Policy Change in Renewable Energy Projects: A Case Study of the NECEC Project

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Abstract. As countries face higher environmental and political pressure to combat climate change and accelerate the energy transition, hydroelectricity has secured its place as the prime candidate for a reliable and clean alternative to fossil fuels. However, the expansion of hydroelectric infrastructure has seen protests from local coalitions of preservationists and angry citizens, sometimes aided by the deep pocket of energy competitors, leading to the termination of several projects. This paper seeks to better understand this dilemma between ambitious climate goals and local opposition by analyzing the ongoing case of the NECEC, a hydroelectric transmission line proposed by a Hydro-Quebec-CMP partnership to deliver electricity from Canada to Massachusetts, US via Maine. The case study follows the theoretical foundation of the Advocacy Coalition Framework (ACF), a long-standing and empirically supported theory of public policy that emphasizes the role of coalitions in translating beliefs into policy change. In addition to confirming the framework's usefulness in explaining highly contentious cases, this study also provides critical insights into how coalitions spread favorable information, the strategic choice of political instruments, the partisan composition of coalitions, and the added complexity of involving a foreign company. To smooth out future large-scale projects, the paper makes recommendations for decision-makers based on bipartisan public engagement with community embeddedness, as well as better project design regarding fair compensation and reduced visibility.

Keywords: Advocacy Coalition Framework, policy process, Hydroelectricity, NECEC, Hydro-Quebec.

1. Introduction

Since President Biden rejoined the Paris Climate Agreement, the US has committed to significantly increasing investment in clean energy infrastructure and boosting renewable energy capacity [1]. According to Princeton's "Net-Zero America" research, in order to reach the 2-degree cap of carbon emission set by the Paris Climate Agreement, the US will need to triple its investment in clean energy infrastructure by 2050 [2]. However, though most Americans agree with the progress of energy transition toward renewable energy, several such projects have been halted due to public protests from local preservationists, concerned citizens, and occasionally rival energy companies, citing ambiguous financial benefits, inconvenient siting locations, unpleasant experiences with utility companies, etc. The opposition to large-scale projects based on environmental concerns is hardly a new phenomenon. Still, the policy change against successfully negotiated projects presents a curious case where two environmental camps, renewable energy supporters and preservationists, are pitted against each other, and sometimes an alliance that unites environmental groups and fossil fuel energy companies is created. This epitomizes a dilemma in energy transition: while large and bold infrastructure is needed to move the country closer to its decarbonization goal, local interest in preservation and the "not-in-my-backyard" reasoning sometimes force policymakers to change their minds. Therefore, to ensure future similar projects' success, it is vital for decision-makers to gain a complete understanding of the dynamics behind the conundrum.

The Advocacy Coalition Framework (ACF) provides a holistic approach to examining how coalitions within a policy subsystem propel policy changes [3]. The basic units are coalitions and their belief systems, as mediated by outer parameters and changeable societal conditions. The upsides of applying ACF to this case are three-fold. First, the framework is most suitable for analyzing highly

contentious cases due to its focus on inter and intra-group dynamics in influencing policy changes. Second, the framework offers an opportunity to view the unfolding of the events as an ongoing cyclical process. Because this paper concerns an evolving case currently under court review, repeated patterns and fluctuations are expected and should be taken into account. Third, over the years, the long-standing framework has garnered empirical support from a significant amount of research that spans different political systems and academic fields, providing a solid theoretical foundation for the analysis of this case [4].

Maine's controversial hydroelectric transmission line project offers a suitable opportunity to explore a recent and evolving case having experienced stages of policy change using the ACF. The project was targeted by preservation groups and rival energy companies that sought its termination. Though the opposition won with an 18-point margin in a referendum, both sides are currently mounting legal challenges to decide the project's fate.

Because this paper turns its focus to an ongoing case, its contribution first and foremost lies in its timeliness. Existing qualitative or quantitative research on the NECEC project is scarce. The few analyses take a wide range of interests in the case, from political to legal to socioeconomic. For example, both Gagnon & Cloutier-Roy, and Pied analyze the case from the perspective of rural voters in a post-Trump era [5,6]. Gagnon and Cloutier-Roy underscore the internalized economic nationalism resulting from US-Canadian trade friction pushed by Trump's criticism of NAFTA and its replacement USMCA, whereas Pied emphasizes the bipartisan distrust and frustration in big corporations manifested as resistance to the project. The unit of their studies is a subset of stakeholders within the larger policy system. This micro-level analysis allows for a more pinpointed perspective of understanding the interest and its origin of a specific group of people but risks losing an integrated outlook of the evolving events from the vantage point of macro-level analysis. What is also missing is a deliberate effort to view the conflict as a policy-changing process. Hopefully, this paper will fill these gaps by directing more attention to the potential impact of a large-scale environmental project like NECEC and starting a conversation on better governance at a time when increasingly urgent environmental interventions are needed.

The rest of the paper is divided into the following sections. It starts with an introduction of the theoretical foundation, the Advocacy Coalition Framework (ACF). The next part provides an overview of the NECEC case, including its background, the opposition mounted against it, the Maine referendum, and the resulting legal challenge. This will be followed by a detailed analysis of the case through the lens of ACF, elaborating on the societal constraints facing the stakeholders, the coalitions they form, the strategies they employ, ensuing policy change, and the cycle of actions. The next section discusses the generalizable lessons learn from this case and makes recommendations on how to prevent similar future pitfalls in environmental governance. The paper ends with a brief conclusion that summarizes the research.

