much, the government of the day (a4 GNB PC) and industry (a1 company/developers) appeared most often to support or defend moving forward with shale gas development.

During my review of coverage in 2013, ‘oppose’ shale gas and fracking came up often, which may have been a more suitable code from the outset. However, I have put these occurrences in with don’t have or don’t support (dn14) or as part of the anti-shale gas (NC2) ideology depending on how it is said or positioned.

**2014 Network or Coalition / Identity Analysis.** Due largely to the election, both network/identity ideologies were featured in 2014, with anti-shale gas (NC2) slightly ahead of pro-shale gas (NC1). Within these networks, the government of the day (a4 GNB PC) featured prominently in support of the industry, while those opposed comprised all other participating actors in nearly equal measure, including the New Brunswick Anti-Shale Gas Alliance (a7), the Conservation Council of New Brunswick (a8), various interest groups and associations (a9), citizens opposed (a10), with opposed Indigenous people opposed (a12), and the opposition Liberal party (a11 GNB L/other parties) appearing slightly more often.

**2015 Network or Coalition / Identity Analysis.** With the election of a new government (a16 GNB L (in office)) in the fall of 2014 and its appointment of the New Brunswick Commission on Hydraulic Fracturing (a15 NB CHF), these seemed to be the only actors emerging predominantly in the coverage, along with other neutral organizations (a14 Energy

Inst./neutral organization) studying the process (or who have done reports or studies). Both network/identity ideologies, pro-shale gas (NC1) and anti-shale gas (NC2), were still present in 2015 in equal measure. Similar to previous years, the past government (a4 GNB PC) and Indigenous people (a12) opposed to development were mostly present in the media in relation to the competing ideologies.

**2016 Network or Coalition / Identity Analysis.** The anti-shale gas network (NC2) sentiment is the most prevalent within the coverage, with the new Government (a16 GNB L) and the Commission (a15 NB CHF) noted or speaking the most. This is followed closely by Indigenous people, both for (a6 Indigenous ) or against (a12 Indigenous) who spoke or were largely noted as part of the conditions of the moratorium. While less prevalent, there are several groups in support of shale gas that emerged in 2016 compared with previous years, including companies/developers (a1), business associations (a2), industry associations (a3), former government (a4 GNB PC), and citizens (a5).

**2017 Network or Coalition / Identity Analysis.** The anti-shale gas network (NC2) sentiment is the most prevalent within the coverage, with the new government (a16 GNB L) noting or speaking to the conditions of the moratorium.

### **Discourse Positions: 2012 – 2017 Overview and Yearly Analysis**

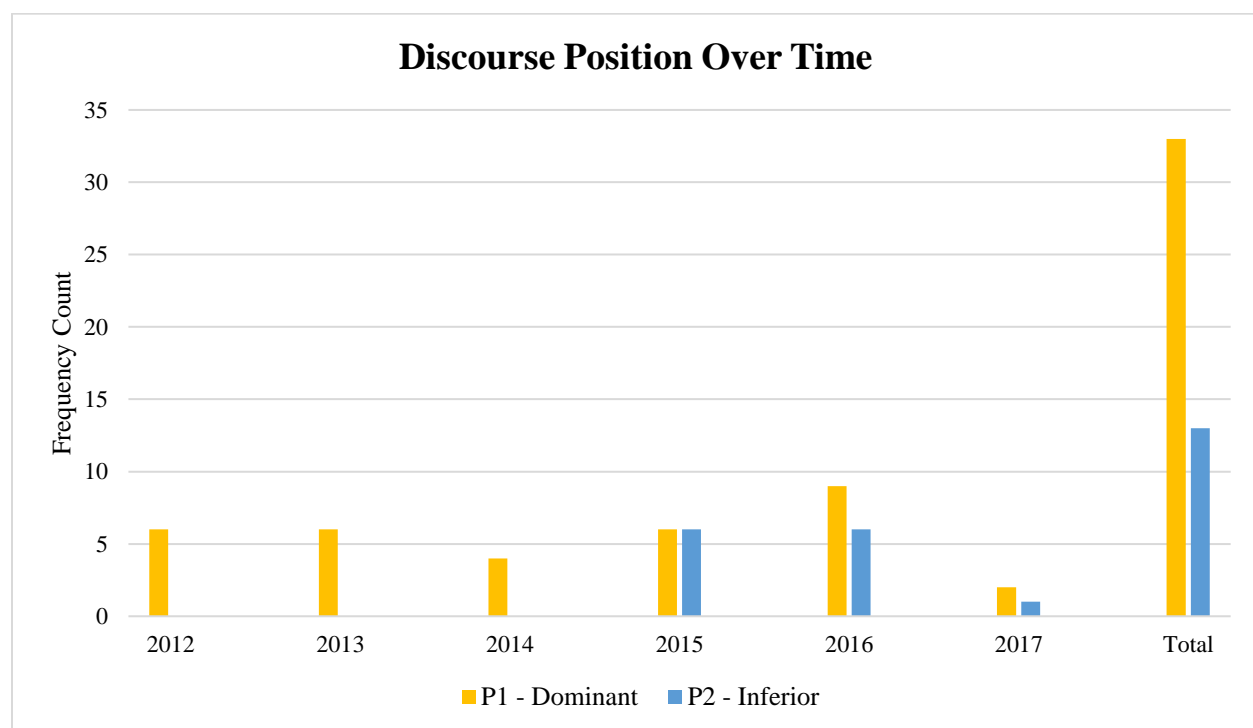
The discourse positions were largely dominant (P1) within coverage, as both opponents and proponents asserted their positions as the best option or course of action within competing discourses. Dominance was more noticeable in the years leading up to the election (2012 and 2013) by the GNB PC (a4) and then following the election in (2015 and 2016) as the new

government (a16 GNB L (in office)) implemented the moratorium. These results are shown in Figure 10.

It became apparent that discourse position dominance (P1) is appearing and, by nature of a polarized issue, this would render competing discourse to the position of inferior (P2). While it is somewhat reductive to assume or code one side or the other as inferior (P2). I began to let the evaluation focus on which discourse position is dominant rather than have both dominant (P1) and inferior (P2) scores yield results in equal measure.

**Figure 10**

*Discourse Position Over Time 2012 – 2017*



*Note.* This shows the dominant discourse position by frequency of occurrence during 2012 – 2017. Own work.

**2012 Discourse Position Analysis.** The government (GNB PC) and the CMO are establishing position dominance in their discourse, basing their positions on expertise, study, and being in the interest of the people of New Brunswick. GNB PC is pro-shale gas (NC1), and the CMO is neutral (NC3 Neutral), but messages tend towards being “concerned” about risks and impacts of the industry.

**2013 Discourse Position Analysis.** In 2013, the dominant discourse position (P1) emerged in alignment with the competing discourse of either the current government (a4 GNB PC) or Indigenous (a12) people who are opposed.

Note, during the analysis, it became apparent that discourse position dominance (P1) is appearing. However, because this issue is polarized, it automatically would render competing discourses as inferior (P2). While it is somewhat reductive to assume or code one side or the other as inferior (P2), I began to let the evaluation focus on which discourse position is dominant rather than have both dominant (P1) and inferior (P2) scores yield results in equal measure.

**2014 Discourse Position Analysis.** Dominant discourse positions (P1) appear in equal measure among the competing discourses, again, largely partisan and due to the election.

**2015 Discourse Position Analysis.** Dominant discourse positions (P1) and inferior (P2) appear in equal measure among the competing discourses relating to the moratorium in 2015 as each side attempts to portray dominance and cast the other’s position as inferior.

**2016 Discourse Position Analysis.** Dominance (P1) and inferior (P2) discourse positions are more evident in 2016, largely due to the competing discourses surrounding the moratorium, and the government of the day (a16 GNB L) holds the position of maintaining the moratorium until all conditions are met. Sometimes dominance is exercised through silence in response to



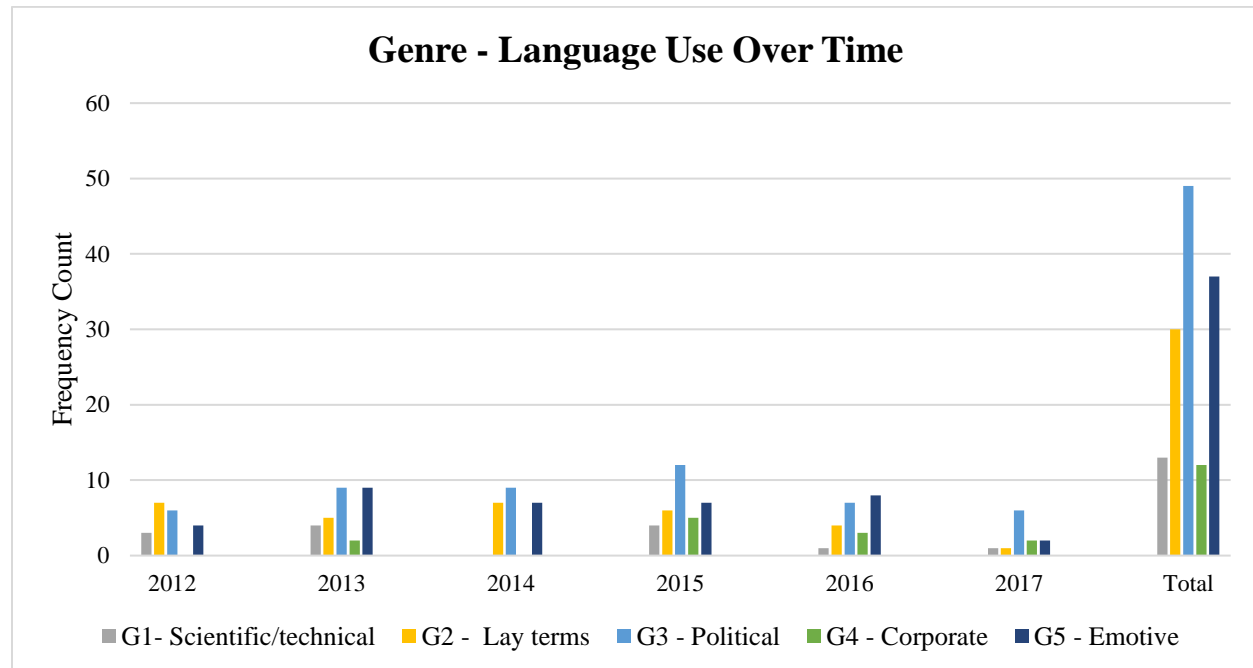
media inquiries about the moratorium or its conditions. Throughout 2016, there were displays of government's power and agency (P&A) to decide the future of industry and development in New Brunswick.

**2017 Discourse Position Analysis.** Discourse positions are not readily discernible in 2017. In the few instances where dominance (P1) is present, it is largely to the moratorium and that it will not be lifted until conditions are met.

### **Genre – Language Use: 2012 – 2017 Overview and Yearly Analysis**

By far, the language used is significantly more often political (G3) in nature, with emotive (G5) language following closely after, though to a slightly lesser degree. Political language prevails in the early days with GNB PC (a4) defending its positions, then into the election with all parties vying for public favour, and then following the election with GNB L (a16), as they enacted the moratorium and its conditions.

Emotive language was used mostly from 2013-2016 as protests, elections and the moratorium debate ensued. While it is a highly technical process, generally, any descriptions referring to the HF process use lay terms (G2) and, more often than not, are simple and straightforward rather than inflammatory or provocative. These results are shown in Figure 11.

**Figure 11***Genre-Language Use Over Time 2012–2017*

*Note.* This shows the prevailing genre of language use by frequency of occurrence during 2012 – 2017. Own work.

**2012 Genre-Language Use Analysis.** Language largely tends to be in lay terms (G2), with a political (G3) posturing emerging. There was some technical jargon, usually used by industry (a1 company/developers), and in some cases, media used language that may raise concerns or position activity as negative (e.g., chemical-laced fluid).

**2013 Genre-Language Use Analysis.** The use of language in 2013 is fairly political (G3) and emotive (G5). This is largely due to the occurrence of protests and blockades during the year, and to political parties as they positioned themselves in preparation for the 2014 provincial

election in New Brunswick. While some news stories were very matter of fact, language that could evoke a particular emotional reaction based on the process description also appeared.

**2014 Genre-Language Use Analysis.** The language use is largely political (G3), but there is also a fair amount of emotive (G5) language and the use of lay terms (G2) when describing the fracking process. While the language is fairly political as candidates vie for public favour, it is also emotive as the narratives seek to support economic prosperity or support protecting the environment, water and health and safety, calling for more study and going slow.

