

**PEOPLE, OFFSHORE WIND ENERGY, & GLOBAL SUSTAINABILITY
FRAMEWORKS: A MIXED-METHODS APPROACH TO ANALYZING PUBLIC
COMMENTS FROM THE REGIONAL ASSESSMENTS IN ATLANTIC CANADA**

By

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Abstract

Newfoundland and Labrador and Nova Scotia's offshore wind energy projects show the provinces' commitment to sustainable energy. Integrating the regional assessment into the projects' planning and implementation is essential for both provinces to achieve sustainable energy goals, ensuring environmental stewardship and social responsibility through inclusive development.

A regional assessment is a study conducted under the Impact Assessment Act in areas of existing or planned projects to plan and manage cumulative effects and project impacts. This approach could support the Sustainable Development Goals and the United Nations Declaration on the Rights of Indigenous Peoples, making it a vital tool for assessing the environmental and socio-economic effects of offshore wind energy projects in Atlantic Canada.

This study reviews public comments on the regional assessments of offshore wind energy projects in Newfoundland and Labrador and Nova Scotia based on their alignment with Indigenous rights and sustainability goals. The study used thematic and quantitative analyses to highlight the comments' alignment with sustainability frameworks.

The comments analysis uncovered mixed opinions from stakeholders. Some comments favored the projects for their sustainability and economic benefits. Others opposed or were neutral, expressing concerns about environmental impacts, economic benefits, and poor consultation with Indigenous Peoples.

The analysis also revealed that stakeholders engaged with SDGs and UNDRIP issues, but rarely mentioned specific goals or articles. For instance, Article 19- Free, Prior, and Informed Consent was mostly expressed, while other rights—governance, labor, cultural preservation, and protections for vulnerable groups—and SDGs 1- No Poverty and 2- Zero Hunger were largely absent, suggesting a need for better institutional communication to support comprehensive, meaningful engagement.

Moreover, the findings also uncovered a lack of meaningful, timely consultation with Indigenous Peoples, concerns about fair distribution of project benefits, like jobs and local investment, and the need for robust ecological assessments to protect marine and terrestrial ecosystems.

To improve the regional assessment process, the study recommends enhancing environmental safeguards and Indigenous-led governance to align projects with the SDGs, preventing the adverse effects of unsustainable practices. It also recommends the promotion of economic justice through benefit-sharing policies that support fair growth, community resilience, and self-determination, and the institutionalization of procedural justice through consent-based consultation (Article 19) to ensure Indigenous participation and reconcile state-Indigenous interests in offshore wind energy projects. Lastly, the study proposes prioritizing stakeholder-defined VCs to ensure inclusive, adaptive, and transparent alignment with community priorities and sustainability goals.

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Dedication

I dedicate my research dissertation work to my mother, Miss Comfort Armoo. Your unwavering love, endless support, and boundless patience have guided me throughout my education. This thesis is a testament to your sacrifices, encouragement, and belief in me. Your wisdom has shaped my journey, and your strength has been my foundation. I am forever grateful for your presence in my life and dedicate this work to you with all my love and gratitude.

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List of Acronyms

IA	Impact Assessment
IAAC	Impact Assessment Agency of Canada
NL	Newfoundland and Labrador
NS	Nova Scotia
OWEP-RA	Offshore Wind Energy Project Regional Assessments
RA	Regional Assessments
SDGs	Sustainable Development Goals
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
VCs	Valued Components

Chapter 1: Introduction

1.0 Increased interest in offshore Wind Energy and the Need for Regional Assessments

Offshore wind energy projects harness wind power from offshore locations to generate electricity, creating renewable energy (Blanch et al., 2018). There are two main types of offshore wind turbines. Fixed-bottom turbines are anchored to the seabed and suitable for shallow waters up to 60 meters deep, while floating turbines are secured with mooring lines and designed for deeper waters exceeding 60 meters (Butterfield et al., 2007; Musial & Ram, 2010). Multiple offshore wind energy projects are set to be developed in Newfoundland and Labrador (NL) and Nova Scotia (NS), marking a significant step towards a cleaner, sustainable energy future (Withers, 2023a). At the Canadian scale, Agu et al. (2023) note that Canada aims to generate 90% of its electricity from clean sources by 2035, with renewable energy capacity expected to grow, driven by wind and solar projects, to meet its 2050 net-zero goals. Net-zero emissions are a balance between greenhouse gas emissions produced and those removed from the atmosphere (Fankhauser et al., 2022).

Similarly, the Canada Energy Regulator (2023a) provides projections for energy demand, greenhouse gas emissions, and electricity generation based on assumptions about economic activity, technology adoption, and policy measures from its Energy Future 2023 modeling data. The modeling explores potential futures under several scenarios. These include the Current Measures Scenario, which assumes no new climate policies after 2030; the Global Net-zero Scenario, which models a path to net-zero emissions by 2050; and the Canada Net-zero Scenario, which focuses on Canada's pathways to achieve net-zero by 2050 (Canada Energy Regulator, 2023a).

The 2023 Energy Future modeling includes offshore wind energy with projects in NL and NS supporting hydrogen production and decarbonization. The Global Net-zero Scenario expects

offshore wind energy to generate 23 Terawatt-Hours by 2050, primarily from offshore wind facilities, and contribute to Canada's electricity mix (Canada Energy Regulator, 2023a). While no offshore wind energy projects currently exist in Canada (Robertson et al., 2023), this projection equals about 64% of the 36 terawatt-hours generated by onshore wind projects in 2022 (Natural Resources Canada, 2024). Contextually, the 23 terawatt-hours could power approximately 1.9 million Canadian homes, highlighting the offshore wind energy project's potential. As NL and NS leverage their abundant coastal wind resources, balancing technological innovation, effective regulatory frameworks, and active community and public engagement will be crucial in determining the success of these endeavors.

However, offshore wind energy projects face significant challenges despite their potential to advance net-zero goals. These include regulatory complexities (the need for a full assessment and stakeholder consultations causing project delays and increasing cost), socioeconomic impacts (conflicts over land and sea use affecting local communities and industries like fishing), and Indigenous rights (improper consultation and marginalization of Indigenous voices in decisions) (Deb et al., 2024; Goyal, 2024; Skjølsvold et al., 2024). This study explores these challenges by analyzing public concerns captured in the offshore wind energy projects' regional assessment (OWEP-RA) process.

In addition to the national projections for offshore wind energy, the global shift towards sustainable energy production, as emphasized by Azarpour et al. (2022), has increased the interest in offshore wind project potential and the unique characteristics of Canada's Atlantic provinces. Most of the projected projects along the coast of NL and NS will be integrated with hydrogen electrolysis facilities to support hydrogen export to international markets and local use (Canada Energy Regulator, 2023a). While these wind-to-hydrogen projects are often framed as advancing Canada's clean energy transition, they primarily focus on export markets rather than on domestic

use (Canada Energy Regulator, 2023a; Grant et al., 2023). Hence, their contribution to Canada's net-zero goals is more indirect, positioning the country as a low-carbon fuel provider to the global market, rather than driving immediate reductions in national emissions—a point echoed with analyses calling for a systems-based approach to hydrogen development (Independent Auditor's Report, 2022; The Standing Senate Committee on Energy, Natural Resources and Environment, 2023). With the wind farm moratorium in NL lifted in April 2022 (Cole, 2022), NL and NS are well-positioned to harness their coastlines' vast wind energy potential (Grant et al., 2023). According to Whitten (2023), companies such as EverWind Fuels, the Exploits Valley Renewable Energy Corporation, Toqlukuti'k Wind and Hydrogen, and World Energy GH2 have made significant progress toward establishing projects that could advance the global distribution of hydrogen and ammonia. Other key players expanding this momentum include North Atlantic Refining Limited, repurposing its Come By Chance site, deep-water port, and storage assets into a green energy hub for liquid organic hydrogen carriers, while Pattern Energy is developing a 300 megawatts wind-to-ammonia project at Argentia, supported by an offtake agreement with a German company Mabanaft but adaptable to evolving market conditions (Davis, 2024; Government of Newfoundland and Labrador, 2024). Collectively, these initiatives further emphasize the region's potential for sustainable energy innovation, particularly within the export-oriented segment of the global hydrogen economy.