2. Theoretical Foundation

Developed by Paul Sabatier and Hank Jenkins-Smith in 1988, the Advocacy Coalition Framework (ACF) seeks to explain the dynamic between coalitions that leads to policy changes, especially when the problems involve conflicts among groups on different levels [3]. A reproduction of the 2007 edition is shown in figure 1 [4]. The ACF starts with the assumption that external forces, including stable parameters and unstable factors, delineate the status quo by laying out constraints and resources facing specialists within a policy subsystem, the primary arena of analysis that encompasses stakeholders, a policy issue, and the institutions they interact with, usually within a given geographic location [4]. Relatively stable parameters concern the political, socio-economic, and legal foundation that remains fixed for a long time and is largely immune to external influences. External (system) events represent the more fluid conditions on which coalition members base their operations. These stable and unstable external factors mark the constraints and resources outside of the policy subsystem.

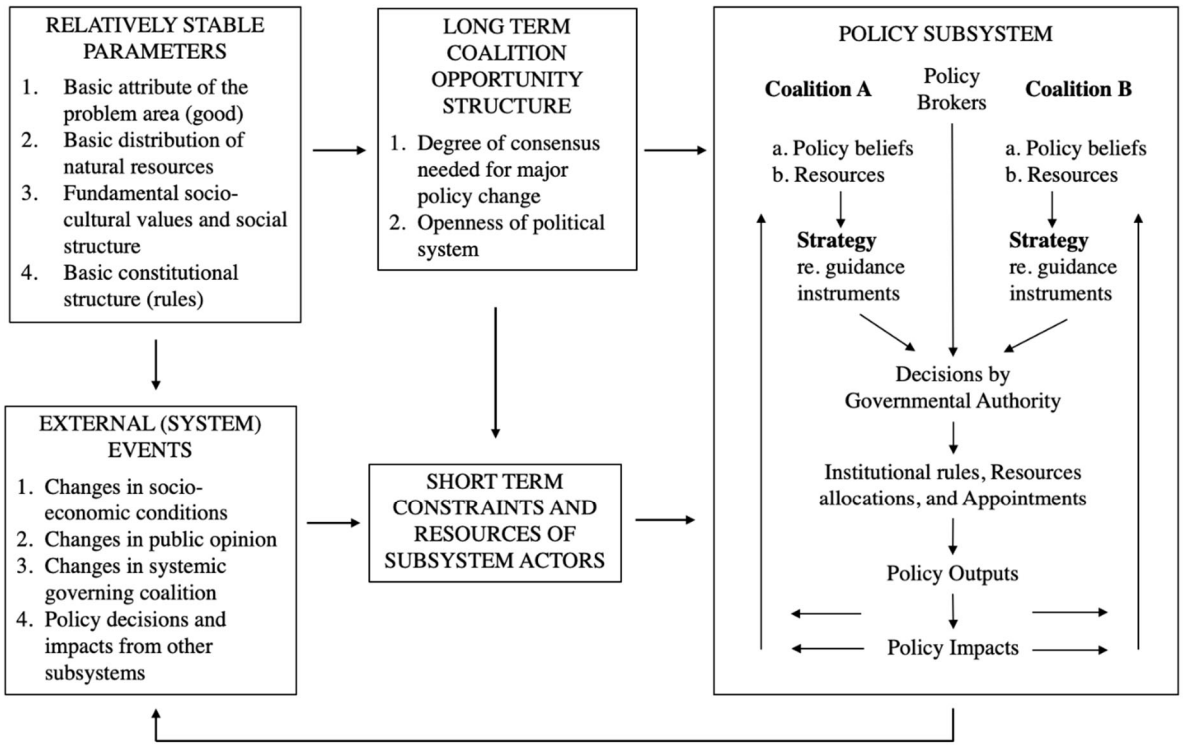


Fig. 1 The 2007 updated version of the Advocacy Coalition Framework [4]

The ACF proposes that the best way of understanding these specialists' influence on policy change is to examine them as "advocacy coalitions." Advocacy coalitions subsume not only traditional decision-makers such as legislators, politicians, interest group leaders, and lobbyists but also researchers, intellectuals, and bureaucrats. They are highly specialized experts who form coalitions based on a common set of beliefs and seek to apply their expertise to influence policy change. The framework suggests identifying two or three coalitions within one policy subsystem, where major coalitions with better access to resources compete and negotiate with minor coalitions striving for relevance. It is the competition among these coalitions that characterizes the process of policy change.

Unity within each coalition and dynamics among coalitions hinge on the coherence of their shared beliefs that are largely immutable because actors engage with policy issues with cognitive bias that confirms their existing ideals while dismissing the evidence to the contrary. They also tend to see opposing coalitions with hostility and thus are less likely to cooperate, a phenomenon the framework termed "the devil shift." The compounded effect of these perceptual filters prolongs conflict while strengthening internal bonds, resulting in an elevated reluctance to change beliefs and a continuation of conflicts between coalitions.