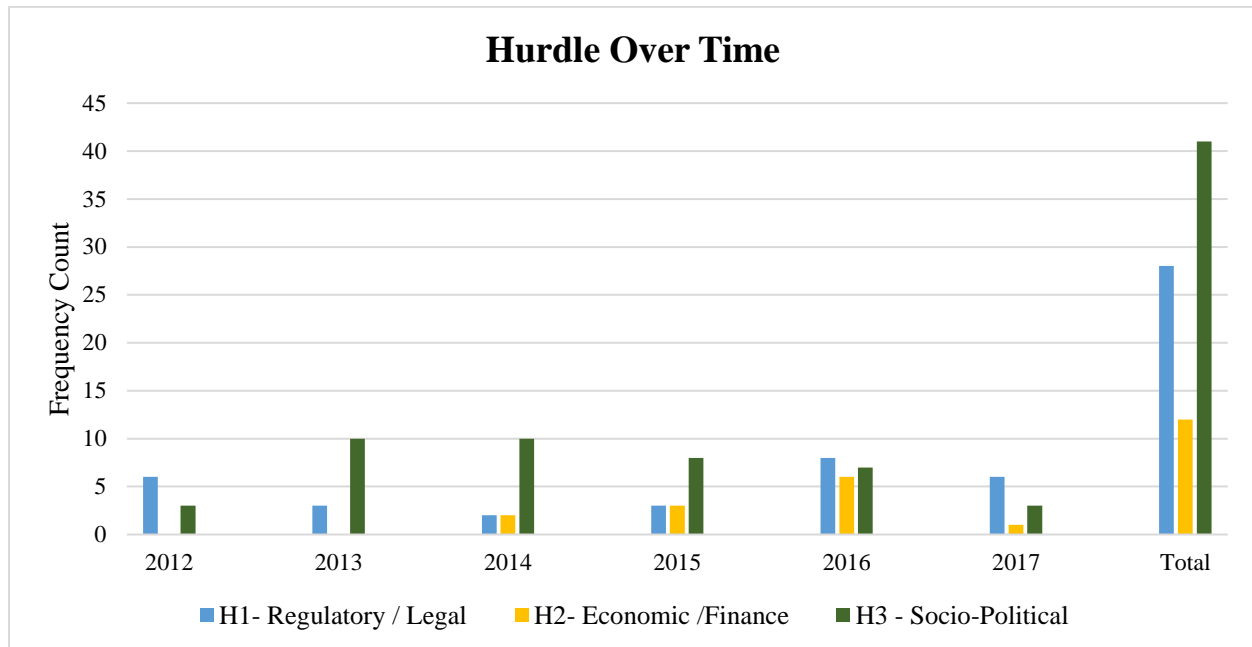
**2015 Genre-Language Use Analysis.** Again in 2015 we see a significant amount of political (G3) language and posturing as the moratorium and its conditions are positioned and debated, as well as the use of emotive (G5) language and the use of lay terms (G2) within articles. The process or technology associated with HF is done using lay terms. Other language used is straightforward. There is corporate language (G4) of commitment and interest in New Brunswick, and doing well. There are also continued themes of conflict using descriptive words suggesting battle, war, espionage, and evoking fear. Language also emerges that downplays environmental positions as assumptions, rhetoric, hype, unjustified similar to findings noted in Eaton & Enoch (2018) and refers to social licence as the ‘so-called social licence’, which creates uncertainty about its definition.

**2016 Genre-Language Use Analysis.** The language emerging in 2016 is largely emotive (G5) and political (G3) within the competing narratives of those who support and opposing the industry and development. It is more evocative and suggestive of battle, espionage with ongoing police investigation, as well as the lost opportunity, jobs and economic future for New Brunswick.

**2017 Genre-Language Use Analysis.** The ways of using language continue to be largely political (G3) with a small presence of some corporate (G4) and emotive (G5). There is language used in relation to the federal election by a candidate that infers consequences for New Brunswick not taking advantage of natural gas opportunities and taking transfer payments, along with more conflict language in relation to opposition to new energy rules (e.g., explosive, joined forces) and winners in the battle relating to the moratorium and industry.

### **Hurdle Use: 2012 – 2017 Overview and Yearly Analysis**

Hurdles are present each year to varying degrees from 2012 through 2017, and much like Boutilier (2020) suggests, are applied as obstacles or facilitators of the SL. In fact, all of them are often used interchangeably within competing discourses as both an obstacle or a facilitator by opponents and proponents. The most prominent hurdles emerging were socio-political (H3), which emerged in the form of blockades and protests, expert studies, and reports, and from reputation damage and loss of credibility. Also prevalent were hurdles in the form of regulatory loosening or tightening and legal actions that took place. To a lesser extent, economic or financial hurdles were present in the form of 'lost investment', but this was least prevalent among the hurdles. Regulatory and legal (H1) hurdles were more prevalent at the outset (2012) and near the conclusion (2016-2017) when the moratorium was levied indefinitely. While socio-political hurdles (H3) dominated the content from 2013 – 2015 during the protest and provincial election. The results over 2012-2017 are shown in Figure 12.

**Figure 12***Hurdle Over Time 2012–2017*

*Note.* This shows the prevailing hurdle by frequency of occurrence during 2012 – 2017. Own work.

**2012 Hurdle Analysis.** Although social licence (D3) is not a readily evident discourse in 2012, we start to see Boutilier’s (2020) “Regulatory / Legal Hurdle”(H1) emerge as regulations are positioned as both an obstacle and facilitator of the SL in competing discourse. Regulations are being used to substantiate competing contentions that they either have public support or don’t. Based on the hurdles present, it is unclear in 2012 if there is or is not a SL; therefore, it is unresolved.

**2013 Hurdle Analysis.** Although the social licence (D3) discourse was not apparent, we continue to see Boutilier's (2020) hurdles present, though in reverse prominence. The greatest was socio-political (H3) constraints positioned as obstructions in the form of protests and blockades. Secondary, were the government's new regulations (H1) being positioned as a facilitator. Given the high degree of socio-political obstacles preventing the activity, it is apparent that there is a low degree of social licence.

**2014 Hurdle Analysis.** Socio-political hurdles (H3) continued to be most prominent in 2014 but in the form of competing discourse about reports and studies as obstacles (required) or facilitators (having been completed) of the SL, as Boutilier (2020) suggests. We see calls for more regulation and oversight, as well as more study, as new reports from experts are released and used to validate moving forward in competing discourses. This combined with the appearance of new economic/financial (H2) hurdles in the form of lost industry investment, indicates that SL is not present.

**2015 Hurdle Analysis.** Following the enactment of the moratorium, all hurdles were present in 2015. The most prevalent are Socio-Political (H3) largely due to protest references that are used as obstacles, and reports or studies that are used as both obstacles and facilitators of the SL in competing discourses. Regulatory/legal (H1) and economic/financial (H2) hurdles also emerged more often in 2015 but to a lesser degree than socio-political hurdles. Regulatory needs and loss of investment loss were obstacles in 2015. There is see a clear indication the SL is not present in light of the moratorium in 2015, and the placement of hurdles (regulatory/legal, economic/financial, and socio-political) obstacles in the majority of stories (11 out of 15) evaluated.

**2016 Hurdle Analysis.** All hurdles noted by Boutilier (2020) were used significantly in 2016 and are present in the majority of coverage as the moratorium and the Commission's report are debated. As in year's past, each hurdle continues to be used as both an obstacle or facilitator of the SL within competing discourses. Regulatory and legal hurdles refer to both the lack of oversight by government and to industry not meeting the conditions of the moratorium, but also the as facilitator through the appointment of an independent regulator. Private sector investment is noted as both a facilitator of industry with increased investment and as an obstacle due lack of investments and current markets. Socio-Political hurdles emerge from the Commissions' report, which was positioned as both an obstacle and facilitator of the social licence on both sides of the debate, and the continued coverage of the prior protest is positioned as an obstacle. In light of the extended moratorium and increased appearance of all possible hurdles, this indicates the absence of the SL.

**2017 Hurdle Analysis.** Regulatory and Legal (H1) hurdles emerged predominantly in 2017 as meeting the moratorium conditions continued to be debated. As in previous years, these are used positioned as obstacles or facilitators of the SL within competing discourses. Socio-political (H3) are revisited in relation to the protests that occurred in 2013 and the subsequent legal actions. With the continued and indefinite extension of the moratorium, and no clear indication of the conditions being met or a path forward, the SL is not present.

### **Narrative Themes and Strategies: 2012 – 2017 Overview and Yearly Analysis**

As the evaluation of the content progressed, five narrative themes and strategies began to emerge and thus were monitored for and noted within the content review. The narrative themes were trust, legitimacy, and credibility (TCL), power and agency (P&A), conflict, and Indigenous reconciliation and territory. The use of hero victim villain (HVV) narrative strategies were also

present as noted in Shanahan et al.'s (2013) work. As a theme, it is not surprising that TLC emerged as the most prevalent and consistent theme occurring within the coverage. The presence of TLC as a theme validates the contention that they are a foundational part and critical prerequisites of the social licence as demonstrated by the original Pyramid Model (Gehman et al., 2017). TLC figures most prominently throughout 2012-2017 and can be for the actors or the activities or both noted in Boutilier's N&N model (2020).

The second most prevalent theme is the struggle for power and agency (P&A) among the various actors, audiences, and narratives within competing discourses. This too, validates the underlying notion within Boutilier's N&N model (2020) that it is useful in determining the presence of power and dominance, and which narratives and/or actor/group will prevail. The struggle for P&A is largely political but is associated with nearly all audiences present within the debate (e.g., GNB PC, GNB L, CMO, Indigenous, and companies/developers) throughout the controversy.

Shanahan et al.'s (2013) narrative strategies of hero victim or villain (HVV) were present each year, but were most notable in the lead up to the provincial election as partisan policy narratives were used by opposing parties, as well as during the time of the moratorium implementation.

Conflict was a strong theme during the protest and blockades of 2013, and then again in the discussion of legal action and police arrests in 2016.

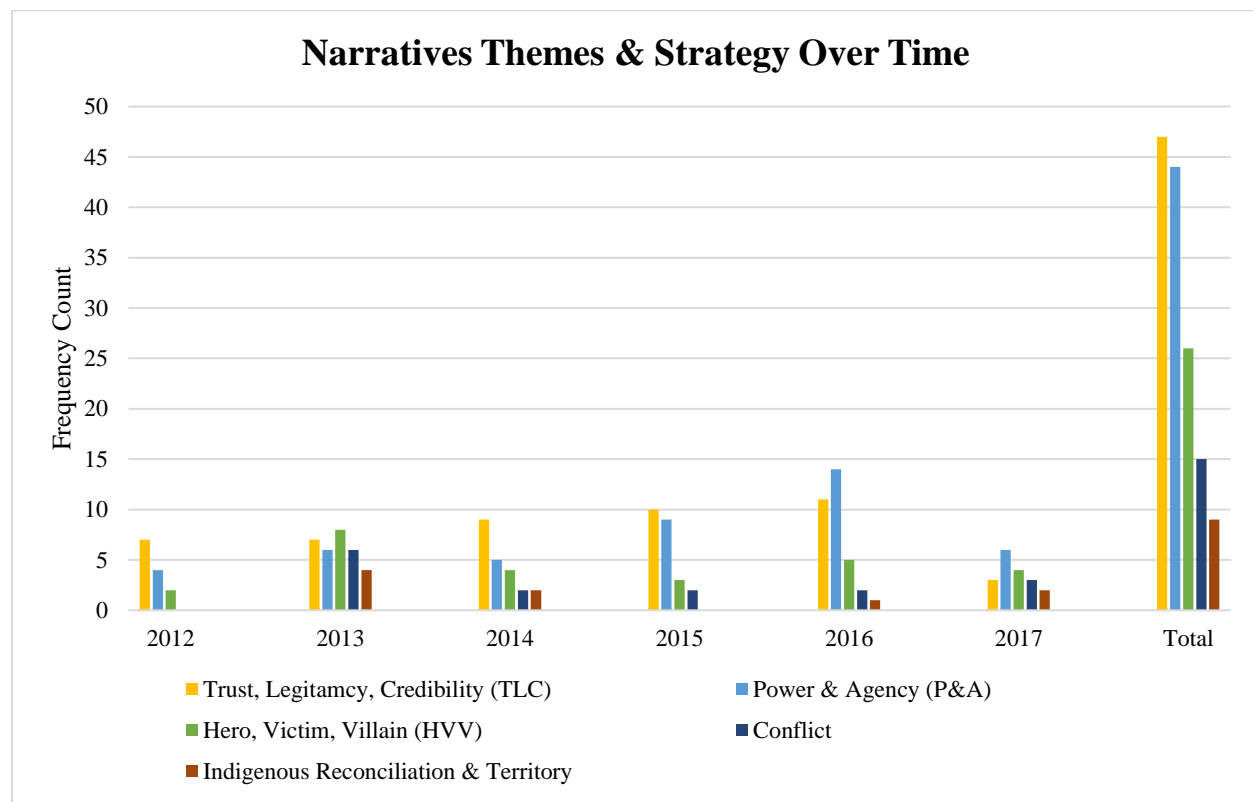
Indigenous reconciliation and territory was an underlying theme present in media during the protests in 2013 and leading up to the election in 2014. It appeared in 2016 and 2017 in regard to legal proceeding taking place. This signals the broader discourse about the rights of



Indigenous people and unceded territory in Canada at the national level that was also occurring provincially in NB. The prevalence of narrative themes and strategies are shown in Figure 13.