Beyond Canada, offshore wind energy capacity continues to grow worldwide, driven by its expanding role in renewable energy development (Díaz & Guedes Soares, 2020). As of 2020, Europe leads the world in installed capacity due to its policies, technological advancements, and infrastructure investments (Soares-Ramos et al., 2020). By 2023, Europe had a total offshore wind energy capacity of 34 gigawatts, about 45% of the world's offshore wind energy capacity in operation (Fernández, 2024b). The installed capacities in the United Kingdom, Germany, and the

Netherlands reached 14.7, 8.5, and 4.7 gigawatts, respectively, reflecting their significant contributions (Fernández, 2024b). Also, in 2023, Denmark's offshore wind provided about 24% of its electricity, while the United Kingdom got 17% from offshore wind energy that year (Fernández, 2024a).

In contrast, non-European countries, such as Brazil, China, India, Japan, the United States of America, and Vietnam, have stepped up efforts to install offshore wind facilities to address energy security challenges, combat climate change, and promote energy transition (Chen & Lin, 2022). According to Deb et al. (2024), in 2021, the global wind installation reached 733 GW, with contributions from Brazil (17 GW), Canada (14 GW), India (39 GW), and the United States of America (118 GW), despite strong political opposition from President Donald Trump administration's efforts to halt offshore wind energy projects, over concerns for coastal communities and wildlife (Stevenson, 2025). China, meanwhile, has expanded its offshore wind capacity at an impressive rate of over 37 GW, becoming a global leader in the sector (An et al., 2025; Chen & Lin, 2022). This global expansion highlights the rising importance of offshore wind energy in achieving net-zero emissions, reflecting trends mirrored in Atlantic Canada, aiming to capitalize on similar advances to support sustainable energy transition goals.

As such, there are potentially thousands of offshore wind turbines on the horizon for the NS and NL shoreline, awaiting European market readiness and demand (Grant et al., 2023). In response to the rapidly evolving industry and based on the recommendation of the Federal Minister of Environment and Climate Change, the regional assessment (RA) officially commenced in April 2022 to guide the sustainable development of offshore wind energy projects in both provinces (Impact Assessment Agency of Canada, 2022b).

Given the scale of these developments, a comprehensive RA is essential for balancing economic growth, environmental sustainability, and social responsibility. An RA evaluates land-

use impacts and development within a defined region, focusing on understanding pathways, outcomes, and vulnerabilities affecting human and ecological valued components (Arnold et al., 2022). This assessment is crucial, as NS plans to eliminate coal consumption, utilize 80% renewable energy sources by 2030 (Nova Scotia Power, n.d.), and achieve net-zero electricity generation by 2035 (Sheehan et al., 2024). In contrast, offshore wind energy projects in NL face legal and capacity constraints preventing grid connection, with historical restrictions due to reliability and economic viability concerns for direct exports (Grant et al., 2023). However, NL is positioned to become an energy exporter due to global green hydrogen demand, aligning with Canada's clean energy strategy and international climate goals (Grant et al., 2023).

Valued components (VCs) are facets of the human and natural environment considered necessary by stakeholders in an IA process (Dallaire et al., 2024). Used at the project-level, cumulative and RA, VCs enable impact evaluation and ensure decisions align with stakeholders' environmental, health, social, and economic values (Dallaire et al., 2024). Examples of VCs include migratory birds, mental health, navigation, and employment opportunities, all of which hold significant value for diverse stakeholders. This study explores how stakeholders represent VCs in the context of offshore wind energy projects in NL and NS, focusing on their alignment with the Sustainable Development Goals (SDGs) and United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) principles.

However, while Canada has started the RA for offshore wind energy projects, there has not been much exploration into how public comments align with global standards like the SDGs and UNDRIP. This study explores how NL and NS OWEP-RA public concerns connect with these global frameworks, particularly to balance protecting the environment, promoting socioeconomic growth, and respecting Indigenous rights. The RA's role in offshore wind energy projects is crucial for both provinces to achieve their sustainability objectives while ensuring

environmental stewardship and social responsibility, by considering the cumulative impacts and regional challenges (Arnold et al., 2022).

❖ ***Why Sustainability Matters in NL and NS Offshore Wind Energy Projects: The Role of IA, SDGs, and UNDRIP***

“Sustainability is the study of natural systems, their functions, and balances, to urge humanity to harmonize with nature and ensure resource preservation for future generations” (Saleh & Hassan, 2022, p. 437). This concept is crucial for the success of offshore wind energy in NL and NS, where these projects need to balance environmental protection, economic growth, and respect for Indigenous Peoples’ rights and local communities. By following this principle, energy initiatives can align with both global and regional goals while safeguarding marine ecosystems and supporting Indigenous self-determination (Piterou & Coles, 2021; Solanki et al., 2021).

With these considerations, the shift to renewable energy must expand to clean energy access worldwide while protecting our ecosystems (Agbakwuru et al., 2024; Wehbi, 2024). Thus, this study focuses on sustainability in developing, operating, and decommissioning offshore wind energy projects to balance environmental protection, sociocultural considerations, and economic growth. Offshore wind energy can address energy needs by promoting economic growth with environmental stewardship (Agbakwuru et al., 2024; Su et al., 2024). However, achieving this requires commitment to preserving marine ecosystems and reducing biodiversity impact while meeting energy needs and the well-being of local communities. Hence, while sustainability frameworks like the SDGs and UNDRIP provide important global standards, this study also engages briefly with the concept of ‘*decolonial justice*’. This perspective emphasizes moving beyond colonial legacies in resource governance (see page 9 under the UNDRIP).

Sustainable Development Goals

The United Nations has promoted sustainable development worldwide by expanding the focus to global frameworks (United Nations, 2022). The organization created a plan to guide international efforts over the next 15 years, adopting the SDGs to end poverty, protect our planet, and ensure prosperity for all (Wadhvani & Malpani, 2023). The goals provide a guide to align renewable energy projects with ecological limits, ensuring that economic benefits do not harm lasting environmental health (Sachs et al., 2019). Conversely, critics like Kallis (2019) and Meadows et al. (1972) argue that the SDGs' push for growth might clash with prioritizing ecological limits over economic expansion. This critique is particularly relevant in NL and NS coastal areas, where sensitive marine habitats and local fishermen face potential threats from the planned installation of offshore wind turbines.

Implementing and achieving these SDGs requires global cooperation and participation, including every nation, such as Canada (McArthur & Rasmussen, 2017). Sustainable development comprises ecological, economic, and sociocultural sustainability and long-term viability. Hence, sustainable development, in this view, emphasizes lasting socioeconomic considerations to ensure that short-term gains do not damage forthcoming development potential or the system's overall integrity (Nunoo, 2021). While this interpretation stresses socioeconomic sustainability and protecting future development, it misses the broader aspects of sustainability.

Conversely, the Brundtland Commission's definition is more holistic because it integrates environmental, economic, and social dimensions into a single framework that addresses present needs while ensuring future generations can meet their own (World Commission on Environment and Development, 1987). This broader perspective reveals that sustainability is interconnected and stresses environmental, economic, and social aspects of sustainable development, which Nunoo's definition may overlook.

Despite criticisms of the pro-growth agenda, the SDGs still offer a valuable way to address global issues like poverty, inequality, and climate change (Wadhvani & Malpani, 2023). While critics like Kallis (2019) and Meadows et al. (1972) argue that the SDGs' emphasis on economic growth clashes with the limits of our environment. The goals aim to strike a balance between progress and sustainability. For instance, the SDGs promote access to education and healthcare as a means of fostering sustainable economic growth, encourage the use of clean energy and industries to minimize environmental harm, and advocate for responsible resource management to ensure food security and protect biodiversity (Sachs et al., 2019).