However, the ACF also notes a hierarchy within one's belief system, the lower tiers of which are easier to alter. Deep core beliefs about ontological principles such as equality and individualism reside on the highest level in a belief system. Policy core beliefs are on the intermediate level. These beliefs manifest one's deep core beliefs within a policy subsystem. Examples of policy core beliefs include the relative strength of government within a market-oriented country, the reach of the welfare system, and the scope of self-governance. It is important to point out that deep core beliefs and policy core beliefs do not always align ideologically. Though slightly more flexible than deep core beliefs, due to their nature of covering the entire policy subsystem, policy core beliefs are also hard to change. The lowest tier of beliefs is secondary beliefs. These can be found in specific policy preferences in project guidelines and the application of broader policies within a particular locality. These beliefs are the most mutable as they are narrower in scope and are more tractable in practice.

Changes in policies are achieved through policy-oriented learning, external perturbations, internal shocks, negotiated agreements, or their combinations. The framework differentiates between major and minor policy changes. Policy-oriented learning is associated with changes in secondary beliefs

based on knowledge dispersed and adopted over a long time and is therefore usually used to explain minor policy changes. The other three pathways can all trigger potential alterations in policy core beliefs that lead to major policy changes. External and internal perturbations both require shocking events that would bring about shifts in public attention, resource allocation, and agenda-setting. Examples of external events include regime change, environmental disasters, and economic recessions. On the other hand, internal shocks such as policy failures and political scandals must originate within the subsystem and generally have a more direct effect on policy change. When facing persistent policy stalemate, coalitions are more inclined to resort to negotiated agreements that require cooperative commitment to reach mutually beneficial results. These windows of opportunity, if captured by the right policy entrepreneurs, can topple dominant coalitions or give rise to minor coalitions, resulting in policy changes.

Alterations in policies are codified by government decisions via a variety of instruments, such as institutional rules, resource allocations, and personnel appointments, which in turn generate policy outputs and impacts through practice. Over time, these impacts would inspire new or renewed coalitions that pursue policy changes to take action. Therefore a cycle of coalition-forming, strategy-employing, decision-making, and impact-defining perpetuates within a policy subsystem.

Since its inception, the framework has undergone modifications every few years in response to its criticisms. For example, the 2007 edition added the Coalition Opportunity Structure that took into account non-American regime types with regard to the openness of their political systems and differing degrees of consensus [3]. A detailed explanation of coalition resources available to specialists was also included. Over the years, through continuous academic collaboration, the ACF has garnered significant empirical support from various authors in a wide array of fields, including feminist studies, drug policy, education systems, and environmental governance. The strength of AFC as an approach to studying policy adoption and policy change can thus be well demonstrated.

3. Case Study

3.1 Case Description

The New England Clean Energy Connect (NECEC), also known as the CMP Corridor, is a power-transmission project proposed by a partnership of Hydro-Quebec and Central Maine Power (CMP) to provide the New England region with renewable energy for 20 years. This transnational project was negotiated in accordance with Massachusett‘s aim to reduce greenhouse gas emissions by 50% by 2030 and its dependence on fossil fuels. The proposed transmission line is to be 336 kilometers (209 miles) long in total, 233 kilometers (145 miles) of which, known as the New England Energy Corridor, will be constructed within the US [7]. Running from Thetford Mines, Que. , through Lewiston, Maine, and eventually reaching Boston, Massachusetts, the planned project would deliver 1,200 megawatts high-voltage direct current (HVDC) electricity from Canada to the US. According to Maine Public Utilities Commission, the project would merit a reduction of 3.6 million metric tons in greenhouse gas emissions yearly, the equivalent of eliminating 700,000 gas-fueled cars from the road [7]. In this sense, argued Hydro-Quebec, the environmental benefit of NECEC would be widespread regardless of where its end customers locate.

The NECEC initially had support from the Biden administration and the governor of Maine, Janet Mills, as the administration committed to significantly expanding the clean energy industry and encouraging energy market integration [8]. Hydro-Quebec acquired all the permits from different US authorities by January 2021 [9]. Wary of public backlash due to a previously botched program in New Hampshire, the company anticipated resistance and conducted interviews with local stakeholders as part of their project optimization process, making several modifications to the locations and timing of the project [10, 11]. But the support from the government quickly gave way to popular dissent as the construction of the transmission line in Maine attracted opposition from environmentalists and energy competitors. The main argument of the coalition was that in-state benefits would not be large enough to justify the costs. Because the primary customers of the project are further south in

Massachusetts, the discounted electricity that runs through the line would not be available to the state's residents. The incentives offered by Hydro-Quebec in the form of EV charging stations, high-speed internet, and heat pump subsidies only amount to $258 million for Maine, while the profit for the company is estimated to be 10 billion [7]. Nationalistic sentiment also fueled the debate. The protectionist public outcry opposed a foreign utility company taking charge of generating and delivering utility instead of bolstering locally created and operated projects. Making things worse is the long-standing unreliable reputation CMP, the project's US partner enjoys among many Mainers, who complained about poor customer service and a history of overcharging [12].

On the other hand, preservationists' focus has been on the 85 km (53 miles) transmission line that would cut through a forest in northern Maine [7]. They argued that the loss of a pristine forest and wildlife would outweigh the project's benefits in cutting carbon emissions. Surprisingly, three other energy companies -- NextEra Energy, Vistra Energy, and Calpine, in the natural gas and nuclear business also joined the alliance as they sought to curb competition from the clean energy industry. With the deep pocket of these energy companies, this ongoing controversy has seen record spending from both sides on marketing campaigns. A combined $27 million from the energy companies was spent trying to defeat the project, whereas Hydro-Quebec and CMP expended more than $64 million in support of the transmission program [13]. Heated debates inundated Maine's public media space and galvanized public participation on social media, public gatherings, and town hall meetings.