**Figure 13**

*Narrative Themes & Strategies Over Time 2012–2017*



*Note.* This shows the narratives themes and strategies that emerged by frequency of occurrence during 2012 – 2017. Own work.

**2012 Narrative Themes and Strategies Analysis.** As suggested by the Pyramid Model (Gehman et al., 2017), trust, legitimacy, and credibility (TLC) emerged and factored

significantly in 2012. This is a key theme arising throughout the discourse and is evident in the language used by participating actors in 2012. In 2012, we see the first emergence of competing discourses, the struggle for power and agency (P&A), and, as Shanahan et al. (2013) describe, narrative strategies are used to position actors as either a “hero, victim or villain” (HVV). For example, the CMO calls for more study and positions herself as a protector of public health; and themes of risk, damage, concern, doubt, uncertainty, evidence, and protection arise in statements and language. Conversely, GNB PC positions itself as the facilitator through themes of science, fact, study, risk mitigation, public support, economic prosperity, and protection using the new rules.

**2013 Narrative Themes and Strategies Analysis.** Several key narrative themes and strategies continued to gain momentum and be revealed in 2013. As in 2012, trust, legitimacy, and credibility (TLC) remain steadfast in its appearance throughout the content, but the emergence of Shanahan et al.’s (2013) hero, victim villain (HVV) narrative strategies prevail as the debate between competing discourse ensues. The struggle for power and agency (P&A) occurs in equal measure to the new theme of “conflict” that arises in relation to the protest and blockades through the use of language relating to battle, war, resistance, perseverance, and vandalism. Policy narratives of cautious government oversight, consultation, and management of expectations are present. As well as other themes and language emerging around the uncertainty about what SL is (e.g., so-called social licence), protection of the future for children and/or citizens, consultation but no negotiation, improper consultation, social and environmental movements, and public and Indigenous consent.

It is important to note that an underlying theme relating to the broader rights of Indigenous people and unceded territory in Canada emerged in the media coverage in 2013. This

signals the importance of this issue at the provincial level and specifically in relation to resource development and land use.

**2014 Narrative Themes & Strategies Analysis.** In a continued trend, trust, legitimacy, and credibility (TLC) continue to figure prominently, as suggested in the Pyramid Model (Gehman et al., 2017). TLC is aligned with key policy narratives throughout the year of election. While the conflict theme diminished following the cessation of protest and blockades, many of the narrative themes continue much the same as in 2013. However, the hero, villain (HV) narrative strategies (Shanahan et al., 2013) and the establishment of power and agency (P&A) prevail as political posturing occurs prior to the election. The narratives of consultation and SL as requirements, responsible government, environment, more study, the need for a moratorium and language indicating rules and royalties being “improper” feature greatly in the content. Again in 2014, though slightly less than in 2013, the theme of Indigenous reconciliation and unceded territory in Canada appears in media coverage relating to fracking in New Brunswick. The theme is related to environmental impacts on traditional territory and to the legal proceedings involving protestors.

**2015 Narrative Themes & Strategies Analysis.** Trust, credibility, and legitimacy (TLC) remain the prominent narrative theme again in 2015, as the moratorium is enacted. Similarly, power and agency (P&A) resurge throughout the content as the current government (a16 GNB L (in office)) establishes their capacity to decide regarding the moratorium and the conditions that must met.

**2016 Narrative Themes & Strategies Analysis.** Power and Agency (P&A) is the theme that predominates coverage in 2016, as the new Government (a16 GNB L) asserts and confirms its position on the moratorium and conditions to be met, ultimately extending the moratorium

indefinitely. This is shown through statements requiring the conditions to be met to the government's satisfaction, ensuring public protection through the conditions, as well as through its silence and inaction. The NB CHF show P&A as they establish their role and purpose of the report. It is also shown by companies/developers (a1) as they leave the province, and by the public and interest groups as they celebrate community mobilization, the ability to influence the decision to extend the moratorium. The P&A of police and the government is also highlighted by media in the coverage of the Indigenous people who are subjects of an investigation.

Trust, legitimacy, and credibility also continued to figure prominently in 2016, as in previous years and validated these as foundational prerequisites for the SL as suggested by the Pyramid Model (Gehman et al., 2017). Smith & Richards (2015) suggest that scientific information or data is often disputed within the discourse of polarized issues or controversies, and in 2016 we see significant debates about facts and science used in the competing discourses. As noted earlier, while narratives are constructed, they are subjective to the receiver's perception of the narrative and lack scientific validity or reliability (Shanahan et al., 2013).

The hero, victim villain (HVV) narrative strategies (Shanahan et al., 2013) are slightly less prevalent, with hero strategies largely attributable to the current government in office as they require the moratorium. Key policy narratives that underscore the year are meeting the conditions, public protection, consultation with First Nations, clean energy, emissions and fossil fuel reduction, transition to renewable energy and jobs, and economic diversification.

Other themes arising in 2016 include Indigenous rights and relations, participation and engagement, community support, consultation and exemption for communities that support the industry, battle, vandalism, fear and anger in relation to protests and economic future.

**2017 Narrative Themes & Strategies Analysis.** Power and agency is most prominent again in 2017 as the ongoing debate about the indefinite moratorium continues and the new Government maintains the moratorium will remain in place until the conditions are met. Other policy strategies and themes are significantly diminished compared to prior years, but HVV and TLC are still somewhat present, as both the government (a16 GNB L) and the Commission (a15 NB CHF) cast themselves as heroes and strive for agency over the report. Ultimately the government has the agency to act or not on the report recommendations. Policy narratives continue to include government rules and oversight, social licence, moratorium conditions, and federal election promises and consequences via loss of transfer payments. Key themes emerging in 2017 include, trust, credibility, participation and engagement, empowerment, consultation, study and monitoring, emissions reduction, and respect for the Paris Agreement (United Nations Climate Change, n.d.).

In 2017, the theme of Indigenous rights, reconciliation, and unceded territory in Canada appeared again in a story about the legal proceedings surrounding the protests and a story about an award-winning photo symbolizing the importance of human rights and reconciliation that was taken during the protest in NB.

### **Notes on Tone, Framing, Visuals, and Visual Body Language**

The tone of the articles seemed predominantly neutral and generally offered both perspectives from competing discourses. However, as I attempted to code the aspects of media framing, visuals and visual body language, which would be considered and included in Fairclough's CDA approach to reviewing a text, it became apparent that whether a media frame, visuals, or body language within visuals is considered positive, neutral or negative is very subjective and would vary among individuals.

As noted earlier in my literature review on the role of imagery, Rebich-Hespanha & Rice's (2016) study aligns with my experience, when they suggest that how images are interpreted depends entirely on an individual's point of view on the issue. While images may be used to highlight a certain aspect, frame a certain interpretation or ensure memorability (Rebich-Hespanha & Rice, 2016), to identify these as either positive, negative or neutral in this research would require recording them as all being positive, negative and neutral to account for individual subjectivity. For this reason, contrary to my original coding schematic, I have excluded these aspects from testing the N&N model because none would appear dominant. From a practical and communications perspective, this may not be an issue if a particular organization, with a particular viewpoint, is using the model. However, it is something to note when using the N&N model.

Regarding visuals and visual body language, a large number of articles were sourced through the Canada News Stream (Pro Quest) and did not contain visuals. Thus, visuals were only present within the online media sources (e.g., CBC, CTV, Global) and in limited quantity. This also limits the usefulness of these aspects of analysis and again, reinforces the decision to exclude them during recording and from the N&N model trial.

We know the media play a significant role in shaping the public sphere (Çela, 2015), are a key contributor to public awareness and information in situations involving risk (Peak & Hove, 2017), and can frame a story by bringing forward a particular aspect or interpretation of the situation (Peak & Hove, 2017). Regarding media framing, as I conducted my review, in some cases, it was readily apparent that an article appeared to frame a story in favour of or in opposition to shale gas development. This can be seen to some degree each year in my analysis, and more broadly, within the full results. It is not my intention to be dismissive of the fact that

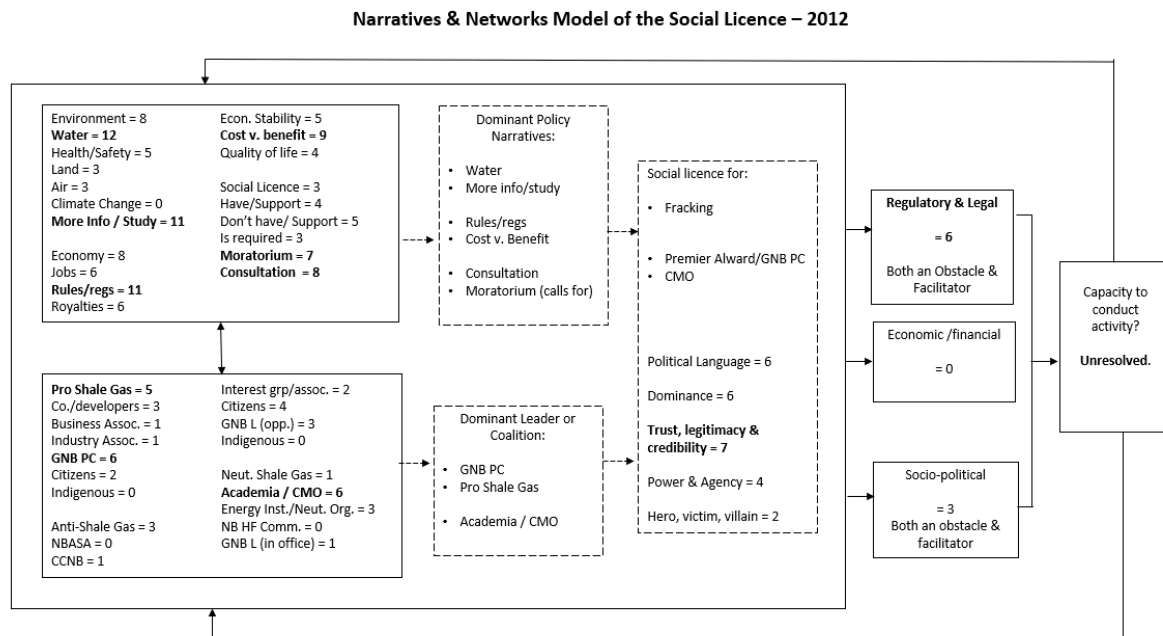
some framing was recorded. However, similar to visuals and visual body language, whether a frame was pro- or anti-shale gas, in most cases, is subjective and would depend largely on the reader's point of view. Therefore, this would not produce a dominant media frame and I have excluded this aspect from the results for testing the N&N model.

### **Narratives and Networks Model of the Social Licence Trials**

This research was designed to test Boutilier's (2020) N&N model of the SL. Following my media article analysis and coding, I entered the data into the N&N template created for testing for each year and for the six-year period (2012-2017). The following describes the outcome for each test, including the narratives and networks of actors involved, emerging positions of dominance, if a SL was present or absent, what hurdles were dominant and present as obstacles or facilitators, and the capacity to conduct the activity.

#### **2012 Test of the Narratives and Networks Model of the Social Licence**

The dominant discourses are competing between the pro-shale gas (NC1) network/identity with the government of the day (GNB PC) and CMO (neutral organization). While there are hurdles present, they are positioned as both an obstacle and facilitator of the social licence and it is unclear if there is or is not a SL in 2012. As Boutilier (2020) suggests, in some cases a narrative or network may not emerge as dominant during the churn period. Therefore, as seen below in 2012, it is unresolved whether a SL exists or not. These results are shown in Figure 14.

**Figure 14***Test of N&N Model of the Social Licence - 2012*

*Note.* This demonstrates the presence and dominance of narratives, networks, hurdles, social licence, and the capacity to conduct the activity for 2012 using the N&N model of the Social Licence.