Moreover, the SDGs emphasize “leaving no one behind” for inclusive development and “circularity and decoupling” to separate economic growth from environmental degradation (Sachs et al., 2019, p. 808). Also, the SDGs encourage countries to work together and share responsibility for climate change and biodiversity loss (McArthur & Rasmussen, 2017). Though SDGs may need some alterations to reflect better ecological constraints from over-reliance on economic growth and adaptation to environmental change (Kish & Quilley, 2021; Scown et al., 2023), the framework still offers a comprehensive path forward for sustainable development, ensuring long-term prosperity without sacrificing environmental health (Sachs et al., 2019).

United Nations Declaration on the Rights of Indigenous Peoples

Simultaneously, the UNDRIP offers a framework for sustainability that centers on human rights (United Nations, 2008). It highlights the collective rights of Indigenous Peoples, including self-determination, protection of cultural identity, and active participation in project decision-making that affects them (Scallan & Wilson, 2019). According to the UNDRIP, proponents must engage with Indigenous Peoples as equal partners to ensure that projects do not infringe upon their cultural and land rights (United Nations, 2008). This is significant in NL and NS, where planned offshore wind energy projects overlap with Indigenous territories and marine

ecosystems. Thus, ignoring these outlined UNDRIP principles could lead to ongoing injustices and harm the social fabric of the communities involved (West Coast Environmental Law Association et al., 2019).

Building on this foundation, Canada has committed to supporting Indigenous rights and is a signatory to the UNDRIP (Mitchell & Enns, 2014). Sustainable development and Indigenous rights promotion are closely intertwined, as both utilize and integrate Indigenous knowledge in ecology, economy, culture, and social equity to inform sustainable practices (Bansal et al., 2024). This integration ensures that offshore wind energy projects respect Indigenous rights and values, fostering fairness and inclusivity. In addition to sustainability and rights-based frameworks, this study draws on decolonial justice. Decolonial justice addresses the colonial power relations embedded in environmental governance and resource development, centering Indigenous sovereignty, knowledge systems, and land-based responsibilities as the basis for just decision-making (Coulthard, 2014; Mignolo, 2011; Tuck & Yang, 2012). In the context of offshore wind energy projects, it highlights that meaningful change requires more than consultation or benefit-sharing; advocating for governance processes that recognize Indigenous authority and reshape relationships to land and resources.

Impact Assessment

Building on these sustainability frameworks, Canada's IA as a policy and regulatory tool helps to minimize harm, promote public involvement, ensure compliance with laws, and support sustainable development to achieve global objectives (Expert Panel for the Review of Environmental Assessment Processes, 2017). The development of NL and NS offshore wind energy projects shows how RA can balance environmental, social, health, and economic factors, reflecting the values and rights of local communities (Eckert et al., 2018; Eckert et al., 2020). In the context of offshore wind energy projects, an IA evaluates the ecological, economic, and social

consequences of proposed developments to ensure potential effects are considered before moving forward (Murray et al., 2018). These considerations include biodiversity impacts, uncertainties involving protected species, decommissioning processes, and transparency in decision-making to support sustainable outcomes (Blakley et al., 2020; Hall et al., 2022; Jacob et al., 2011; Johnston & Ray, 2023; Searle et al., 2023). Hence, exploring how the IA process, SDGs, and UNDRIP principles interact to influence these developments is essential to ensure sustainability in NL and NS offshore wind energy projects.

More importantly, sustainability is crucial in ensuring that NL and NS offshore wind energy projects operate within ecological and social limits while helping to meet global climate goals. By following the SDGs and UNDRIP, these projects can balance environmental protection with fair development. Without such alignment, the potential of renewable energy risks harming ecological systems and increasing inequality, worsening the issues it seeks to address.

Integrating the IA, SDGs, and UNDRIP provides a robust foundation for achieving sustainable development while respecting ecological and social limits. Thus, IA ensures that offshore wind energy projects protect the environment and provide social and economic benefits, while SDGs and UNDRIP set global standards for sustainability, inclusivity, and fairness.

As such, the emergence of the green hydrogen industry and interest in NL and NS offshore wind energy resources provide an opportunity to better understand how RA, SDGs, and UNDRIP could unfold in Atlantic Canada to align with the global sustainability frameworks. This study seeks to use the public comments from the OWEP-RA to investigate the public perception of these projects and analyze whether these comments align with the global sustainability framework of the SDGs and UNDRIP. This study reviews public comments on the OWEP-RA in NL and NS, focusing on thematic and quantitative analyses to provide insight into stakeholders'

concerns about the broader impacts of offshore wind energy projects on aquatic ecosystems, local communities, and regional economies.

1.1 Thesis Statement & Significance

Canada's support for United Nations frameworks and its good reputation within the Organization for Economic Co-operation and Development for impactful assessment and consultation practices showcase its commitment to sustainability (Hunsberger et al., 2020). According to Chai (2016), Canada's mineral sector has thrived in diamond production, thanks to effective IA practices, which mitigate adverse effects from resource development.

Expanding its efforts in sustainability and Indigenous rights. The UNDRIP, adopted by the United Nations General Assembly in 2007 and reaffirmed in 2016, outlines Indigenous rights, establishes important protections, and emphasizes genuine consultation and consent before any project impacts Indigenous lands or resources (Barelli, 2012; Duncanson et al., 2019; Parker et al., 2024). The IA process plays a crucial role in ensuring that project approvals align with UNDRIP principles, particularly in industries such as mining, hydro, and the growing field of renewable energy (Mascher, 2019).

However, while Canada has pledged to advance the 2030 SDGs, working closely with Indigenous Peoples and the general public (Employment & Social Development Canada, 2021), the NL's wind development uncovers significant challenges in achieving these goals (Mercer et al., 2017). Thus, despite its wind energy potential, NL still relies on fossil fuels and large hydroelectric projects, exposing shortcomings in Canada's shift to renewable energy (Mercer et al., 2017).

Moreover, according to Mercer et al. (2017), several barriers hinder the growth of NL's wind energy. These include political, economic, and regulatory challenges, like the absence of clear policies supporting wind energy, the prioritization of offshore oil and hydro, and the

monopoly in the electricity market, highlighting a disconnect between potentially affordable clean energy and NL's energy governance (Mercer et al., 2017). Furthermore, the ongoing economic debate over wind energy's viability, fossil fuel subsidies, and private wind developers' exclusion from the market further reveals inconsistencies in Canada's sustainability policies (Mercer et al., 2017). Also, the limited involvement of Indigenous Peoples and the public in wind energy planning contradicts Canada's pledge to UNDRIP and inclusive decision-making, emphasized in the SDGs (Mercer et al., 2017).

To address these Indigenous-related challenges, Canada has made progress with legislation through Bill C-15, an Act aiming to respect and implement UNDRIP to strengthen Indigenous self-governance, address past wrongs, and uphold prior consent in decisions (Department of Justice Canada, 2022, 2023). Thus, prior consent is not considered a veto power, but to emphasize meaningful consultation and collaboration with Indigenous Peoples (Department of Justice Canada, 2022, 2023). Bill C-15, enacted in 2021, requires existing federal laws to be consistent with the UNDRIP framework (Department of Justice Canada, 2022, 2023). Hence, key objectives include a prepared action plan between the federal government and Indigenous Peoples and the Minister of Justice's annual progress report to parliament (Department of Justice Canada, 2022, 2023).