Activists eventually took the case to court. In an earlier legal battle, the state court struck down the project on the ground of lacking authority to construct on a 1.6 km stretch of public land in West Forks, Somerset County, in August 2021. The court argued that according to state law, rather than leased out by the executive branch, construction on public land needs to be approved with a two-thirds majority in the state legislature [7]. Many activists saw the ruling as a partial win. But despite the legal problem, construction in other parts of the state was still underway. Workers have been felling trees and mounting poles, further irritating many opponents.

The public sentiment is similarly mixed in Canada. In Quebec, the project is touted as a nationalistic win. The state-owned utility company has been capitalizing on the energy transition trend by expanding its investment in clean energy infrastructure and seeking interconnection with states south of the border. The Canadian government gave the final permission for the transmission line's construction in May 2021[14]. But First Nations have long opposed Hydro-Quebec's projects, including the construction of three hydro dams. They argue that they were neither consulted nor compensated by the company for flooding their ancestral land [15].

All the challenges and opposition culminated in a statewide referendum held on November 4, 2021. Colloquially known as Question 1, the referendum saw Maine voters reject the project 59-41, though with only a 38% voter turnout. Campaigns for the referendum were calculated to have cost $90 million from both sides, making it the most expensive referendum in Maine's history. Construction on the transmission line in Maine was since halted, and progress slowed down in Quebec. The company would lose $536 million if the project were scrapped, having already spent $450 million on the existing operation. However, the referendum did not mark the end of the legal battle between activists and the hydro-power company. On Aug 30, 2022, Maine Supreme Court sided with Hydro-Quebec and ruled that the referendum was unconstitutional, citing its retroactive nature. The case has now been sent back to a lower court where a decision would be made to determine the project's fate. Hydro-Quebec has vowed legal challenges to keep the project alive [13]. With neither side ready to back down, the future of the NECEC is in flux.

3.2 Case Analysis

The complex interactions among decision-makers, advocacy groups, and rival interests regarding the NECEC case can be untangled through the guidance of the Advocacy Coalition Framework. The following analysis will examine different elements of the framework and their interconnection.

3.2.1 Relatively stable parameters

Relatively Stable Parameters are well-established rules and structures reflected in the status quo. Two stable parameters are relevant to the NECEC's case: the political instrument of the referendum and Mainer's connection to their land.

The availability of referendums is the first stable parameter. A referendum, otherwise known as a veto referendum, is a citizen-initiated ballot measure where, if successful, citizens can stop the law passed by the state legislature from being enacted after enough signatures are gathered [16]. Whereas lawmakers refrain from initiating this form of direct democracy on the federal level, twenty-three states currently have veto referendums. Maine passed the amendment regarding referendums in 1908. Referendums allow ordinary citizens to organize around common causes and circumvent the often cumbersome legislative process to stop a law from being implemented. In this sense, a referendum can be seen as a political instrument that favors popular dissent by allowing minorities to leverage their limited resources against large corporate and institutional interests. Perhaps wary of the tyranny of the majority, the US government never called a nationwide referendum. Yet its popularity among individual states can testify to how powerful of a political instrument it is.

A second parameter is Mainers' strong sense of connection to their land. Maine's vast rural landscape not only adds to its natural appeal but is also the backbone of its rural economy, which provides cultural, agricultural, and recreational opportunities. Many Mainers hail the state's vast rural landscape as a sanctuary from the ever-sprawling urbanization and industrialization. Furthermore, research shows that a loss of such landscape translates to a loss of sense of place and local identity. Therefore, it is not surprising that their resulting negative view of the development of natural landscapes is associated with a higher possibility of engaging in preservation and planning activities [17]. The preservation of Maine's natural landscape protects not only its forests, rivers, and wildlife but also Mainers' way of life.

3.2.2 External (system) events

External events represent the less stable factors affecting the availability of resources to stakeholders. Two interrelated aspects regarding public opinion are important to this case: Hydro-Quebec's past failures and energy nationalism.

Hydro-Quebec's history of exporting renewable energy to the US can be traced back to the 1980s. Yet these forty years also saw projects terminated due to a variety of reasons. The contract extension of the Great Whale project of 1992 was denied due to a lack of consideration of Canada's indigenous population that resonated with the overseas market. In 2008, with concerns over forest conservation and the local renewable market, as well as a "not in my backyard" mentality, the Northern Pass was scrapped in New Hampshire [11]. It is important to note that many of these problems are recurring ones that can be observed in the NECEC case and would continue to disrupt ongoing and future projects. Learning from past failures, Hydro-Quebec needs to anticipate roadblocks and take proactive measures in upcoming projects.

Interestingly, NECEC did not fare better than some other Canadian "dirty energy" projects. For example, Phase Four of Keystone Pipeline XL, which would have significantly expanded oil delivery capacity to the US, also faced strong headwinds from environmentalists for years and was eventually canceled [18]. It seems that Hydro-Quebec's green pedigree does not help differentiate it from other Canadian projects, indicating that the root of the opposition may lie beyond environmental concerns.