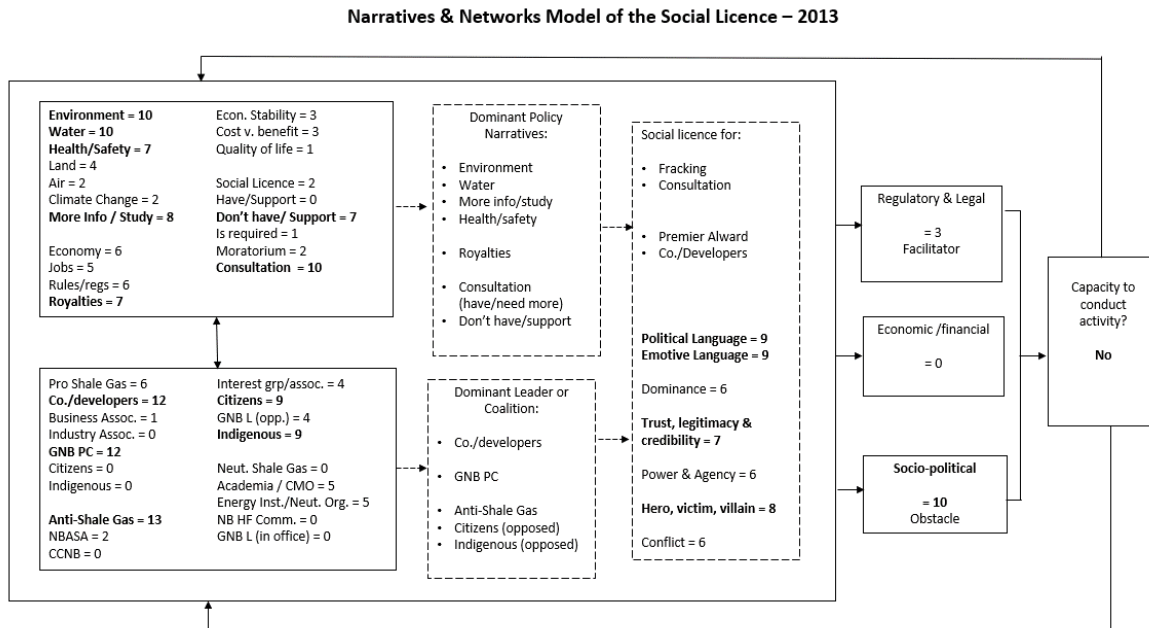
**2013 Test of the Narratives and Networks Model of the Social Licence**

Given the prominence of the anti-shale gas network/identity and the high degree of increased socio-political hurdles (H3) preventing the activity, it is apparent that there is a low degree of social licence. Therefore, there is no capacity to conduct the activity. These results are shown in Figure 15.



**Figure 15**

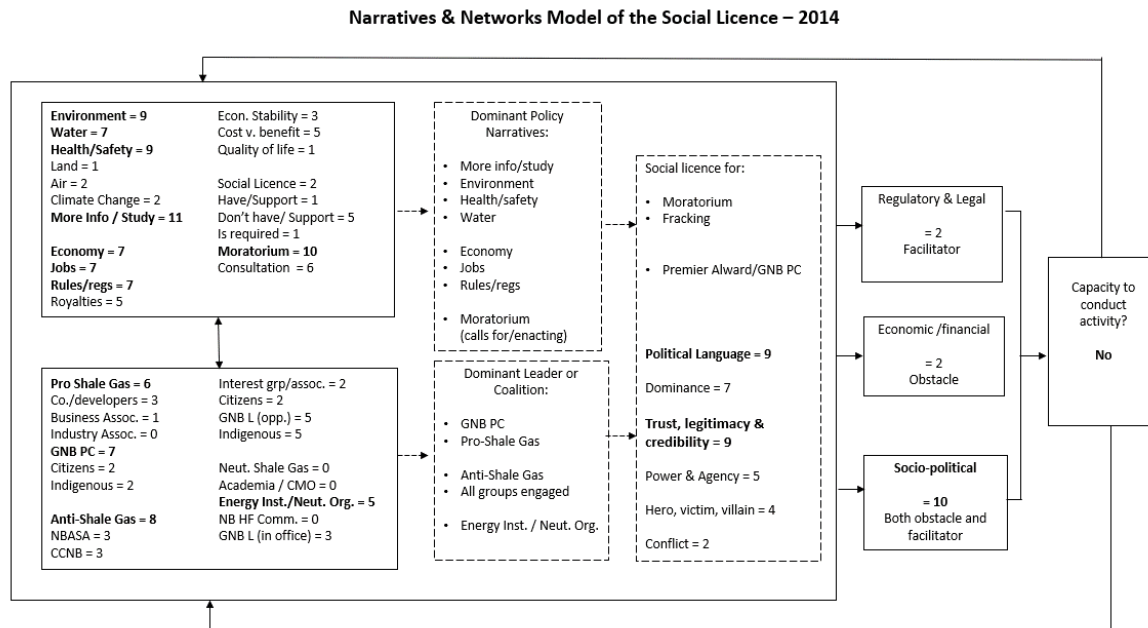
Test of N&amp;N Model of the Social Licence -2013



*Note.* This demonstrates the presence and dominance of narratives, networks, hurdles, social licence, and the capacity to conduct the activity for 2013 using the N&N model of the Social Licence.

## 2014 Test of the Narratives and Networks Model of the Social Licence

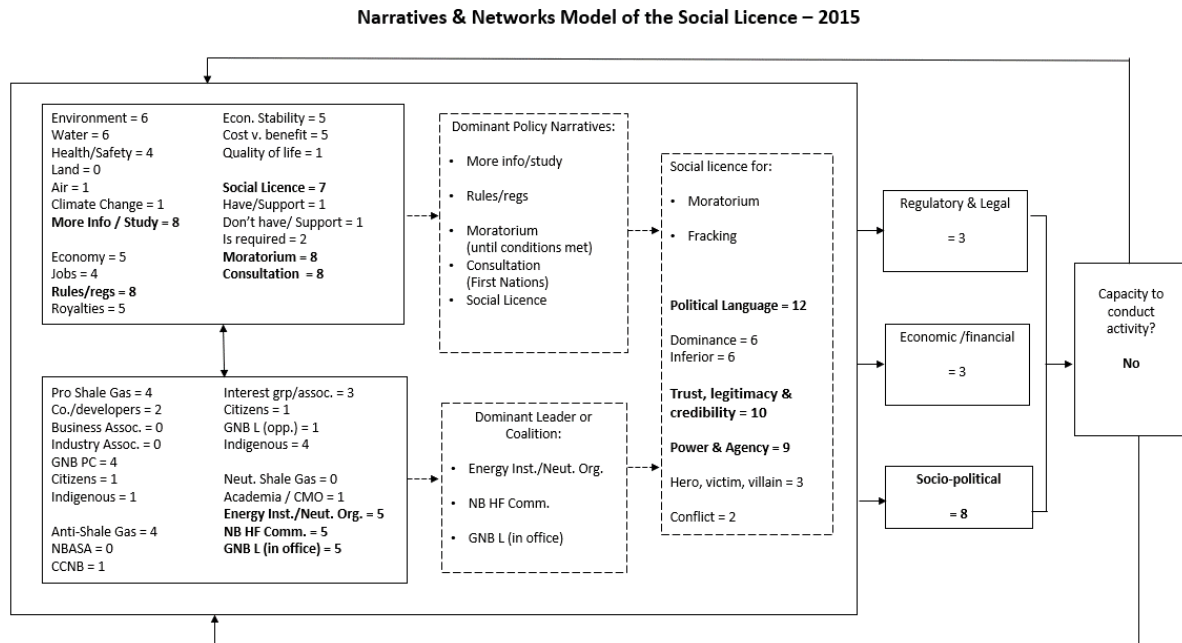
There is a dominance of the anti-shale gas network/identity, calls for more information and study, and calls for a moratorium. These combined with the appearance of new economic/financial (H2) and continued socio-political (H3) and regulatory/legal (H1) hurdles, indicate that a SL is not present, and leaves no capacity to conduct the activity. These results are shown in Figure 16.

**Figure 16***Test of N&N Model of the Social Licence - 2014*

*Note.* This demonstrates the presence and dominance of narratives, networks, hurdles, social licence, and the capacity to conduct the activity for 2014 using the N&N model of the Social Licence.

**2015 Test of the Narratives and Networks Model of the Social Licence**

There is a clear indication of a dominant narrative and leader or coalition in 2015. With the implementation of the moratorium in 2015 and the placement of regulatory/legal (H1), economic/financial (H2) and socio-political (H3) obstacles, it continues to be clear the SL is not present and there is no capacity to conduct the activity. These results are shown in Figure 17.

**Figure 17*****Test of N&N Model of the Social Licence - 2015***

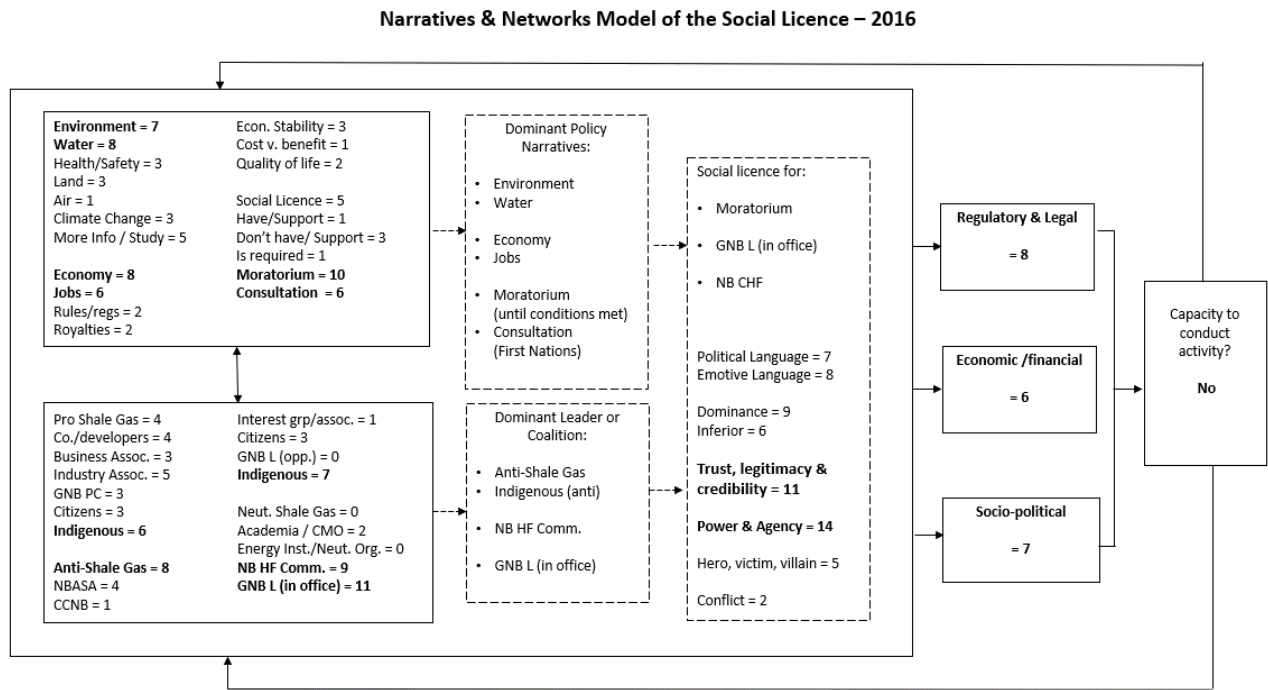
*Note.* This demonstrates the presence and dominance of narratives, networks, hurdles, social licence, and the capacity to conduct the activity for 2015 using the N&N model of the Social Licence.

**2016 Test of the Narratives and Networks Model of the Social Licence**

There is a clear dominant narrative and leader again in 2016, as the moratorium is debated and extended. There is a significant increase in all hurdles present, which again signifies there is no SL present and no capacity to conduct the activity in 2016. These results are shown in Figure 18.

Figure 18

Test of N&N Model of the Social Licence - 2016



*Note.* This demonstrates the presence and dominance of narratives, networks, hurdles, social licence, and the capacity to conduct the activity for 2016 using the N&N model of the Social Licence.