Canada's Bill C-15 and UNDRIP have made important strides in Newfoundland and Labrador, Nova Scotia, and British Columbia. In British Columbia, for example, the province implemented its version of UNDRIP in 2019, co-developed with Indigenous Peoples (Crown-Indigenous Relations and Northern Affairs Canada, 2021). For NL and NS, the Mi'kmaq and other Indigenous Peoples have been recognized under UNDRIP for their inherent rights, including self-determination and resource control (Knockwood, 2021; Pictou, 2018). For example, in Newfoundland, the Miawpukek and Qalipu First Nations gained Indigenous

recognition from the federal government in 2011 and 1981, respectively, marking progress in acknowledging Indigenous rights (Reid, 2020). For Labrador, the Innu people have pursued land claims and negotiations with federal and provincial governments to protect their rights and improve community well-being (Higgins, 2008). Similarly, the Inuit of Nunatsiavut achieved self-governance in 2005 through the Labrador Inuit Land Claims Agreement, granting them control over their lands and resources (Nunatsiavut Government, n.d.). The NunatuKavut Inuit continue their journey toward full recognition and achieved Indigenous status in 2019 (Flowers, 2023; Bull & Hudson, 2019). However, recognition remains contested, as seen in tensions between the Nunatsiavut Government and the NunatuKavut Community Council over identity claims and associated land and resource rights (Flowers, 2023). In this context, fully realizing these rights is a work in progress, requiring continuing cooperation between the government and Indigenous Peoples (Pictou, 2018).

Despite these efforts, challenges persist in implementing UNDRIP. Some Indigenous leaders argue that the federal government fails to fully respect consent principles and nation-to-nation relationships. For instance, the Assembly of Manitoba Chiefs criticized Bill C-15 for lacking proper consultation with Manitoba's Indigenous Peoples and affecting Treaty relationships, vesting provincial control over natural resources (Crown-Indigenous Relations and Northern Affairs Canada, 2021). Similarly, the Association of Iroquois and Allied Indians expressed concerns that Bill C-15 advances the government's interpretation of UNDRIP rather than Indigenous perspectives (Crown-Indigenous Relations and Northern Affairs Canada, 2021).

These challenges reflect broader difficulties in Canada's reconciliation process, as emphasized by the Truth and Reconciliation Commission. The Truth and Reconciliation Commission of Canada, established in 2008, has documented 94 Calls to Action to address the lasting effects of residential schools and advance Canada's reconciliation process, including a

recommendation that all levels of government fully adopt and implement UNDRIP as the framework for reconciliation (Truth & Reconciliation Commission of Canada, 2015a, 2015b). The document further stressed that governments and institutions must uphold Indigenous rights, particularly in decisions affecting Indigenous land and resources (Truth & Reconciliation Commission of Canada, 2015a). Canada's IA process aims to align with these principles by ensuring that project assessment considers Indigenous rights and involves Indigenous engagement (Impact Assessment Agency of Canada, 2021).

However, while Canada has passed laws to acknowledge Indigenous rights in resource development, efforts to address gaps in consultation with Indigenous communities and the use of traditional knowledge persist (Schocat, 2021). Also, despite the government's efforts to consult with the Indigenous community in resource management decisions, issues still remain. These include difficulties incorporating traditional knowledge and practices, imbalances in power between different knowledge systems, confusion over terminology, gaps in methods for integrating Indigenous knowledge with scientific approaches, and inadequate regulation training (Keats & Evans, 2020). As such, these challenges hinder meaningful consultations, highlighting the importance of better considering and integrating Indigenous perspectives to inform decision-making.

Furthermore, the IA process is crucial to assessing the ecological effects of resource use, essential for promoting sustainable consumption and production patterns (United Nations, 2022). However, a review of the IA process uncovers that regional development projects tend to prioritize ecological impact, particularly in Canada's western and northern provinces and territories (Blakley et al., 2020). So, Canada's IA must incorporate the UNDRIP principles to ensure project approvals respect and protect Indigenous rights. Thus, as observed in recent controversies, significant gaps persist in Indigenous consultation and integration of Indigenous

knowledge, leading to conflicts and discontent (Eckert et al., 2020). According to Mitchell et al. (2019), while Indigenous Peoples in Canada are willing to fully engage in rights frameworks like UNDRIP, political promises to reconcile past injustices and foster prosperity remain unfulfilled.

Already, various RAs in Canada have faced criticism from Indigenous Peoples. For example, the Mohawks Council of Kahnawà:ke (2021) states that the ‘RA of the St. Lawrence River Area’ ignored Indigenous consultation and the project’s sustainability. They highlight ongoing issues, like the discharge of pollutants into the St. Lawrence River, which harm the environment. Thus, the Council believes that the assessment denies and blocks the Mohawks of Kahnawà:ke’s effort to protect their land, culture, and autonomy, restricting their rights under the UNDRIP.

Also, Baiguzhiyeva (2022) reports that despite the ongoing RA, Attawapiskat, Fort Albany, and Neskantaga First Nations have requested a moratorium on the Ring of Fire project. They opposed the proposal as they felt the government-led consultation process ignored the concerns of the Treaty Nine People. In a separate grievance, five First Nations (Attawapiskat, Eabametoong, Fort Albany, Kashechewan, and Neskantaga) accused the government of excluding Indigenous Peoples from the draft terms of reference. They claim it limited the geographic and activity scope of the ‘Ring of Fire’s RA’ (TimminsToday Staff, 2022).

Challenges and controversy exist over the effectiveness of Canada’s IA processes in pursuing sustainability and Indigenous rights, underscoring the need for better alignment with SDGs and UNDRIP frameworks in renewable energy projects. This thesis analyzes public concerns about the OWEP-RA to identify gaps and assess their alignment with these frameworks. The findings will offer policymakers, researchers, and stakeholders insights to enhance sustainability and Indigenous rights in NL and NS offshore wind energy projects.

1.2 Stakeholders and Rightsholders in NL & NS Offshore Wind Energy Projects

With the proposed offshore wind energy projects potentially affecting Indigenous lands, the fishing industry, and local communities, it is crucial to ensure that all impacted groups are meaningfully engaged while respecting Indigenous rights and broader stakeholder concerns. A key part of IA processes, including RA, is the integration of public comments or concerns from stakeholders into project plans (Impact Assessment Agency of Canada, 2022a).

However, the term stakeholders can be problematic when discussing Indigenous rights. Though stakeholders generally refer to individuals or groups interested in or affected by a project (Buhmann et al., 2024). The distinction between stakeholders and rights-holders becomes essential in Indigenous rights, as rightsholders, specifically Indigenous Peoples, hold inherent rights that must be respected during project planning and execution (Macfarlane, 2020). These rights extend beyond stakeholders' concerns, encompassing cultural, legal, and human rights protections. Consequently, this distinction is important in offshore wind energy projects, where decisions can significantly impact lands and resources that Indigenous communities have traditionally managed (Annesley et al., 2023; Buhmann et al., 2024).

So, recognizing Indigenous Peoples as rightsholders in offshore wind energy projects is crucial for protecting their legal and cultural rights (Macfarlane, 2020). This approach helps ensure that projects follow the principles of prior consent outlined in UNDRIP to prevent legal issues, social tensions, and delays (Annesley et al., 2023; Buhmann et al., 2024). Involving both stakeholders and rights holders fosters trust and transparency, ensuring that the project benefits the broader community through job creation and sustainable practices, while respecting Indigenous rights and resource management (Annesley et al., 2023; Buhmann et al., 2024; Macfarlane, 2020).

For this study, stakeholders refer to groups that are either affected by or have an interest in offshore wind energy projects, including the public, local communities, government agencies, and businesses (Buhmann et al., 2024). Rightsholders refer to Indigenous Peoples whose recognized rights to land, culture, and self-determination could be influenced by these offshore wind energy projects (Buhmann et al., 2024; Macfarlane, 2020). This distinction is crucial in the context of offshore wind energy projects in NL and NS, to ensure that Indigenous rights are respected and upheld in decision-making processes (Buhmann et al., 2024). So, while stakeholders offer valuable perspectives, recognizing Indigenous Peoples as rightsholders is essential for respecting their inherent rights, upholding Indigenous sovereignty and culture protection, which ultimately strengthens offshore wind energy development (Annesley et al., 2023; Buhmann et al., 2024; Macfarlane, 2020).

1.3 Research Questions

Anchoring to the OWEP-RA, this research uses public comments to analyze Canada's RA of NL and NS offshore wind energy projects within the SDGs and UNDRIP frameworks, employing thematic and quantitative analyses. To explore this topic, the study addresses the following questions:

1. How do stakeholders express or represent valued components in the context of offshore wind energy projects in NL and NS?
2. How do the OWEP-RA comments in NL and NS align with the SDGs and UNDRIP principles?