The spreading protectionist sentiment against foreign influence can account for some of the animosity. In addition to Hydro-Quebec's Canadian origin, its local utility partner, CMP, is also owned by a Spanish company, Iberdrola [12]. Its unreliable services engendered disappointment in many consumers, setting up an unfavorable backdrop for NECEC's operation. As the previously abandoned project in New Hampshire demonstrates, the introduction of a foreign utility project is increasingly deemed by many to be a betrayal of local interests as the contract could have gone to local solar and wind companies. Adding to the fact is that the Trump presidency saw many anti-free trade narratives resonating with voters near the US-Canadian border, and Maine's rural population is

also primed with this sentiment [5]. Therefore, high-profile foreign projects would quickly become easy targets if economic nationalism was strong and in-state benefits were not well-defined.

3.2.3 Coalitions and belief systems

Coalitions holding different beliefs are the central players in a policy subsystem. In this case, three coalitions, one major and two minor can be identified. The major coalition, or the establishment coalition, consists of proponents of the project, including Hydro-Quebec, CMP, Maine Governor Janet Mills, Massachusetts Governor Charlie Baker, and proponents in the legislature. Their policy opponent, the first minor coalition, is made up of preservationists, local branches of national environmental interest groups such as Environment Maine (Environment America's local branch) and Sierra Club's Maine Chapter, local interest groups including the Natural Resources Council of Maine (NRCM), and some state legislators like Senator Rick Bennett [12,19]. They are thus called the activist coalition. The three energy companies, NextEra Energy, Vistra Energy, and Calpine, form a separate energy coalition because they do not share their later allies' core beliefs but are instead guided by self-interest to sabotage their competitor's potential gain.

For the establishment coalition, their deep core belief is combating climate change, which is consistent with the Paris Climate Agreement's decarbonization goal. The coalition's policy core belief is that investment in renewable energy and clean energy infrastructure is essential for the energy transition that would wean America off fossil fuels. Other renewable energies with less environmental impact, like solar panels and wind farms, are less reliable due to the uncertain nature of the weather. Thus the coalition's secondary belief can be spelled out as wanting Hydro-Quebec to fill the gap in the electricity supply considering its dependable generation and storage capacities.

The activist coalition's deep core belief views nature as having intrinsic value beyond tangible benefits. This core belief is contextualized in policy core beliefs as that conservancy is a worthwhile cause and that the construction of the transmission line is incompatible with the preservation effort. The opponents' secondary belief is that the best way to preserve nature is by removing the project from Maine altogether. More specifically, their arguments rest on four pillars: exaggerated carbon-cutting benefits, destruction of local forest and wildlife habitats, loss of local renewable jobs, and under-compensation to the Maine people.

The energy coalition presents itself as an anomaly in the framework since ACF emphasizes the power of shared beliefs, rather than self-interest, in forming coalitions. The three rival companies never tried to align themselves ideologically with their allies. Instead, they act as financial backers that fund the opposition campaign. At one point, they argued that hydroelectric generation is bad for the environment, but no one seems to have been fooled by their pretense.

It is important to note that although both the establishment and the activist coalitions start from a sustainability-related deep core belief, they branch out into two opposing policy core beliefs with conflicting interests. Add the energy coalition to the mix, and a muddier pattern that defies the traditional liberal-conservative dichotomy emerges. This further speaks to why these coalitions consist of people from both sides of the aisle and can gather support from experts across the board.

3.2.4 Resources and strategies

The 2007 addition to the original framework enumerated six types of resources available to policy experts. Four of them are of particular interest to this case, formal legal authority, public opinion, mobilizable troops, and financial resources. Coalitions strategically deploy their resources to gain an edge over their opponents.

Formal legal authority refers to the inclusion of legal experts, such as legislators, judges, and agency officers. The establishment coalition consists of dominant political figures with access to the decision-making process in the subsystem, which places them in a much more powerful position than their opponent. Having negotiated the project, former Governor Paul LePage fully backed the project from the beginning [5]. Though from a different party and showed initial skepticism during her campaign for the governor, his successor Janet Mills also became a staunch supporter of the project after she took office in 2018 since the project lines up well with her top agenda to promote renewable

energies. The governor of Massachusetts, though not ostensibly involved in the project, is equally motivated by an aggressive desire to find renewable alternatives, having pledged to cut carbon emissions by 2030 and reach net zero by 2050, and was the reason the Maine section exists in the first place [5]. Ordinarily, lobbying these decision-makers would be a major strategy utilized by those seeking legislative access, but because the referendum enabled the opponents to bypass the legislative process by subjecting the project to (a small part of) the public's preference, the need to lobby legislators was significantly reduced.

Though mostly made up of interest and advocacy groups, the activist coalition also found cross-partisan support through proposed bills. The project's most prominent opponents are Republican state senator Rick Bennet, Democratic Representative Kyle Bailey, and independent Representative Walter Riseman, who sponsored a bill prohibiting foreign companies from spending money to influence state ballot campaigns [20]. As the most vocal critic of the project, Bennet lashed out at the Maine Chamber of Commerce for its unfair involvement that gave Hydro-Quebec preferential treatment during testimony before a Congressional committee in 2021. The bill is pending action in the state congress, but it has galvanized enough voters to show up in public hearings and gatherings and later turn out to vote in the referendum. However, a critical caveat of employing this strategy is the possibility of backfiring if the close relationship between the authority and lobbyists resulted in scandals.