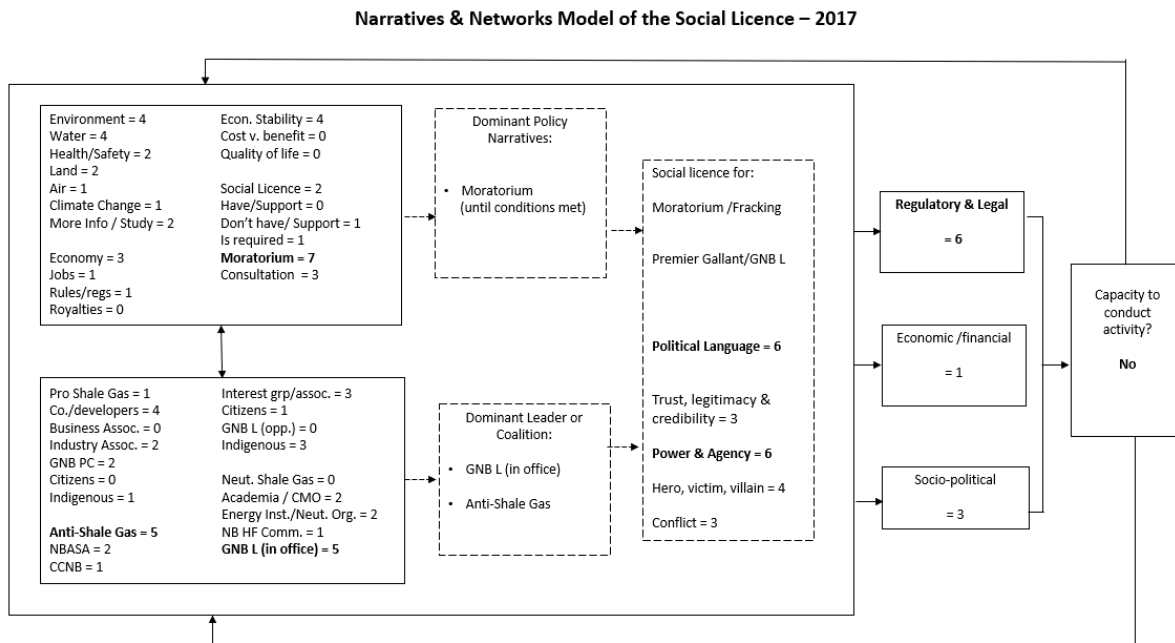
**2017 Test of the Narratives and Networks Model of the Social Licence**

There is a dominant narrative and leader again in 2017 with the indefinite extension of the moratorium and no clear indication of the conditions being met or a path forward. While there is a reduction in the presence of hurdles compared to 2016, regulatory and legal (H1)

remain strong. Therefore, a SL is still not present and there is no capacity to conduct the activity in 2017. These results are shown in Figure 19.

**Figure 19**

*Test of N&N Model of the Social Licence - 2017*



*Note.* This demonstrates the presence and dominance of narratives, networks, hurdles, social licence, and the capacity to conduct the activity for 2017 using the N&N model of the Social Licence.

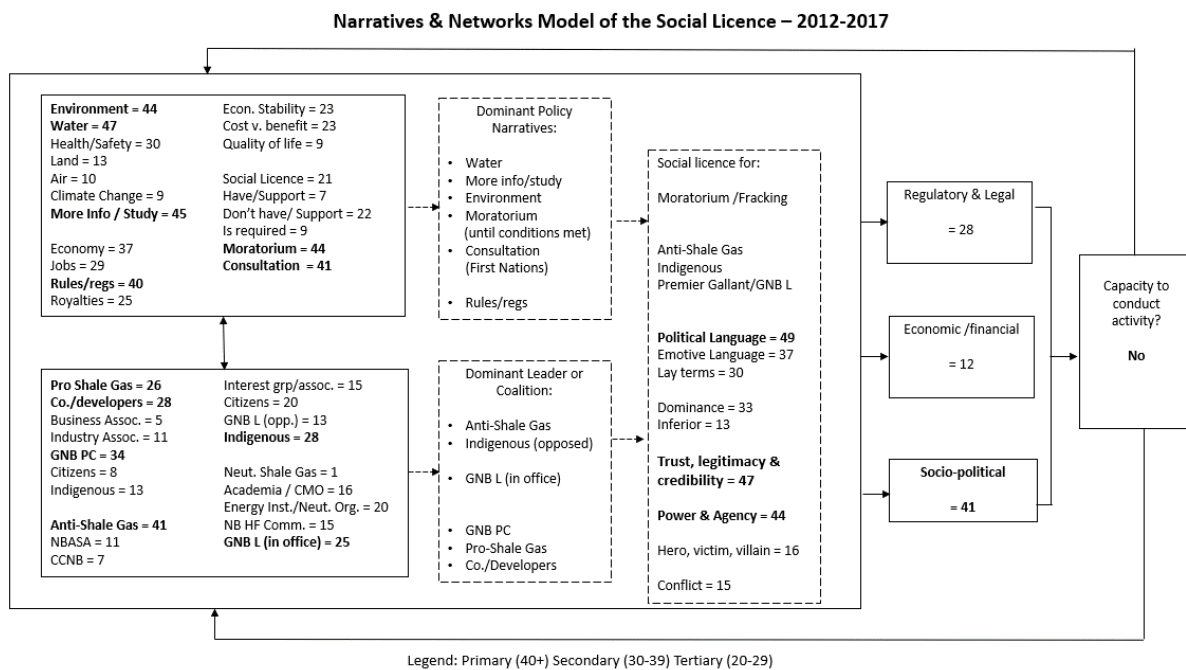
**2012-2017 Test of the Narratives and Networks Model of the Social Licence**

Throughout the HF controversy in New Brunswick, the anti-shale gas NC2) network/identity is dominant, along with Indigenous people who are opposed and the new

government (GNB L). Dominant policy narratives are aligned with water protection, more information and study, the environment, the moratorium, and consultation. Trust, legitimacy, and credibility factor highly, as do power and agency. It is clear that a social licence is not present, as we see a significant amount of hurdles emerge and remain present over time, particularly socio-political hurdles. There is no capacity to conduct the activity. These results are shown in Figure 20.

**Figure 20**

*Test of N&N Model of the Social Licence – 2012 - 2017*



*Note.* This demonstrates the presence and dominance of narratives, networks, hurdles, social licence, and the capacity to conduct the activity for 2012 through 2017 using the N&N model of the Social Licence.

## Findings

This thesis set out to test the N&N model of the Social Licence (Boutilier, 2020) to assess its usefulness for creating understanding about the presence or absence of a social licence and its practical implications for communications professionals. Based on my analysis and test of the N&N model using a CDA methodology, it does accomplish Boutilier's intended purpose. It provides a deeper understanding of the dominant discourses present, the networks and actors that influenced those discourses, the emerging themes, narrative strategies, and ultimately the presence or absence of a social licence. It captured both the macro perspective and the "micro-social processes" (Boutilier, 2020, p. 2). These findings align with my experience during that time. It also reinforces the importance of ensuring an individual or organization's narratives have a presence in the media because that is where the public conversation is taking place and being mediated (Çela, 2015).

Based on my research, I had anticipated the emergence of Fairclough's orders of discourse and hegemony (Wodak & Meyer, 2021). These were clearly present as numerous discourses (primary and subordinate) were observed, and the prevailing discourse (water, environment, moratorium, consultation) of those sharing the network identity position of anti-shale gas (Indigenous, citizens) and the government of the day ultimately determined "whose SL is going to carry the day" (Boutilier, 2020, p. 8). In this regard, Boutilier (2020) proposed in his work that a theory of power is needed to make use of the model. By using Fairclough's CDA approach, I also found agreement with his eight principles (Amoussou & Allagbe, 2018) while testing the model and using this case study. Namely it 1. addressed the social problem of natural gas development in NB; 2. exhibited power relations through the emerging discourse; 3. changed society because of the prevailing discourse about development; 4. created an ideology centred

upon moratoria and social licence; 5. has been observed in retrospect; 6. showed the discourse is facilitated by both people and text; 7. has been attempted to be explained through this analysis; and 8. action was created through the discourse used by people, groups, networks, and the media during the HF controversy in NB.

One interesting question noted earlier concerning Fairclough's work was about whether society needs a problem to sustain itself (Wodak & Meyer, 2001). In my 2013-2014 analysis, it would appear this was the case given the volume of coverage (Figure 7) which would note the importance of an issue (Peak & Hove, 2017), along with the fact that politicians campaigned on yes or no platforms on the issue of HF; and whether a moratorium should be implemented or if a SL existed. However, this observation would require further examination and research.

As noted in the discussion and analysis, interpreting media frames, tone, visuals, and visual body language as positive, neutral, or negative is highly subjective and will vary among individuals. From a practical and communications perspective, this is something to note when using the N&N model. As Boutilier (2020) suggests regarding "simultaneity of conflicting beliefs" (p. 9) within polarized issues, the implementation of colour-coding or weighting algorithms may be useful, but how to do so would depend on the user and their desired strategy. Berardo et al.'s (2020) work using a new approach to understand the amount of conflict associated with topics may be instructive in this regard. While beyond the scope of this research, it is important to note that this was observed and is an interesting area for future research.

Boutilier (2020) proposed that the cycle of socio-political churn can occur for an indefinite time. This was observed in my application of the model and analysis of the controversy as power relations, competing discourses struggled for dominance, and the absence of social license became apparent. Further, as Boutilier(2020) suggests in the N&N model, the



actions that can be used by stakeholders (regulatory/legal, economic/financial, socio-political) as a result of a low or high degree of SL were present and applied throughout the controversy.

Interestingly, in several instances, these were used as both obstruction and/or facilitation strategies by opposing participants in the controversy. This also supports the concept of feedback loops described in the N&N model, which captures the influence of these obstacles and/or facilitators on the SL during the controversy. While it is important to note their occurrence for testing of the N&N model in this research, how these were used simultaneously may also benefit from using a weighting algorithm (Boutilier, 2020) and is also an area for further research.

In his model, Boutilier (2020) also notes the capacity to conduct the activity can also influence and contribute to the narratives and networks that emerge and evolve over the cycle of the socio-political churn (box A) that influences the SL (Boutilier, 2020). While testing the N&N model, with the exception of 2012, for each year following I concluded there was no capacity to conduct the activity, but I also observed that it fuelled competing discourse and narrative strategies as the model depicts. To what degree this occurs and influences the narratives and networks within the socio-political churn would be an area for additional research. Here again, Berardo et al.'s (2020) approach to understanding the amount of conflict associated with topics may be helpful for such research.

Earlier in the section describing the N&N model, I noted that Boutilier (2020) suggested how various actors, including government, business, and the activist civic sector enact the SL. This too, was observed in the analysis and test of the model, to the extent that government dominated and portrayed the SL similar to a legal licence via the moratorium, and the activist civic sector claimed authority for deciding no SL existed.

One area observed during analysis and testing, was the absence of voices (citizens or Indigenous people) during the socio-political churn cycle that may be part of the network or identity that supports HF. This could be due to several reasons, including media framing, no one was available to interview or willing to speak publicly, or simply no support existed within those groups (though public polling did indicate at least some level of support as noted earlier in the case study). For the purposes of this research, it is important to note the absence, but understanding this absence and how their voice is included in the determination of the SL would be another research opportunity.

Previous models of SL contained elements of trust, legitimacy, credibility acceptance, confidence, familiarity, and extending beyond existing regulatory compliance and royalty structures. The fact all of these aspects emerged and featured prominently within the themes and in discourse during my media analysis, supports Boutilier's contention that he formulated the N&N model on the strengths of previous work. These elements appear to play a critical role in the presence or absence of the SL.

My analysis and trials of the N&N model also align with the discoveries presented in the literature review relating to societal changes that are emerging, how opinions are shaped and influenced, and the political influences on social licence discourse and determination. In addition to the themes of trust, legitimacy and credibility noted as a precursor of a SL (Moffat & Zang, 2014; Smith & Richards, 2015; Gehman, Lefsrud, & Fast, 2017; Jijelava & Vanclay, 2017; Boutilier, 2014 and 2021), I observed the hero, victim and villain policy narratives and narratives strategies noted by Shanahan et al. (2013). There was also the rising presence of conflict and protest as a means to influence change (Activism, 2021) and the belief among those involved that they have the power to influence to change (Edelman, 2021). Further there was a transfer of the

use of SL to the public sector as opposition increased and it was used to advance specific interests (Gunster & Neubauer, 2018). Finally, the presence of power and agency was exhibited through the definition of SL and whose interests it served (Newton et al., 2020), the networks of alliances (van de Biezenbos, 2018), within social activity (Zoller, 2005) and as an influencer of the public sphere (Çela, 2015).

In keeping with Mazur's (2018) suggestion that fluctuations in the quantity of coverage align with fluctuations in the amount of activism, it would appear that this does hold true, as shown in Figure 7. In the case of the controversy in NB, the volume of coverage in relation to the protests and blockade that took place in 2013 is substantial. This also appears to align with the work of Peak & Hove (2017), who suggest that media can influence the public's perception of risk by how much coverage there is and the tone used to report this news. While some media framing was detected within this research, as noted earlier it would be subjective depending on an individual's point of view. Understanding the volume of coverage and risk reporting would be another area for future research.

Finally, I selected news media as the basis for my analysis because of its role as a mediator of the public sphere (Çela, 2015). As this analysis progressed, beyond providing me with a greater understanding of narratives and networks shaping SL, my trial of the N&N model has signalled the importance of participating in the discourse that occurs within the public sphere. Ultimately leading to a broader question and a potential area of future inquiry: is SL achievable if your organization or narrative isn't present in the public sphere?

## **Conclusion**

The last decade has witnessed increasing polarization within society on several issues, not the least of which was the controversy in New Brunswick over the use of hydraulic fracturing in natural gas development. This is a topic that continues to fuel news cycles to the present day when mentioned. As a communications professional working with the natural gas industry in the province of New Brunswick at the time of the controversy, I was left with many questions about how the debate and opposition to the industry advanced to its conclusion of no social licence (SL), no natural gas development, and an indefinite moratorium in place. These questions fuelled my quest for more understanding of SL, and served as the foundation for this thesis to test the new Narratives and Network (N&N) Model of the Social Licence (Boutilier, 2020).