These questions aim to deepen our understanding of the connection between Canada's RA process, SDGs, and UNDRIP concerning offshore wind energy projects in NL and NS. The investigation will provide valuable insights for policymakers, researchers, and stakeholders

involved in sustainable development, helping to shape policies and strategies that support sustainability and respect for Indigenous rights in Canada.

1.4 Overview of the Study Area

This section offers an overview of the geographical, socioeconomic, and health characteristics of Indigenous Peoples in NL and NS. It also includes information about the specific study areas of the OWEP-RA project.

Offshore wind energy projects can improve public health by reducing fossil fuel reliance and lowering air pollution-related risks like respiratory and cardiovascular diseases (Buonocore et al., 2016). However, concerns about noise, visual impacts, and community acceptance can affect mental and physical health. Thus, resistance to these projects and perceived disruptions to cultural and environmental values can lead to stress, anxiety, and community tensions, affecting overall health outcomes (Knopper & Ollson, 2011; Velasco-Herrejón et al., 2024).

Beyond health considerations, offshore wind energy projects have various broader implications. Environmentally, they can affect marine ecosystems through habitat changes for fish and marine mammals, generating noise during construction, and posing collision risks for birds and bats (Inger et al., 2009). Economically, these projects can create jobs, support coastal economies, and improve energy security by diversifying energy sources and reducing reliance on fossil fuels (Snyder & Kaiser, 2009). Socially, these projects can impact local communities by changing landscape aesthetics, creating conflicts with fishing activities, and influencing public perceptions and project acceptance (Gee & Burkhard, 2010).

Considering these interconnected factors, understanding the study areas' characteristics is crucial for assessing the opportunities and challenges associated with offshore wind energy projects in NL and NS. The following sections outline the distinct traits of each province, shaping

the implementation and outcomes of these projects and highlighting the importance of adapting the RA to address these specific needs and values.

1.4.1 Brief Overview of Indigenous Peoples in Newfoundland & Labrador

Indigenous Peoples and ancestors in NL have a rich cultural heritage and are experts in traditional practices like hunting, fishing, trapping, and foraging (Kumar et al., 2019). NL is home to four Indigenous nations: the Innu, the Inuit, the Southern Inuit of NunatuKavut, and the Mi'kmaq (Pastore, 2021a). However, it is important to remember that the Beothuk peoples, descendants of the Little Passage Complex, who became extinct in 1929, form part of the Indigenous history in NL (Pastore, 2021a, 2021b).

❖ *The Labrador Innu Community*

The Innu community, descendants of Algonkian-speaking hunter-gatherers, occupy central Labrador and coexist with the Mi'kmaq peoples in Ktaqmkuk (Zhai et al., 2016). The Innu Nation represents the Innu people and has pursued land claims and negotiations with the federal and provincial governments to protect their rights and enhance their lives (Higgins, 2008).

❖ *The Inuit of Labrador*

Similarly, the Inuit reside in the northern part of Labrador. The Nunatsiavut Government, established in 2025 after the Labrador Inuit Land Claims Agreement, represents the Inuit of Labrador, granting the Inuit self-governance and control over their lands and resources (Nunatsiavut Government, n.d.). The Inuit, known for their uniqueness and resilience, trace their ancestral lineage back to polar regions across Alaska, Northern Canada, and Greenland for centuries (Hudson, 2020).

❖ *The Southern Inuit of NunatuKavut*

Moreover, the Southern Inuit of NunatuKavut live on the central and southeastern coast of Labrador (Bull & Hudson, 2019). The Southern Inuit, currently known as the NunatuKavut Inuit,

have a unique history shaped by Indigenous traditions and European interactions. Their ancestry traces to earlier migrations from Baffin Island, a union formed through marriage with Inuit women and European fishermen along the southern and central Labrador coast (Kennedy, 2012).

The NunatuKavut Community Council represents the Southern Inuit and governs approximately 6000 Indigenous members that focus on protecting its land, ice, and water rights and titles (Bull & Hudson, 2019). The journey for Indigenous recognition of the Southern Inuit has been challenging. This is shaped by colonial legacies that instilled shame about their native identity and fostered cultural silence, making it difficult for them to assert their voices due to fear of being judged (Hudson et al., 2015). On 12 July 2018, after decades of effort, the NunatuKavut Community Council began talks with the federal government on an accord on their Indigenous rights and self-determination (Bull & Hudson, 2019).

Tensions between The Inuit of Labrador and The Southern Inuit of NunatuKavut

However, despite the federal government's recognition of the NunatuKavut Community Council as an Indigenous Peoples in 2019 through a memorandum of understanding, opposition from the Inuit of Nunatsiavut stems from concerns about potential land rights lost and resource benefits (Flowers, 2023; Forester, 2023). This is due to persistent tensions between the Nunatsiavut government and the NunatuKavut Community Council over the NunatuKavut Community's claim of Inuit identity, which the Nunatsiavut community disputes (Flowers, 2023). These disputes have led to boycotts, lawsuits, and stalled cooperation, hindering economic development in Labrador. Hence, these tensions reflect critiques from some Indigenous scholars cautioning against viewing federal recognition as the ultimate measure of Indigenous identity. Therefore, emphasizing instead that identity and belonging are rooted in Indigenous-led kinship, collective recognition, and self-determination rather than externally imposed validation from state institutions (Simpson & Smith, 2014; TallBear, 2023).

❖ *The Mi'kmaq of Ktaqmkuk*

Furthermore, in the Island of Ktaqmkuk and parts of southern Labrador, the Mi'kmaq people have established communities (Pastore, 2021a), part of the broader Mi'kmaq presence across NS, New Brunswick, and Quebec. Their traditional territory stretches from Quebec's Gaspé Peninsula across New Brunswick, Nova Scotia, and Prince Edward Island to Ktaqmkuk, where the Qalipu First Nation was established (Humber, 2021). The Qalipu First Nation represents the Mi'kmaq and is dedicated to preserving and promoting its culture while improving the socioeconomic conditions of its members (Qalipu First Nation, n.d.).

The Mi'kmaq on Ktaqmkuk faced significant changes from colonialism and new recognition efforts. After years of advocacy, Miawpukek First Nation gained recognition as a Mi'kmaq community on the south coast from the federal government in 1981, and Qalipu Mi'kmaq First Nation received recognition in 2011, marking a significant milestone for Mi'kmaq rights in Ktaqmkuk (Reid, 2020). The different recognition timelines show stages in the Mi'kmaq rights struggles and the distinct roles of Qalipu and Miawpukek in the current Mi'kmaq representation of Ktaqmkuk (Reid, 2020). Together, these Indigenous nations advocate for the island's Mi'kmaq communities in cultural and political matters.

❖ *The Difficult History of The Beothuk Peoples*

Finally, the history of Beothuk is marked by resource competition, misunderstanding, and violence due to European colonization. Traditionally, hunter-gatherers who spoke Algonquian, the Beothuk, may have had a population of fewer than 1,000 people during European contact (Pastore, 2021b). The arrival of European settlers increased competition for resources like land, fur, and lumber, which forced the Beothuk to move inland. This displacement halted their ability to gather enough food during winter, causing starvation and population decline (Samuels, 2023).

The misinformation that the Beothuk were violent made their struggles worse. As Howley explains, “The Beothuk were not violent by nature, but their scavenging of European settlers’ items set off a cycle of revenge and retribution” (Webb, 2017, p. 90). This changes the Beothuk’s actions from aggression to a European encroachment response. Also, European settlers’ perception of the Beothuk escalated the situation. Howley notes, “[f]or two hundred years, they seem to have regarded the red men as vermin to be hunted down and destroyed” (Webb, 2017, p. 62). These dehumanizing attitudes led to violence against the Beothuk, which marginalized them and caused their tragic decline and cultural extinction (Samuels, 2023).