Public Opinion can make or break a campaign and is especially important in this case because much was hinged on a high-profile referendum. All coalition members recognized and sought to weaponize public sentiments. Common channels to spread awareness and engage the public on both sides include TV ads, media appearances, billboards, Webinars, press conferences, press releases, call-out meetings, and even yard signs. The fiercest battle took place in paid commercials, where both sides accused the other of intentionally spreading false information about the project. More heated commercials portrayed the other side as mouthpieces of out-state financial interests but at the same time relied on the deep pocket of big energy companies themselves [15]. Researchers also played an important role in releasing publications evaluating the project as coalitions attempt to establish objective authority. But some research's impartiality is called into question. Responding to Hydro-Quebec's claim of decarbonization benefits, an Energyzt report, commissioned by NRCM and funded by Calpine, concluded that the hydroelectricity provided by the company might not reduce carbon emissions because the increased electricity supply might require Hydro-Quebec to divert energy from other markets or purchase electricity generated by high-carbon means [21].

In the months leading up to the referendum, the activist coalition was pushing a narrative that emphasized the loss of pristine nature in their TV ads that aroused a sense of fear and mournfulness by showing untouched rural landscapes and wild animals like trout and deer while reminding viewers of potential damage should the referendum were to fail [22]. The debate in the public discourse was sometimes characterized by information of dubious quality. For instance, as the narrative that the NECEC was a "bad deal for Maine" gradually gained footing among the concerned citizens, some of them raised the issue of whether Hydro-Quebec would burn coal to supplement their energy generation in a public hearing, an argument pushed by interest group research but rejected by Hydro-Quebec as misinformation. Supporters, on the other hand, argued that allowing the court to rule on the retrospective nature of the case would risk the judicial doing the same to gun rights [12]. Nevertheless, the narrative that capitalized on the public's fear of loss and anti-corporate sentiment caught on and was able to mobilize these citizens to appear in public gatherings and at the voting booths. After the referendum and in the weeks prior to the August 31 court decision, both sides continued their exchanges in the local press. Rep. Nathan Wadsworth wrote an opinion piece in the Maine Wire denouncing the "shady tactics" used by NextEra to try to influence the referendum. Citing some voters' "buyer's remorse" after seeing their energy bills soar by 83%, he concluded that public trust in the information is misguided and can eventually hurt consumers [23]. Several days later, matching the anti-foreign influence agenda, Sen. Nicole Grohoski, and Rep. Nathan Carlow, a bipartisan duo, wrote a commentary column for Portland Press Harold on Aug 17, stating that foreign companies are spending millions to "stifle the voices of Maine voters [24]." They also pledged to

seek another citizen initiative in 2023 to close the legal loophole. These attempts to sway public opinion exemplify the intergroup "devil shift" that treats the other side with distrust while increasing in-group cohesion with one-sided evidence strengthening the coalition's position.

Mobilizable troops are deployable manpower that can be used to disseminate information and raise public awareness of a coalition's position. Grassroots coalitions favor this type of inexpensive resource in particular. The activist coalition leans heavily on the physical presence of public support from the beginning. For instance, a dozen members representing the Yes on one campaign (formerly known as No CMP Corridor) gathered weekly in front of the Farmington Post Office in Franklin County to educate the public about the project. It was also this group that secured enough signatures to initiate the referendum [25]. In the week leading to the vote, citizen activists have been especially active. Sunrise Movement, a youth advocacy group that also opposes the project, was seen holding a last-minute rally in the same county. The troops' enthusiasm was undiminished after the court ruling. Activists in Augusta County started a rally outside its Civic Center to protest the court's decision [26]. Their presence in public space increased the visibility of the case and further raised the stake for the establishment coalition as they attempted to react to public dissent.

Financial resources are necessary to fund campaigns and are arguably the most vital resource available to a coalition. Though the activist coalition primarily consists of local volunteers and citizen advocacy groups, it would be wrong to think that the conflict between the activist and establishment coalition is a battle between David and Goliath. In fact, both sides formed Political Action Committees (PACs) backed by financial juggernauts. According to the official record, companies from the energy coalition contributed close to 28 million in support of the referendum. NextEra Energy spent more than 20 million, and Vistra Energy and Calpine each gave about 3 million. On the other side, the proponent PAC raised 48 million from CMP and received 20 million from Hydro-Quebec, a combined contribution of approximately 70 million [27]. The support of big money does not ostensibly change the nature of the activist coalition, which is more than willing to position itself as the underdog to connect with the public. Their alliance with the energy coalition has thus always been obscured in the public realm. Their strategy of underscoring the anti-corporate resentment also deems it inappropriate to reveal its financial source.