Using a qualitative Critical Discourse Analysis (CDA) methodology and research design, I analyzed 83 news articles from local and national media during the HF controversy in NB from 2012 to 2017 and applied these results to the N&N model. The model appears to align with Boutilier's (2020) intended purpose when the case study of HF in NB is applied using the CDA method. The analysis and trial illuminate dominant narratives and networks within a socio-political churn cycle, the absence of a SL as a result of dominant narratives and networks, the obstructions and facilitations implemented as a result of a low (or no) SL, and ultimately, the incapacity for the industry to conduct the activity as described in the N&N model.

In the interest of ongoing understanding and practical use among communications professionals for two-way communication, I encourage further research on 1. mechanisms with the potential to address the simultaneous occurrence of conflicting ideologies; 2. any methods with the potential to reduce subjectivity; 3. a means for understanding how obstacles and facilitators of the SL are used in conflicting ways simultaneously; 4. the degree to which the capacity (or incapacity) to conduct the activity influences the socio-political churn; 5.

understanding the voices missing from the public sphere and how they are captured within the determination of SL; 6. any other case studies centred on a polarized debate about SL; 7. on the model using other forms of media and/content (e.g., social media, neutral organization reports); and finally, 8. the question of whether SL is achievable if you are not a part of the public sphere.

Social licence is a socially constructed reality and phenomenon. It has the power to shape societal discourse about future projects and industries, as well as influence the trajectory of the Province of New Brunswick. It is my hope that research like this continues so we can build on the existing body of knowledge and offer practical insights for communications professionals, just as Boutilier (2020) has done with his proposal of the Narratives and Networks Model of the Social Licence.

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## Appendix A

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## Appendix B

ARTICLE REF #/FILE NAME:

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Code – Unit Analysis	Article	Narratives/Networks Themes - Category Analysis
MF – Against G3 – Political T3 – Neg. tone	<p><b>Murphy speaks out against fracking; ? All Liberal leadership candidates have now taken a stance against shale gas exploration in New Brunswick</b></p> <p>Aske, Sherry . The Times - Transcript ; Moncton, N.B. [Moncton, N.B.]. 13 July 2012: A.2. <a href="#">ProQuest document link</a></p> <p><b>ABSTRACT</b> Candidate Nick Duivenvoorden, a dairy farmer and former mayor of Belledune, said he can't support hydraulic fracturing based on the number of people he has met who are against it.</p> <p><b>FULL TEXT</b> ROTHESAY - All three candidates vying for the Liberal leadership position would seek a moratorium on hydraulic fracturing if elected, citing public concern as a major reason.</p> <p>Candidate Mike Murphy announced the details of his environmental platform yesterday, and said he would ask for a moratorium on shale gas exploration within 30 days of the election of the next liberal government.</p> <p>The moratorium would be part of the party's larger environmental policy, Murphy said, which he would propose if elected as party leader at a convention in October. "When people say, 'hey, this scares us to death,' then it's important to slow down," he said to a crowd of 20 supporters in Rothesay.</p> <p>Murphy's proposed policy would call for an Environmental Charter of Rights bill to be introduced in the legislature within 30 days of a liberal government taking office. The policy would call for a public inquiry on the benefits and risks associated with hydraulic fracturing, he said, that would take at least one year to complete but not more than two. A public report would be published, he said, and a referendum on the issue would be called.</p>	<p>Policy narrative Moratorium</p> <p>Power and agency of each candidate if elected</p> <p>Themes: Concern Doubt Uncertainty Fear</p>
-a10 – GNB-L G3 – political T3 – Neg.		
D1 – Environ't Moratorium – dn16		
D1 – Environ't G5 – Emotive		
D1 – Environ't -dn11 - cost/ben		


-dn6 – more info/study	He also wants to reverse the bones of proof, so citizens don't need to <b>prove that their water was negatively</b> affected by industry. Instead, industry will need to prove that it wasn't responsible, Murphy said.	Industry responsibility
-dn1 water		
G3-political	"Communication specialists have told me never to corner myself like this, but I don't operate like that," Murphy said.	Hero Going against advice of PR
Moratorium	Candidate Brian Gallant, a Moncton lawyer who ran against former premier Bernard Lord in the 2006 provincial election, said the call for a <b>moratorium on hydraulic fracturing is also supported by the current Liberal caucus.</b>	Policy narrative: moratorium
Protection by gov	"You can't go ahead with such a file until <b>you have proven to New Brunswickers that their basic needs will be protected,</b> " Gallant said.	Theme of protection
T3 -negative	If elected, Gallant said he would push to have the moratorium in place before the next provincial election, which is slated for 2014.	
	"Although promising a moratorium in October of 2014 sounds good politically, it may be too late by then," Gallant said. <b>"The potential damage may already be done."</b>	
-dn6 more info / study	He said there are currently two or <b>three major studies being completed on hydraulic fracturing in North America,</b> and any decisions should wait until information from those studies is made available. The <b>province's economy is a priority,</b> he said, but so is <b>protecting drinking water.</b>	
D2-Economy	Candidate Nick Duivenvoorden, a dairy farmer and former mayor of Belledune, said he can't support hydraulic fracturing based on the number of people he has met who are against it.	Policy narrative: Partisan issue
-dn1 water	"If <b>you support fracking you aren't going to get elected,</b> " Duivenvoorden said. "I respect the position of the people that they're just not for it."	No votes if supportive
G3 -political H3 <del>Soci/pol</del>	PDF GENERATED BY PROQUEST.COM Page 1 of 3	
Renewable	If elected, Duivenvoorden said he would explore opportunities that can be carried out above the ground, which have little <b>environmental impact</b> and can be done on a continual basis.	
	"We spend way too much time and effort trying to exploit the very un-renewable, sub-surface resources," Duivenvoorden said, "as opposed to <b>focusing on the very renewable above-surface resources.</b> "	
	DETAILS LINKS <a href="#">Check for full text</a>	

## Appendix C

## A.T. Review of Article A.2


ARTICLE REF #/FILE NAME:

A2\_2012\_Nov 28\_CTV News\_Shale gas can fuel energy needs in NB for a century – minister

Code – Unit Analysis	Article	Narratives/Net works Themes - Category Analysis
MF1 DN14  G3	<p><a href="https://atlantic.ctvnews.ca/shale-gas-can-fuel-energy-needs-in-n-b-for-a-century-minister-1.1057011">https://atlantic.ctvnews.ca/shale-gas-can-fuel-energy-needs-in-n-b-for-a-century-minister-1.1057011</a></p> <p>ATLANTIC</p> <p>Shale gas can fuel energy needs in N.B. for a century: minister</p> <p>Kevin Bisset#THE CANADIAN PRESS Published Wednesday, November 28, 2012 11:24AM ASTLast Updated Wednesday, November 28, 2012 7:06PM AST <u>N.B. floating on sea of natural gas?</u></p>  <p>NOW PLAYING</p> <p>New Brunswick's energy minister says the province may be sitting on so much natural gas that just a fifth of it would heat every home in the province for 800 years.</p> <p>FREDERICTON -- There may be enough shale gas reserves in New Brunswick to <b>fuel the province's energy needs for a century</b>, Energy Minister Craig Leonard said Tuesday in <b>an effort to persuade a public skeptical</b> of the merits of the industry.</p> <p>Leonard delivered a statement <b>in the provincial legislature promoting the benefits of shale gas development</b>, saying the province has at least 80 trillion cubic feet of natural gas</p>	MF




Dn12	<p>locked within its borders, 15 million of which can be economically extracted.</p> <p>He said that <b>amount of shale gas would be able to heat every home in the province for 630 years or serve the province's power needs for the next 100 years</b></p> <p><b>Related Stories</b></p> <ul style="list-style-type: none"> <li>• <a href="#">N.B. premier promises to deliver shale gas blueprint</a></li> <li>• <a href="#">N.B. premier eyes shale gas development as legislature returns</a></li> <li>• <a href="#">Concerns raised over contents of shale gas report</a></li> </ul>	
H1 T3	<p>But outside the legislative assembly, Leonard was less definitive. He said those figures come from consultant reports and <b>need to be proven</b>.</p> <p>"We have to dig to see if it can be extracted economically and if it's there at all," Leonard said. "But that's what the industry standards look at to see what kind of potential resource you have."</p>	H
T3	<p>Liberal energy critic Chris Collins said the shale gas estimates, while glowing, don't carry much meaning.</p> <p><b>"This is purely speculation at this time," Collins said</b></p> <p>The Liberals are continuing their call for a moratorium on shale gas development until more research is done, particularly on the practice of hydraulic fracturing or fracking. Fracking involves blasting large volumes of water and chemicals into deep layers of shale rock in order to release trapped pockets of natural gas.</p>	Dn
Dn1 Dn2	<p><b>The issue has triggered howls of protest from critics who fear development of the shale gas industry could threaten the province's drinking water</b></p>	G  T

H1	<p>"It's not natural gas that New Brunswickers are afraid of, it's fracking that New Brunswickers are afraid of," Collins said.</p> <p>Leonard said the government plans to proceed slowly by allowing a small number of exploration sites at first and will begin discussions with provincial universities about the creation of an energy institute.</p> <p>University of Moncton biologist Louis LaPierre recommended such an institute to act as an independent body that would ensure research and monitoring of natural gas exploration and production.</p> <p>The government has promised to deliver a blueprint in the spring on how it would proceed with shale gas development.</p> <p>Leonard said the government will finalize regulations and a royalty regime in advance of expected exploration activities next year.</p> <p><a href="#">RELATED IMAGES</a></p> <ul style="list-style-type: none"><li>A photograph of Craig Leonard, New Brunswick's energy and mines minister, speaking with the media. He is a bald man in a dark suit and tie, looking slightly to his left. A woman with blonde hair is partially visible behind him to the left. The background is a brick wall with a wooden door.</li></ul> <p>Craig Leonard, New Brunswick's energy and mines minister, speaks with the media in Fredericton on Monday, Oct. 15, 2012.</p>	
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## S.S. Review of Article A.2

ARTICLE REF #/FILE NAME:

A2 Bissett, B. (2012, Nov 28). Shale gas can fuel energy needs in N.B. for a century: minister. *CTV News*.<https://atlantic.ctvnews.ca/shale-gas-can-fuel-energy-needs-in-n-b-for-a-century-minister-1.1057011>

Code – Unit Analysis	Article	Narratives/Networks Themes - Category Analysis
MF – For	<p><a href="https://atlantic.ctvnews.ca/shale-gas-can-fuel-energy-needs-in-n-b-for-a-century-minister-1.1057011">https://atlantic.ctvnews.ca/shale-gas-can-fuel-energy-needs-in-n-b-for-a-century-minister-1.1057011</a></p> <p>ATLANTIC</p> <p>Shale gas can fuel energy needs in N.B. for a century: minister</p> <p>Kevin Bissett THE CANADIAN PRESS Published Wednesday, November 28, 2012 11:24AM AST Updated Wednesday, November 28, 2012 7:06PM AST <a href="#">N.B. floating on sea of natural gas?</a></p>  <p>NOW PLAYING</p>	
H3 – soc-pol G3 political	<p>New Brunswick's energy minister says the province may be sitting on so much natural gas that just a fifth of it would heat every home in the province for 600 years.</p>	Power agency of GNB PC
NC1-Pro -a4 GNB-PC	<p>FREDERICTON -- There may be enough shale gas reserves in New Brunswick to fuel the province's energy needs for a century.</p> <p>Energy Minister Craig Leonard said Tuesday in an effort to persuade a public skeptical of the merits of the industry.</p> <p>Leonard delivered a statement in the provincial legislature promoting the benefits of shale gas development, saying the province has at least 80 trillion cubic feet of natural gas locked</p>	Theme: assurance, persuasion
-dn11 cost/ben		