1.4.1.1 Geography of Newfoundland & Labrador

Northeastern Canada hosts NL, with St. John’s as the capital city on the Avalon Peninsula. NL’s 17,540 kilometers of coastline is the longest of all Atlantic provinces, providing habitat for marine organisms from Labrador’s north coast to the Southwest Fjords through the Laurentian Channel (Irvine, 2015).

Traditionally, the fishing industry has anchored NL’s economy. Fishing was the main livelihood for decades, with a 10% employment rate, until the federal government imposed a moratorium in 1992 due to overfishing by locals and foreign fleets, which put about 30,000 people out of work (Higgins, 2008b; Schrank, 2005). After 3 decades of a fishery ban, the Minister of Fisheries, Oceans, and Canadian Coast Guard lifted the moratorium in 2024 off the north and east coasts (Fisheries and Oceans Canada, 2024). While some industry groups call it a historical moment, some expressed mixed feelings about lifting the ban. Jackson (2024) states that some industry players celebrate this decision, while others fear overfishing and stock depletion if offshore fleets start to fish. Scientists also caution about the northern cod population’s decline in the next few years (Jackson, 2024). This decline in fish populations may worsen due to the planned installation of offshore wind turbines near fishing areas, causing acoustic

disturbances, increased sediment dispersal, habitat gain (creation of new habitats around the turbines that alter the ecosystem), fisheries exclusion, and electromagnetic fields during the construction, operation, and decommissioning of the projects (Bergström et al., 2014).

NL's economy, besides fishing, relies on energy, tourism, and mineral mining, like iron ore, nickel, copper, zinc, silver, and gold (Munroe, 2020). However, despite these industries and resources, the province is one of Canada's poorest, with a high unemployment rate and a lower median household income (Wong et al., 2020). Rural areas, in particular, face significant economic challenges, including limited access to jobs and essential services like healthcare facilities and staff, childcare and family support, higher education, etc. (Freshwater et al., 2014).

Moreover, several challenges further characterize the socio-economic context of NL. Indigenous Peoples in NL face high poverty and unemployment rates compared to non-Indigenous Peoples, with chronic diseases like obesity, diabetes, and cardiovascular diseases being common in these communities (Health Accord Newfoundland & Labrador, 2022). Healthcare access is challenging in rural and remote areas, where residents often travel far to receive medical attention (Health Accord Newfoundland & Labrador, 2022).

Furthermore, the rural context of NL features small, dispersed communities that often experience isolation and have limited infrastructure. These communities depend on natural resources for their livelihoods, and the decline of traditional industries like fishing has affected their economic stability (Ommer, 2007). Hence, stakeholders view efforts to diversify the rural economy, including renewable development like offshore wind energy projects, as potential avenues to revitalize the economy (Miramontes-Viña et al., 2023). However, other stakeholders have opposed such projects, emphasizing environmental preservation and the risks of ecological disruption. For instance, the Environmental Transparency Committee formally appealed the exemption of a proposed wind-to-hydrogen project from further impact assessment, citing threats

to land, health, and ecosystems (VOCM Local News, 2024). Similarly, the Screaming Eagles, a grassroots Indigenous organization on the Port au Port Peninsula, have protested the potential disruption of hunting, freshwater supply, and community ways of life (Iftikhar, 2025). These concerns highlight the need to integrate stakeholders' inputs and co-governance mechanisms to balance environmental protection and economic development.

1.4.2 Brief Overview of Indigenous People in Nova Scotia

For thousands of years, Indigenous Peoples in NS have been the Mi'kmaq people, who are recognized as the main Indigenous community of the province (Office of L'nu Affairs, 2015a, 2015b). The Mi'kmaq ancestral homeland, 'Mi'kma'ki', in NS covers most of Canada's provinces from Prince Edward Island and New Brunswick, Quebec's Gaspé Peninsula, Ktaqmkuk's southwestern, and parts of the State of Maine in the United States of America (Native Council of Nova Scotia, n.d.). Their descendants maintain a strong connection to their ancestral lands, territories, waters, and resources for sustenance (Native Council of Nova Scotia, n.d.). As of the 2021 Census, approximately 52,425 Indigenous Peoples live in NS, representing about 5.5% of the province's population. Of this population, 53.5% (28,055) identified as First Nations people, 40.2% (21,090) as Métis, and 2.1% (1,100) as Inuit (Statistics Canada, 2022).

Also, First Nations in NS are represented by two main tribal councils: the Confederacy of Mainland Mi'kmaq and the Union of Nova Scotia Indians. Together, these councils include 13 Mi'kmaq First Nation Bands, with the Confederacy representing groups like Bear River, Annapolis Valley, Glooscap, Millbrook, Paqtnekek, Pictou Landing, and Sipekne'katik, while the Union represents communities of Unama'ki: We'koqma'q, Wagmatcook, Membertou, Eskasoni, Potlotek, and Mainland Acadia First Nation (Office Of L'nu Affairs, 2015a, 2015b).

Furthermore, the Mi'kmaq people have a rich cultural heritage and a significant government in NS (Hanrahan, 2016). Over the centuries, they have faced many challenges,

including colonization, land loss, and cultural suppression. Nevertheless, they have preserved their cultural identity and continue to play an essential role in NS's artistic and economic fabric (Hanrahan, 2016). The Mi'kmaq Rights Initiative of NS has been key in advocating for the rights and recognition of the Mi'kmaq people, including land claims and self-governance (Hanrahan, 2016).

1.4.2.1 Geography of Nova Scotia

NS sits on the eastern seaboard of North America, and Halifax is the capital city. The province's land size is 52,939.44 square kilometers and includes the NS peninsula and Cape Breton Island (O'Grady & Moody, 2024; Statistics Canada, 2019). NS, the economic hub of Atlantic Canada, boasts a coastline of 13,000 kilometers, surrounded by the Gulf of St. Lawrence, the Northumberland Strait, and the Atlantic Ocean, and is renowned for its expansive ocean tides, seafood, blueberries, and apples (Kennedy, 2021; Kofahl, 2024; Munroe, 2020).

Moreover, the province's economic strength lies in tourism, hospitality, agriculture and fisheries, energy, healthcare, and manufacturing. According to Storrington (2023) NS's real Gross Domestic Product grew by 2.9% in 2022, slower than the national average of 3.8%. However, business investment and exports raised the nominal Gross Domestic Product by 7.1% to offset slower government spending and household consumption.

Despite these gains, NS faces significant socio-economic challenges. Much of the province is predominantly rural, with many communities on the peninsula and Cape Breton Island having limited access to healthcare, education, and employment opportunities (Health Association Nova Scotia, 2013).

Also, Rural NS has more low-income individuals and households than urban areas and faces significant health threats due to poverty and unemployment (Health Association Nova Scotia, 2013). This high poverty and employment rate, particularly in rural areas, contributes to

poorer health outcomes and increases chronic diseases linked to unhealthy behaviors, like smoking, obesity, and inactivity, with the inadequacy of medical facilities and professionals worsening these issues (Health Association Nova Scotia, 2013).

In conclusion, NL and NS Indigenous Peoples remain resilient amidst these challenges. Their rich cultural heritage is deeply tied to the lands and resources (Parks Canada Agency, 2024a). Moreover, their ongoing efforts toward self-governance have been pivotal in preserving their culture, securing their rights, and improving living conditions for Indigenous communities (Hanrahan, 2016).

1.4.3 The Offshore Wind Energy Projects' Regional Assessment Study Area for NL and NS

The offshore regions of NL and NS are both under provincial and federal jurisdiction and are set to become global leaders in offshore wind energy projects. These regions have abundant, consistent winds and regulatory frameworks (Jan et al., 2022), making them ideal for offshore wind energy projects.