3.2.5 Policy change and impacts

Due to its ongoing nature, the current state of the case does not render a final verdict on policy change. But the preliminary policy change brought about by the referendum indicates the effect of internal shocks on changing core beliefs. Occurring inside the policy subsystem, the referendum ended up elevating the activist coalition's status by affirming their core beliefs that conservation has value beyond its face value and that the project is a misdirected effort to solve the energy problem. Their victory may sway public opinion and soften some of their opponents' stances, both of which can be capitalized on for future strategies. On the other hand, while the court has not announced the utter defeat of the transmission line, the establishment coalition could be facing internal doubts about their faith in the NECEC. The framework suggests that although their core beliefs, fighting climate change and investment in clean energy infrastructure, are highly unlikely to be compromised, their secondary belief in the viability of the hydro-Quebec project is more susceptible to change. The potential impact of this internal shock is going to depend on whether the establishment coalition attributes the defeat as the result of the inefficacy of the project or unreasonable local interest standing in the way of a public good. However, the potential modification in their secondary belief will be manifested in further policy outputs that still await further legal verdicts.

3.2.6 The cycle and predictions

With the court ruling on the unconstitutionality of the referendum, a new cycle of strategizing, disputing, and negotiating by all three coalitions would be once again underway. After the referendum yielded an unfavorable result, the COO of Hydro-Quebec's US operation, Serge Abergel, immediately expressed his disappointment and committed to further legal actions to save the project [12]. To many in the establishment coalition, the opposition's victory in the Maine referendum was

an illustration of local interests being hijacked by big energy companies while helping their misguided agenda and eventually benefiting no one. But to others voting Yes to Question 1, it was a triumph of the people defending their land over a long-resented international corporation.

The highly contentious situation before the referendum remains, but another referendum that rests the fate of the project on pubic preference is unlikely. Therefore, anticipating a court resolution, the newly empowered minor coalitions might rely less on public opinion and instead turn to legal challenges and lobbying to optimize their resources. Their success is also going to be highly dependent on the continued financial support from the energy coalition. If the activist coalition considers its association with the energy coalition no longer beneficial, or the energy coalition deems it not financially viable anymore to fund further campaigns, the alliance will break off and create two much-weakened coalitions. In contrast, the establishment coalition, fueled by Hydro-Quebec's money, can gather support from more legal authorities also through lobbying, or in the case of a stalemate, initiate negotiation by modifying the terms of benefits to local communities or improving some technical aspects of the transmission line to make it less visible and impactful. Yet another possibility would require the involvement of federal authority to either act as a policy broker or join the establishment coalition by passing legislation such as the Streamlining Interstate Transmission of Electricity (SITE) Act to regulate the location of transmission lines on the federal level, instead of leaving the decision to individual states [28]. Regardless, as the cycle continues, actions and counteractions from all sides will attempt to create opportunities for further policy changes aligned with their belief systems.

4. Discussion

This section will discuss some lessons in analyzing policy change through the lens of the Advocacy Coalition Framework. To answer the normative question of what decision-makers should do to prevent future frictions in projects like the NECEC, some policy recommendations are also prepared for their consideration.

4.1 Generalizable Insights

The above analysis has demonstrated the usefulness of the Advocacy Coalition Framework in understanding policy change. Most of the case study is consistent with the framework's hypotheses, and this analysis joins its numerous research predecessors in advancing the explanatory power of the framework while highlighting some important insights specific to this case study.

First, because members of coalitions are not fully rational, they engage in cognitive biases that confirm their existing beliefs and discount contradictory evidence. While the framework emphasizes these biases in forming core beliefs, they also impact how members process and disseminate information. For one, they make it particularly difficult to spread objective information about the project since any impartial and trustworthy research or expert testimony released by the opposition would be dismissed as mere opinions or, worse, fake news. The collective effect is a more opaque public discourse environment where more information does not contribute to a clearer understanding of the policy matter but rather strengthens existing biases and enhances hostility toward the other side. This polarizing effect is amplified in a digital age where many interactions take place on social media platforms that encourage the bonding of people sharing similar belief systems. Many callout activities organized through Facebook groups used the platform as a direct conduit that transfers online information-sharing to offline activities. This online-offline interaction results in a reduction of costs in developing coalition membership and mobilizing troops but is also going to lead to more conflict-prone coalitions.

Second, choosing the right instrument that matches the strengths of a coalition is key to eliciting a policy change. Rather than putting all their resources into lobbying lawmakers sympathetic to the preservation cause, the activist and energy coalitions resorted to a referendum that would hand the fate of the transmission line to the state's people. A referendum is usually deemed conducive to

educating and engaging ordinary citizens on technical or niche matters. Using a referendum, therefore not only allowed opposing coalitions to influence policy change in a more direct way but also offered a relatively blank slate for the resistance to organize rhetoric, develop members, and mount opposition against their powerful rival coalition. Aided by the viral spreading of information, the bottom-up approach capitalized on the coalition's grassroots origin, the high visibility of the project, and its salience on the political agenda, eventually, albeit temporarily, claiming victory that shook the establishment.

Third, coalitions do not always follow partisan lines and unusual alliances are sometimes more powerful than their divergent ideologies suggest. Both the establishment and activist coalitions are cross-partisan in their compositions. Coalitions with bipartisan support could potentially bypass the entrenched partisanship to reach out to the opposite side by providing an opportunity to frame the issue in a more palatable manner. It also helps to add legitimacy to the coalition's position. However, the long-term effect of such coalitions on ingroup stability and loyalty needs to be better understood with further research. But overall, policymakers should not presume the support of a certain group based on long-standing party affiliation.