<p>D2 Economy</p> <p>-dn more info/study</p> <p>NC3 – Neutral -a16- GNB L</p> <p>-dn16 - Moratorium NC2 – Anti-SG -a11 – GNB-L</p> <p>-dn6 more info/study</p> <p>T3 neg</p> <p>T3 neg -dn1 water</p>	<p>within its borders, 15 million of which can be economically extracted.</p> <p>He said that amount of shale gas would be able to heat every home in the province for 630 years or serve the province's power needs for the next 100 years.</p> <p><b>Related Stories</b></p> <ul style="list-style-type: none"> <li>• <a href="#">N.B. premier promises to deliver shale gas blueprint</a></li> <li>• <a href="#">N.B. premier eyes shale gas development as legislature returns</a></li> <li>• <a href="#">Concerns raised over contents of shale gas report</a></li> </ul> <p>But outside the legislative assembly, Leonard was less definitive. He said those figures come from consultant reports and need to be proven.</p> <p>"We have to dig to see if it can be extracted economically and if it's there at all," Leonard said. "But that's what the industry standards look at to see what kind of potential resource you have."</p> <p>Liberal energy critic Chris Collins said the shale gas estimates, while glowing, don't carry much meaning.</p> <p>"This is purely speculation at this time," Collins said.</p> <p>The Liberals are continuing their call for a moratorium on shale gas development until more research is done, particularly on the practice of hydraulic fracturing or fracking. Fracking involves blasting large volumes of water and chemicals into deep layers of shale rock in order to release trapped pockets of natural gas.</p> <p>The issue has triggered howls of protest from critics who fear development of the shale gas industry could threaten the province's drinking water.</p> <p>"It's not natural gas that New Brunswickers are afraid of, it's fracking that New Brunswickers are afraid of," Collins said.</p>	<p>Themes of protest, fear, Risk</p>
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<p>-dn14 – don't support</p> <p>-a13 academia</p> <p>-dn8 rules/reg</p> <p>-dn8 rules/regs -dn9 - royalties</p>	<p>Leonard said the government plans to proceed slowly by allowing a small number of exploration sites at first and will begin discussions with provincial universities about the creation of an energy institute.</p> <p>University of Moncton biologist Louis LaPierre recommended such an institute to act as an independent body that would ensure research and monitoring of natural gas exploration and production.</p> <p>The government has promised to deliver a blueprint in the spring on how it would proceed with shale gas development.</p> <p>Leonard said the government will finalize regulations and a royalty regime in advance of expected exploration activities next year.</p> <p><a href="#">RELATED IMAGES</a></p> <div data-bbox="646 856 1123 1125">  </div> <p>Craig Leonard, New Brunswick's energy and mines minister, speaks with the media in Fredericton on Monday, Oct. 15, 2012.</p>	<p>Policy narrative of study and protection through energy institute, regs and royalties.</p>
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## Appendix D

### Six Year Period (2012-2017) Excerpt – Code Tracking

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YEAR	ARTICLE	D1- Envt'l	d1- Water	d2- Health	d3- Land	d4- Air	d5- Climate	d6- More study	D2- Econo- sys	d7- Flies	d8- Rugs	d9- Fidelity	d10- Econ. Stability	d11- costs	d12- benefit	d13- Quality of life	D3- Social Justice	d14- Havest Support	d15- Don't regul	d16- Don't regul	d17- Don't regul	d18- Don't regul	d19- Don't regul	d20- Don't regul	d21- Don't regul	d22- Don't regul	d23- Don't regul	d24- Don't regul	d25- Don't regul	d26- Don't regul	d27- Don't regul	D4- Pre- val	a1- Co- dryer	a2- Busi- ness	a3- Indus- try	a4- Gov CNC	a5- Citi- zens	a6- Indi- genous	M2- Neu- tra- lity	a7- NEAS A	a8- CCMB	a9- Inter- est	a10- Citi- zens	a11- GMB Lab- or	a12- Indi- genous	M3- Neu- tra- lity	a13- Acad.	a14- Energy	a15- HF	a16- HF	a17- HF	a18- HF	a19- HF	a20- HF	a21- HF	a22- HF	a23- HF	a24- HF	a25- HF	a26- HF	a27- HF	a28- HF	a29- HF	a30- HF	a31- HF	a32- HF	a33- HF	a34- HF	a35- HF	a36- HF	a37- HF	a38- HF	a39- HF	a40- HF	a41- HF	a42- HF	a43- HF	a44- HF	a45- HF	a46- HF	a47- HF	a48- HF	a49- HF	a50- HF	a51- HF	a52- HF	a53- HF	a54- HF	a55- HF	a56- HF	a57- HF	a58- HF	a59- HF	a60- HF	a61- HF	a62- HF	a63- HF	a64- HF	a65- HF	a66- HF	a67- HF	a68- HF	a69- HF	a70- HF	a71- HF	a72- HF	a73- HF	a74- HF	a75- HF	a76- HF	a77- HF	a78- HF	a79- HF	a80- HF	a81- HF	a82- HF	a83- HF	a84- HF	a85- HF	a86- HF	a87- HF	a88- HF	a89- HF	a90- HF	a91- HF	a92- HF	a93- HF	a94- HF	a95- HF	a96- HF	a97- HF	a98- HF	a99- HF	a100- HF	a101- HF	a102- HF	a103- HF	a104- HF	a105- HF	a106- HF	a107- HF	a108- HF	a109- HF	a110- HF	a111- HF	a112- HF	a113- HF	a114- HF	a115- HF	a116- HF	a117- HF	a118- HF	a119- HF	a120- HF	a121- HF	a122- HF	a123- HF	a124- HF	a125- HF	a126- HF	a127- HF	a128- HF	a129- HF	a130- HF	a131- HF	a132- HF	a133- HF	a134- HF	a135- HF	a136- HF	a137- HF	a138- HF	a139- HF	a140- HF	a141- HF	a142- HF	a143- HF	a144- HF	a145- HF	a146- HF	a147- HF	a148- HF	a149- HF	a150- HF	a151- HF	a152- HF	a153- HF	a154- HF	a155- HF	a156- HF	a157- HF	a158- HF	a159- HF	a160- HF	a161- HF	a162- HF	a163- HF	a164- HF	a165- HF	a166- HF	a167- HF	a168- HF	a169- HF	a170- HF	a171- HF	a172- HF	a173- HF	a174- HF	a175- HF	a176- HF	a177- HF	a178- HF	a179- HF	a180- HF	a181- HF	a182- HF	a183- HF	a184- HF	a185- HF	a186- HF	a187- HF	a188- HF	a189- HF	a190- HF	a191- HF	a192- HF	a193- HF	a194- HF	a195- HF	a196- HF	a197- HF	a198- HF	a199- HF	a200- HF	a201- HF	a202- HF	a203- HF	a204- HF	a205- HF	a206- HF	a207- HF	a208- HF	a209- HF	a210- HF	a211- HF	a212- HF	a213- HF	a214- HF	a215- HF	a216- HF	a217- HF	a218- HF	a219- HF	a220- HF	a221- HF	a222- HF	a223- HF	a224- HF	a225- HF	a226- HF	a227- HF	a228- HF	a229- HF	a230- HF	a231- HF	a232- HF	a233- HF	a234- HF	a235- HF	a236- HF	a237- HF	a238- HF	a239- HF	a240- HF	a241- HF	a242- HF	a243- HF	a244- HF	a245- HF	a246- HF	a247- HF	a248- HF	a249- HF	a250- HF	a251- HF	a252- HF	a253- HF	a254- HF	a255- HF	a256- HF	a257- HF	a258- HF	a259- HF	a260- HF	a261- HF	a262- HF	a263- HF	a264- HF	a265- HF	a266- HF	a267- HF	a268- HF	a269- HF	a270- HF	a271- HF	a272- HF	a273- HF	a274- HF	a275- HF	a276- HF	a277- HF	a278- HF	a279- HF	a280- HF	a281- HF	a282- HF	a283- HF	a284- HF	a285- HF	a286- HF	a287- HF	a288- HF	a289- HF	a290- HF	a291- HF	a292- HF	a293- HF	a294- HF	a295- HF	a296- HF	a297- HF	a298- HF	a299- HF	a300- HF	a301- HF	a302- HF	a303- HF	a304- HF	a305- HF	a306- HF	a307- HF	a308- HF	a309- HF	a310- HF	a311- HF	a312- HF	a313- HF	a314- HF	a315- HF	a316- HF	a317- HF	a318- HF	a319- HF	a320- HF	a321- HF	a322- HF	a323- HF	a324- HF	a325- HF	a326- HF	a327- HF	a328- HF	a329- HF	a330- HF	a331- HF	a332- HF	a333- HF	a334- HF	a335- HF	a336- HF	a337- HF	a338- HF	a339- HF	a340- HF	a341- HF	a342- HF	a343- HF	a344- HF	a345- HF	a346- HF	a347- HF	a348- HF	a349- HF	a350- HF	a351- HF	a352- HF	a353- HF	a354- HF	a355- HF	a356- HF	a357- HF	a358- HF	a359- HF	a360- HF	a361- HF	a362- HF	a363- HF	a364- HF	a365- HF	a366- HF	a367- HF	a368- HF	a369- HF	a370- HF	a371- HF	a372- HF	a373- HF	a374- HF	a375- HF	a376- HF	a377- HF	a378- HF	a379- HF	a380- HF	a381- HF	a382- HF	a383- HF	a384- HF	a385- HF	a386- HF	a387- HF	a388- HF	a389- HF	a390- HF	a391- HF	a392- HF	a393- HF	a394- HF	a395- HF	a396- HF	a397- HF	a398- HF	a399- HF	a400- HF	a401- HF	a402- HF	a403- HF	a404- HF	a405- 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HF	a517- HF	a518- HF	a519- HF	a520- HF	a521- HF	a522- HF	a523- HF	a524- HF	a525- HF	a526- HF	a527- HF	a528- HF	a529- HF	a530- HF	a531- HF	a532- HF	a533- HF	a534- HF	a535- HF	a536- HF	a537- HF	a538- HF	a539- HF	a540- HF	a541- HF	a542- HF	a543- HF	a544- HF	a545- HF	a546- HF	a547- HF	a548- HF	a549- HF	a550- HF	a551- HF	a552- HF	a553- HF	a554- HF	a555- HF	a556- HF	a557- HF	a558- HF	a559- HF	a560- HF	a561- HF	a562- HF	a563- HF	a564- HF	a565- HF	a566- HF	a567- HF	a568- HF	a569- HF	a570- HF	a571- HF	a572- HF	a573- HF	a574- HF	a575- HF	a576- HF	a577- HF	a578- HF	a579- HF	a580- HF	a581- HF	a582- HF	a583- HF	a584- HF	a585- HF	a586- HF	a587- HF	a588- HF	a589- HF	a590- HF	a591- HF	a592- HF	a593- HF	a594- HF	a595- HF	a596- HF	a597- HF	a598- HF	a599- HF	a600- HF	a601- HF	a602- HF	a603- HF	a604- HF	a605- HF	a606- HF	a607- HF	a608- HF	a609- HF	a610- HF	a611- HF	a612- HF	a613- HF	a614- HF	a615- HF	a616- HF	a617- HF	a618- HF	a619- HF	a620- HF	a621- HF	a622- HF	a623- HF	a624- HF	a625- HF	a626- HF	a627- HF	a628- HF	a629- HF	a630- HF	a631- HF	a632- HF	a633- HF	a634- HF	a635- HF	a636- HF	a637- HF	a638- HF	a639- HF	a640- HF	a641- HF	a642- HF	a643- HF	a644- HF	a645- HF	a646- HF	a647- HF	a648- HF	a649- HF	a650- HF	a651- HF	a652- HF	a653- HF	a654- HF	a655- HF	a656- HF	a657- HF	a658- HF	a659- HF	a660- HF	a661- HF	a662- HF	a663- HF	a664- HF	a665- HF	a666- HF	a667- HF	a668- HF	a669- HF	a670- HF	a671- HF	a672- HF	a673- HF	a674- HF	a675- HF	a676- HF	a677- HF	a678- HF	a679- HF	a680- HF	a681- HF	a682- HF	a683- HF	a684- HF	a685- HF	a686- HF	a687- HF	a688- HF	a689- HF	a690- HF	a691- HF	a692- HF	a693- HF	a694- HF	a695- HF	a696- HF	a697- HF	a698- HF	a699- HF	a700- HF	a701- HF	a702- HF	a703- HF	a704- HF	a705- HF	a706- HF	a707- HF	a708- HF	a709- HF	a710- HF	a711- HF	a712- HF	a713- HF	a714- HF	a715- HF	a716- HF	a717- HF	a718- HF	a719- HF	a720- HF	a721- HF	a722- HF	a723- HF	a724- HF	a725- HF	a726- HF	a727- HF	a728- HF	a729- HF	a730- HF	a731- HF	a732- HF	a733- HF	a734- HF	a735- HF	a736- HF	a737- HF	a738- HF	a739- HF	a740- HF	a741- HF	a742- HF	a743- HF	a744- HF	a745- HF	a746- HF	a747- HF	a748- HF	a749- HF	a750- HF	a751- HF	a752- HF	a753- HF	a754- HF	a755- HF	a756- HF	a757- HF	a758- HF	a759- HF	a760- HF	a761- HF	a762- HF	a763- HF	a764- HF	a765- HF	a766- HF	a767- HF	a768- HF	a769- HF	a770- HF	a771- HF	a772- HF	a773- HF	a774- HF	a775- HF	a776- HF	a777- HF	a778- HF	a779- HF	a780- HF	a781- HF	a782- HF	a783- HF	a784- HF	a785- HF	a786- HF	a787- HF	a788- HF	a789- HF	a790- HF	a791- HF	a792- HF	a793- HF	a794- HF	a795- HF	a796- HF	a797- HF	a798- HF	a799- HF	a800- HF	a801- HF	a802- HF	a803- HF	a804- HF	a805- HF	a806- HF	a807- HF	a808- HF	a809- HF	a810- HF	a811- HF	a812- HF	a813- HF	a814- HF	a815- HF	a816- HF	a817- HF	a818- HF	a819- HF	a820- HF	a821- HF	a822- HF	a823- HF	a824- HF	a825- HF	a826- HF	a827- HF	a828- HF	a829- HF	a830- HF	a831- HF	a832- HF	a833- HF	a834- HF	a835- HF	a836- HF	a837- HF	a838- HF	a839- HF	a840- HF	a841- HF	a842- HF	a843- HF	a844- HF	a845- HF	a846- HF	a847- HF	a848- HF	a849- HF	a850- HF	a851- HF	a852- HF	a853- HF	a854- HF	a855- HF	a856- HF	a857- HF	a858- HF	a859- HF	a860- HF	a861- HF	a862- HF	a863- HF	a864- HF	a865- HF	a866- HF	a867- HF	a868- HF	a869- HF	a870- HF	a871- HF	a872- HF	a873- HF	a874- HF	a875- HF	a876- HF	a877- HF	a878- HF	a879- HF	a880- HF	a881- HF	a882- HF	a883- HF	a884- HF	a885- HF	a886- HF	a887- HF	a888- HF	a889- HF	a890- HF	a891- HF	a892- HF	a893- HF	a894- HF	a895- HF	a896- HF	a897- HF	a898- HF	a899- HF	a900- HF	a901- HF	a902- HF	a903- HF