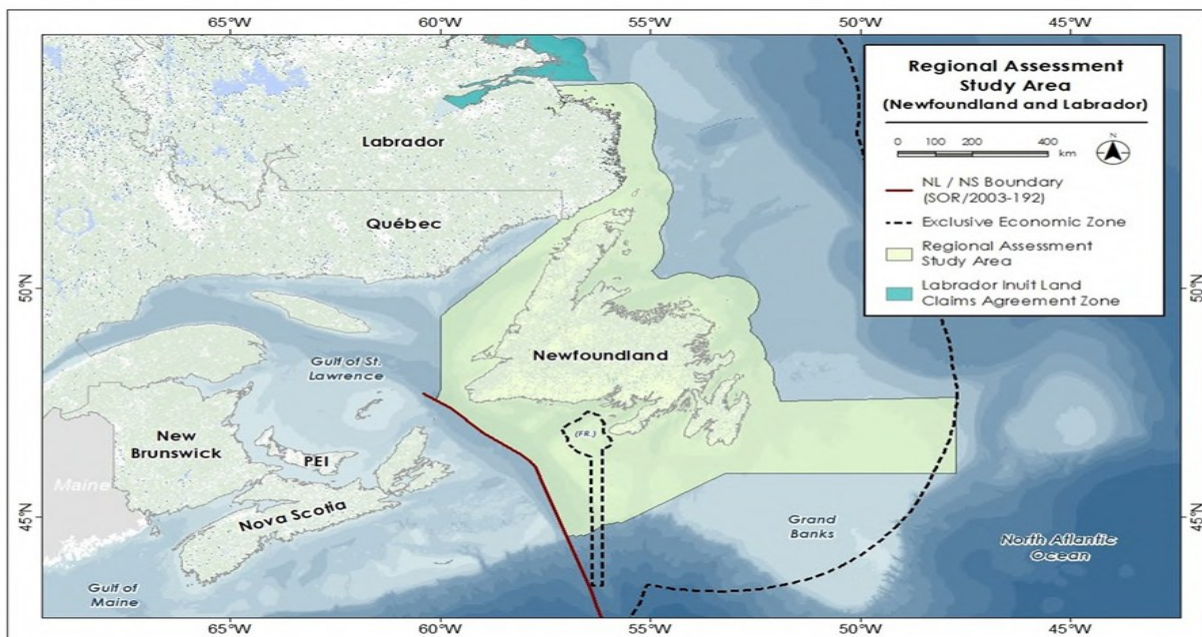


Figure 1: Offshore Wind Energy Project Regional Assessment Study Area for Newfoundland & Labrador (Impact Assessment Agency of Canada, 2023c).
Adapted from Final Agreement and Terms of Reference Document between Government of Canada and Newfoundland & Labrador (2023c) <https://iaac-aeic.gc.ca/050/documents/p84343/147037E.pdf>.

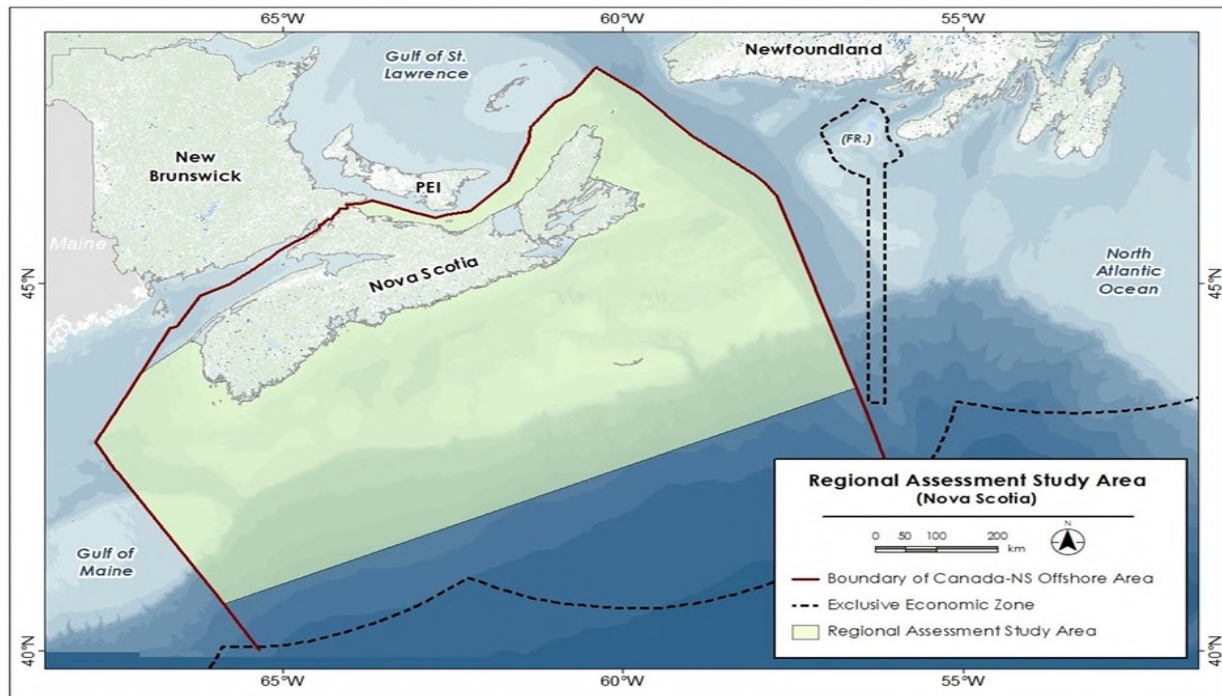


Figure 2: Offshore Wind Energy Project Regional Assessment Study Area for Nova Scotia (Impact Assessment Agency of Canada, 2023d).

Adapted from Final Agreement and Terms of Reference Document between Government of Canada and Nova Scotia (2023d) <https://www.iaac-aeic.gc.ca/050/documents/p83514/147038E.pdf>.

Regarding the geographic scope, as shown in Figure 1, NL’s OWEP-RA study area covers the 400 kilometers NL-NS boundary (SOR/2003-192), the exclusive economic zone, and the land claims area defined by the Labrador Inuit Land Claims Agreement, while Figure 2 shows the NS study area spans 200 kilometers between the Canada-NS boundary and the exclusive economic zone (Impact Assessment Agency of Canada, 2023c, 2023d). An exclusive economic zone “extends 200 nautical miles from a coastal State baseline, where a State has control over resource exploration, exploitation, preservation, and management, and economic activities like wind energy production” (Hoagland et al., 2019, p. 529).

Building on these opportunities, in 2025, the federal and NS governments will hold a competitive bidding process to offer a 2030 lease for five gigawatts of offshore wind energy to boost the hydrogen industry (Doucette, 2022; Natural Resources and Renewables, 2022). The ‘NS East Wind project’ by DP Energy and SBM Offshore plans to install 20 to 25 wind turbines

25 km off Goldboro. This will supply 400 megawatts of electricity to the province's power grid by 2030, constituting approximately 20 percent of the current generating capacity of 2400 megawatts (Withers, 2023b). In contrast to NL, where offshore wind energy projects face legal and capacity constraints preventing direct grid connection (Grant et al., 2023). NS projects will directly contribute to the local grid, supporting the province's growing hydrogen industry. Premier Tim Houston framed these developments as part of a broader, long-term vision, describing offshore wind energy projects as a "huge opportunity" for NS and pitching the ambitious "West Wind" project, which aims to generate up to 60 gigawatts of power for future domestic and export markets (Rent, 2025).

1.4.4 Energy Landscape in Newfoundland & Labrador and Nova Scotia

The successful implementation of NL and NS offshore wind energy projects promises to transform Atlantic Canada's energy landscape, reduce fossil fuel reliance, mitigate climate change, and foster a sustainable and resilient energy infrastructure (Zhao & Li, 2022). It can also offer opportunities for collaboration among government, industry stakeholders, and local communities to balance economic development with environmental conservation (Roesch et al., 2020; Su et al., 2024; Zhao & Li, 2022).