Fourth, the participation of a Canadian company adds a layer of foreign influence to the subsystem. On top of the suspicion of multi-billion companies harbored by many rural residents, Hydro-Quebec and CMP's foreign origins are subject to increasingly closer scrutiny since the Trump presidency. Summoning supporters with a nationalistic precept, the activist coalition further diversifies its secondary beliefs and expands its available strategies to push its agenda beyond preservation concerns. Also, because foreign companies can be restricted by law in influencing the outcomes of ballot initiatives, proponents will face added risks if conflicts get heated. In the end, the NECEC case tells a cautionary tale of new frictions between two long-standing trade partners.

4.2 Deviations From the Framework

These insights notwithstanding, the case study also runs into some deviations from the theoretical base. The energy coalition's self-interest presents the first challenge within the framework. While the ACF states that policy specialists are guided by beliefs and an urge to translate their beliefs into policy decisions, the three energy companies did not seem to have followed any ideals but were instead motivated by self-preservation, a form of self-interest. Many citizens‘ worry about being undercompensated was also captured by interest groups. The cooperation between the energy and activist coalition is, therefore a marriage of convenience as one needs money and the other needs actions. This ambiguity between self-interest and belief in categorizing coalitions' motivations is consistent with the many criticisms pointing toward the ACF from researchers in different fields over the years [29]. This study stresses the distinction between such interest-driven coalitions and belief-driven coalitions, the resources and strategies at their disposal, and their impact on inter-coalition actions. However, if future studies need to take on a scope beyond the parameters of the ACF, a different theoretical approach, such as Cultural Theory which emphasizes political culture in shaping people's views and the ways they engage in civil activities and downplays the determining role of belief in forming coalitions might be added to supplement the ACF [30]. A second deviation is about the trigger for policy change. Because the internal shock as a precondition to policy change was not in the original version of the framework and its description in later editions was somewhat vague, this case analysis allows an expanded understanding of a particular internal shock. Though categorized as a "pathway to policy change," the referendum did not definitively lead to a policy change and instead brought up an uncertain state where coalitions regroup, and new opportunities are up for grabs. As such, it is necessary to further study the causal relationship between internal shocks and policy change.

4.3 Policy Recommendations

To establish a pragmatic link from theoretical framework to policy practices, some policy recommendations are prepared. For many large-scale projects, great energy ambition often comes down to local operation, but when the two clash, what policy instruments are available to policy-

makers? The question can be answered in two directions. First, from a public engagement perspective, as the most recent two Hydro-Quebec projects illustrated, much of the public's dissatisfaction comes down to the utility company's present standing with local residents. Thus more attention needs to be paid to public involvement before an undertaking is approved. As part of the preventative effort, a broad spectrum of stakeholders, preferably cross-partisan in nature, needs to be included to ensure the pro-project coalition gets maximum support. It is also essential that different interests perceive themselves as integral parts of the project to reduce their need to form opposing minor coalitions rather than negotiate with the current one. These guiding principles call for government agents and corporate liaisons to adopt a more embedded mentality and play the roles of community builders. Specific methods include initiating early public engagement sessions on the local level or setting up prior meetings with opinion leaders with high social capital within the community. Second, from a project design perspective, large-scale projects are intractable enough without stakeholder conflict. Sometimes the most cost-efficient solution on the map turns out to be exorbitantly expensive or utterly inoperable with siting problems. Consequently, it is essential for companies to present a clearly defined and fair compensation scheme, executed with empathy and transparency, as companies would not want to be seen as bribing locals into agreeing to the project. Additionally, to minimize disruption to local communities, future projects can consider avoiding building infrastructure that spans different jurisdictions or prioritizing localities with successful precedence and general support. But if the physical presence of any part of the project is inevitable, reducing visibility is also a potential solution. For example, in the case of NECEC, burying the transmission line might have diverted less attention from the community and attracted less opposition.

5. Conclusion

The analysis of highly contentious cases in policymaking remains challenging both for theoretical and practical reasons. This paper considers a recent and ongoing case, the NECEC transmission line, proposed by a foreign utility company and protested by local interest groups. The ACF's application to the NECEC case, including the consideration of external constraints, identification of opposing coalitions, accessible resources and strategies, and resulting outputs and impacts, gives structure to the case study by focusing on relevant elements and their interaction over time to arrive at a systematical study of policy change. More specifically, this analysis contributes to future research both from a case-based and theory-based point of view. NECEC is one of the many renewable energy projects in the New England region, where energy projects were carried out with varying degrees of success. Future studies can compare and contrast the NECEC with more successful projects in the same region to shed some light on why some projects succeed while others fail. With regard to the framework, this study points out the shortcoming of dismissing interest and the ambiguity of defining internal shock. To further strengthen the framework, more empirical testing is needed to determine whether interest should be included in the framework and the path through which internal shock leads to policy change.

Since the paper examines an evolving case, its timeliness also presents a challenge to the comprehensiveness of the study. While most research takes a long-term view of usually over ten years on the formation of a policy subsystem, the subsystem of renewable energy policy, especially regarding a foreign company, is relatively nascent and amorphous. The NECEC project has a life cycle of only five years and is still in development. Thus the preliminary policy change identified in the case study may only constitute a mere fluctuation of policy direction in a complete study. Treating the policy change as part of the cycle of actions takes into account that research is a work in progress. Still, follow-up studies are needed to gain a full understanding of the case and its impact on policy process literature.

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