### Six Year Period (2012-2017) Excerpt – Comments Recorded at End of Tracking Sheet

[illegible]



[illegible]

Environment (D1) is the prevailing overarching discourse compared to the Economy (D2) and Social Licence (D3).

Most notably, water (dn1) emerges as the primary topic of concern with respect to protection.

Discourses surrounding the need for more information or study, and studies that were conducted emerge as a primary topics also, followed closely with dialogue relating to the Moratorium (need for one, lifting of it) and consultation (the need for, or that it wasn't done).

The More information/study and consultation discourses are used by those who support and those who oppose fracking respectively, largely as a **narrative strategy**

Rules and regulations featured significantly. They were debated and used as possible narrative strategies by those opposed (we need better and more) and those supportive (we have the best and created new).

The Moratorium (dn16) and Consultation (dn17) also prevailed as a predominate discourse but also became narrative strategies as the "need for" and "don't need/lack of" were use by those for and against SG

The Economy (D2), Jobs (dn7) and health/safety (dn2) were secondary discourses that were featured with the coverage. Safety was sometimes used by those supporting SG indicating the industry could protect

The Economy (D2), Jobs (dn1) and health/safety (dn2) were secondary discourses that were featured with the coverage. Safety was sometimes used by those supporting SG indicating the industry could proceed safely.

The Anti-Shale Gas network/coalition was the more predominant vs those from the Pro or Neutral orientation. Within the Anti-SG coalition, the voice of Indigenous people and citizens were contained in articles more often

Within the Pro-\$G network/coalition, the GNB PC was the prevailing voice, followed closely by companies/developers. This would seem to make sense as the debate ensued between those opposed and those defending their practices and/or oversight and moving forward with the industry.

With respect to those that are neutral, the incumbent government (GNB L) calling for the moratorium/more information, along with the neutral organizations that studied or provided reports were the prevailing voices over 2012-2017.

Note, in 2015 and 2016, the voice of the NB CHF emerged as the GNB L body appointed to review whether or not the conditions of the moratorium are met.

The most prominent hurdles emerging were socio-political (H3), which emerged in the form of blockades and protests, expert studies, and reports, and from reputation damage and loss of credibility.

Also prevalent were hurdles in the form of regulatory loosening/tightening and legal actions that took place

To a lesser extent, economic/financial hurdles were present in the form of 'lost investment', but this was least prevalent among the hurdles.

H1 and H3 were used as both an obstacle and facilitator of the SL depending on if the hurdle was being proposed by an opponent or proponent (e.g., regulations = we need more, we have enough/new; or studies = raise concern more study vs go slow, monitor and study)

H1 was more prevalent at the outset (2012) and near the conclusion (2016-2017) when the moratorium was levied indefinitely.

While H3 emerged predominantly during the protest and election (2013–2015) and early days of moratorium

Tone - Nul. Tone depends largely on your point of view (Pro or Anti). If Anti, then you might look at an article as positive, but if Pro... then it could be negative.

Language is more often political in nature, with emotive language following closely behind it within articles.

Political language prevails in the early days with GNB PC defending its positions, then into the election with all parties, and then following the election with GNB L, as they invoke the moratorium and then defend it.

Emotive language is used mostly from 2013-2016 as protests, election and the moratorium debate ensue.

Generally anything describing the process or technology associated with HF is done using lay terms.

### CDA Analysis of the Narrative & Networks Model of Social Licence Tracking & Tabulation

ELEMENTS		NETWORK OR COALITION															HURDLE (Obst./Support)			Tone			GENRE (Language Use)										
YEAR	ARTICLE	NC1-Pro-Shal e Gas	a1-Co/deloopers	a2-Business Assoc.	a3-Industry Assoc.	a4-GNB PC	a5-Citizens	a6-Indigenous	NC2-Anti-Shal e Gas	a7-NBAS A	a8-CCNB	a9-Interest gip fassoc.	a10-Citizens	a11-GNB Lib/Rep n (opp)	a12-Indigenous	NC3-Neutra l Shale Gas	a13-Acad.	a14-Energ Int. or organiza tion	a15-HF Commi s.	a16-GNB Lst. (in office)	H1-Hg Reg	H2-Eco /Financ e	H3-H3- Soc. Polit e	T1-Positive	T2-Neutral	T3-Negativ e	G1-Sci-entific tech.	G2-Lg- lary terms	G3-Political	G4-Corp.	G5-Emotive		
2012	A1_2012_Amb_Ark_S.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	1	0	1	
	A2_2012_Nov28_Bisset B.	1	0	0	0	1	0	0	1	0	0	0	0	1	0	1	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	
	A3_2012_Oct18_Cleary, E.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	1	1	1	0	0	0	
	A4_2012_Jan1_Hubbard, K.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	1	0	0	0	0	0	
	A5_2012_Feb17_Hume, M.	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1	1	0	0	0	
	A6_2012_Feb14_Harris, A.	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	
	A7_2012_Apr24_Harris, A.	0	1	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
	A8_2012_Apr12_Harris, A.	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0
	A9_2012_Mar23_Hesslein, Y.	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	1	1	1	1	1	1	0	1
	A10_2012_Oct26_Hesslein, Y.	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	A11_2012_Aug18_McPhail, D.	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
	A12_2012_Oct15_PotentialH	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	1	1	0	0
	A13_2012_May22_viral_gro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	A14_2012_Apr12_Spicer, J.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1
Total		5	3	1	3	6	2		3	0	1	2	4	3	0	1	6	3	0	1		6	0	3	3	7	4	3	7	6	0	0	4

General overall comments pertaining to coverage, anything of note:

Power and agency of CMO calling for more study, more protection as protector of public health (here)

2012 starts with GNB trying to persuade of benefits and then moves into competing discourse among

Theme of evidence, risk, damage, expertise and experience, property value decline (obstacle). Themes study, evidence, science and fact, (facilitator) risk mitigation and protection, industry roles, responsibility and commitment. Narrative: no need for pervasive new regulations

**Themes:** Concern, Doubt, Uncertainty, Fear and protection.

A10 - first article that covers all sides, all players and narratives for and against. See some "power dynamics" start to play out.

A14 - starts to talk about Earthquakes as impact.  
Themes of study, evidence to support deve

Narrative following study: NB one of best in Cda for reg. and development.

[illegible]

D1 envir and D2 economy were largely present, with underlying specific discourse being noted for: water, rules/regs, cost/benefits

Water is the primary topic of discussion and concern, with health and safety being primarily raised by CMO

More info/study and studies were a primary discussion point or used to position points being made on both sides of debate.

The idea of Moratorium and consultation also were key themes in 2012.

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CDA Analysis of the Narrative & Networks Model of Social Licence																																									
Tracking & Tabulation																																									
Note the <b>absolute</b> of element by entering value of "1" in corresponding article column Note the <b>direction</b> of an element by entering value of "0" in corresponding article column																																									
YEAR	DISCOURSE															NETWORK OR COALITION																									
	D1- Ewin's	d1- Water	d2- Health	d3- Land	d4- Air	d5- Climate	d6- More info / study	D2- Econo- my	d7- Econo- mics	d8- Jobs Regs	d9- Fidelity	d10- Econ. Stability	d11- cost vs benefit	d12- Quality of life	D3- Social Licen- se	d13- Have/No support	d14- Don't have/No support	d15- Is regu- lation on m on	d16- More cons on the debat	D4- Pro- Share Gas	a1- oil- clippers	a2- Business Assoc.	a3- Industry Assoc.	a4- GMB PNC	a5- Citizens	a6- Indigenous	D5- Anti- Share Gas	a7- NBAS A	a8- CCNB go fassoc.	a9- Citizens	a10- GMB Lab/Free n (opp)	D6- Netra Share Gas	a11- Acad	a12- Indigenous	D7- Netra Share Gas	a13- Acad	a14- Energy list on Comm	a15- HF Comm s. office	a16- GMB In- office		
2010	2	12	5	3	3	0	11	6	6	11	6	5	3	4	3	4	0	3	7	1	5	3	1	3	6	2	0	0	3	0	1	2	4	3	0	1	6	3	0	1	
2011	10	10	4	4	2	0	8	6	5	6	3	3	3	1	2	0	7	1	2	0	5	10	1	0	10	0	0	10	2	0	4	3	4	0	1	5	0	1	5	0	0
2014	3	1	8	1	2	2	1	7	1	1	5	3	5	1	2	1	5	1	10	6	3	0	1	3	2	2	6	3	0	2	2	5	5	0	0	5	0	3	0	0	
2015	6	6	4	0	1	1	8	5	4	3	5	5	5	1	7	1	1	2	10	4	2	0	0	4	1	3	4	0	1	3	1	1	4	0	1	5	5	5	5		
2016	1	0	3	3	1	3	1	5	6	1	2	3	1	2	5	1	3	1	10	6	4	3	5	0	3	6	0	4	1	1	3	0	1	2	0	3	1	0	0		
2017	4	4	2	2	1	1	2	3	1	1	0	4	0	0	2	0	1	1	7	3	1	4	0	2	2	0	1	5	2	3	1	0	3	0	2	2	1	5	5		
Total	44	41	36	13	10	3	45	38	23	40	25	23	23	3	21	7	22	3	44	41	26	20	5	11	34	9	12	41	11	7	15	20	12	20	1	16	20	15	25		

**2012 to 2013**

Environment, Water and Health and safety continue to be focus, as well as more Indigeneity (Goon, Pūkeko, roapū) is the focus, but marked decrease in the "cost/benefit" discourse increase in have not support these points, but marked decrease in "incorporation" (GMB I is not featured as much, which may be the reason. Indigenous voice more prominent in 2013).

Conservation gas discourse on both sides

Anti SG is more prominent in 2013, with Indigenous and citizen voices emerging most. We don't hear from as ademic as much because of LaTiere scandal maybe?

Pro SG about the same level of prominence but in 2013 GMB PNC, current government and co/colleagues are more prominently featured

HURDLES: while Hing, agreement in 2012, it doesn't figure prominently in 2013. Given H- it could be said that no SL exists therefore "legitimacy is withdrawn" and stakeholders are not permitting the activity through protest and blockade. H3 emerged also indicating a low degree of SL due to the blockades and protests in 2013 (Obstacles in Boulton's model).

Time is a neutral gear over year

Language use is predominantly political and emotive - and the use of tag language decreases in 2013. Could be because of the focus of the discourse change to the protest and consultation.

As suggested in the Pyramid Model, TLC factor significantly in 2012 and endures in 2013.

Narrative angle of here, victim, villain began to emerge prominently as the debate and division over the issue gains traction.

The struggle to establish PUA emerges more prominently, as does the theme of conflict.

**2014**

Environment, water, health and safety, and More Indigeneity, along with Economics (job and rate/raise) continue to be prominent discourses 2014.

Regulatory and cost/benefit discourse decreased in 2014.

Significant discourses were also around More/eternity and consultation.

2014 saw the narrowing in on GMB PNC as the pro SG voice, and an equal mix of voices opposed to SG.

Boulton's H3 (Issues/Pūkeko) continues to be prominent as reports and protests closed out and indicated a withdrawal of SL.