❖ Newfoundland and Labrador

Building on NL's existing renewable energy strengths, such a transition is evident in its stable renewable energy usage, with hydroelectric power being the primary source. Hydroelectricity accounts for 97% of the province's power generation, mainly from the Churchill Falls Generating Station, which has a capacity of 5,428 megawatts and produces 34 terawatt-hours of power per annum (Canada Energy Regulator, 2024; Newfoundland & Labrador Hydro, n.d.-b). Another major project is Muskrat Falls, which, despite delays and cost overruns, came online in 2020 to produce 824 megawatts (Newfoundland & Labrador Hydro, n.d.-b). With small

plants like the Bay d'Espoir system also producing 729 megawatts, the province has 7,280 megawatts of renewable energy (Newfoundland & Labrador Hydro, n.d.-b).

However, despite NL's dominance with hydro projects, thermal generation continues to be used in remote areas along Labrador's and Ktaqmkuk's southern coast. The 490 megawatt oil-fired Holyrood Thermal Generating Station, initially scheduled for decommissioning following the completion of the Muskrat Falls project, remains in operation to support peak electricity demand and ensure grid stability (Canada Energy Regulator, 2022a; Canada Energy Regulator, 2024). Hence, in 2018, fossil fuels accounted for approximately 4.3% of the province's electricity generation (Canada Energy Regulator, 2022a). By 2022, fossil fuels like oil and diesel were still used in limited amounts, contributing up to 25% of the island's power supply (Canada Energy Regulator, 2022a).

Moreover, heating in NL relies heavily on oil, with approximately 40,000 homes using it for space heating in the winter months (Li et al., 2023; Maliat et al., 2024; Natural Resources Canada, 2023; Timalsina et al., 2024). Similarly, remote communities in NL face challenges from reliance on diesel generators, leading to high greenhouse gas emissions, economic vulnerability from fluctuating fuel prices, and costly energy distribution due to isolation (Li et al., 2023; Maliat et al., 2024; Timalsina et al., 2024). Yet Labrador-based scholarship underscores that, despite environmental and cost concerns, diesel generation functions as an essential baseload in many NunatuKavut communities, valued for its reliability, local employment, and community familiarity (Mercer et al., 2020a, 2024). Hence, this reliance on fossil fuels for both heating and power generation underscores sustainability concerns (Li et al., 2023; Maliat et al., 2024; Timalsina et al., 2024). To address this, the NL government aims to inspire alternatives like heat pumps and combined heat and power systems, thermal energy storage, and customer education to promote efficient heating solutions (Li et al., 2023; Newfoundland & Labrador Hydro, n.d.-a).

Also, transportation in NL accounted for 33% of energy demand in 2020 and 42% of carbon emissions (Canada Energy Regulator, 2024; Natural Resources Canada, 2023). Despite challenges like charging infrastructure, higher upfront costs, and long waiting lists. NL Power, in partnership with the provincial government, continuously promotes electric vehicle adoption through rebates, expansion of the fast-charging network, and public education on electric vehicle ownership (Newfoundland & Labrador Hydro, n.d.-a).

Hence, NL has taken significant steps to enhance its renewable infrastructure to overcome these challenges and reinforce its clean energy ambitions. In 2024, NL and Quebec signed an agreement to replace the 1969 hydroelectric contract at Upper Churchill Falls, generating C\$200 billion in revenue by 2075 and supporting new projects like the Gull Island facility (Williams, 2024).

Building on this momentum, the deal strengthens NL's transition to sustainable energy, helping to position the province as a leader in offshore wind energy projects in response to these challenges and opportunities. According to Keith Drover of Growler Energy, NL possesses 40% of Canada's wind potential, which developers could harness (Canadian Broadcasting Corporation News, 2022). This offers growth opportunities in NL's renewable sector and clean energy exports, with the proposed wind-to-hydrogen projects expected to span 35 to 40 years and contribute an estimated \$206.2 billion to the provincial Gross Domestic Product and \$11.7 billion in revenue (Government of Newfoundland and Labrador, 2023). Additionally, the project plans estimate peak construction employment at 11,694 full-time equivalents, with a total capital spend of \$66.3 billion (Government of Newfoundland and Labrador, 2023).

❖ Nova Scotia

Similarly, NS aims to transition from coal reliance to a more diversified renewable energy mix. Coal-fired plants provide 55.8% of the province's power, which will decline considerably as

it phases out coal by 2030 (Canada Energy Regulator, 2022b; Nova Scotia Power, n.d.). NS's Renewable Electricity Plan targets 80% of electricity from renewable sources by 2030, as wind already accounts for 26.1% of the province's energy mix (Canada Energy Regulator, 2022b; Nova Scotia Power, n.d.).

Also, with the province's vast offshore wind potential, offshore energy projects are expected to generate 373 megawatts of renewable electricity by the end of 2024 (Henderson, 2023). Moreover, tidal energy from the Bay of Fundy remains untapped and can produce 7,000 megawatts, which is sufficient to power about 100,000 homes (Canada Energy Regulator, 2023b). This shift to clean energy is vital to the province's coal elimination by 2030 and 2035 net-zero emission goals, with wind and tidal energy expected to play a significant role in achieving these targets (Henderson, 2023; Nova Scotia Power, n.d.).

In conclusion, NL's energy landscape remains shaped by its dominant hydroelectric base and increasing interest in offshore wind-to-hydrogen projects, while Nova Scotia aims to move away from coal and focus on wind and tidal energy resources. These efforts reflect distinct but complementary approaches to Canada's 2050 net-zero goals and the global energy transition of reducing greenhouse gas emissions and fostering sustainable energy practices.

1.4.5 Conclusion

Given NL and NS's study areas, understanding Canada's OWE-RA is crucial. Recognizing the local geography, economy, and cultural backgrounds helps to evaluate the regional impacts of offshore wind energy projects. Each province's unique traits influence the implementation and outcomes of such projects, highlighting the need to tailor the RA to these needs and values.

Furthermore, the regional context is essential to identifying and evaluating the environmental, social, economic, health, and cultural effects that offshore wind energy projects

might bring to NL and NS. The marine ecosystems, coastlines, and community dynamics in these provinces present challenges and opportunities for offshore wind energy projects, highlighting the need for a thoughtful RA to address these local realities.

This regional contextualization is also important for understanding how the RA aligns with the SDGs and UNDRIP. NL and NS Indigenous communities have deep historical and cultural connections to their lands and waters, necessitating an RA process that respects and integrates Indigenous rights and perspectives. Recognizing traditional industries like fishing and energy needs provides valuable insights into offshore wind energy projects' potential benefits and challenges, helping shape discussions on sustainable energy and economic growth.

Moreover, a deep understanding of NL and NS is important for effective stakeholder engagement, ensuring that the values and concerns identified in the OWEP-RA reflect the community's hopes. This engagement is crucial to building consensus around offshore wind development and addressing potential emerging conflicts.

Lastly, the regional focus enhances the thesis's contribution by offering insights and recommendations for policymakers, stakeholders, and researchers to help shape Canada's sustainable energy future. The thorough overview of NL and NS highlights the importance of regional context in exploring Canada's OWEP-RA. By grounding the analysis in these specifics, the thesis aims to enhance our understanding of how RA can effectively align with SDGs and UNDRIP principles, promoting sustainability and respecting Indigenous rights in the context of offshore wind energy projects across Canada.

1.5 Thesis Structure

This study is organized into six chapters. Chapter 1 provides an overview of the thesis's rationale, objectives, and significance. Chapter 2 comprehensively explores Canada's IA, RA, sustainable development, SDGs, and UNDRIP. The chapter offers insights into Canada's RA

contextual landscape and emphasizes its essential role in shaping the country's next generation of IA. It also justifies the selection of the United Nations sustainability frameworks for this study, emphasizing their strength compared to other theories like the three-pillar model and doughnut economics, while considering scholarly critiques of both SDGs and UNDRIP.

Chapter 3 outlines the research method for examining OWEP-RA comments in NL and NS. The thematic analysis of comments and quantitative assessment of SDGs and UNDRIP contribute to a thorough understanding of the RAs' alignment with key sustainability and Indigenous rights frameworks.

Chapter 4 details the results of the OWEP-RA public comments analysis in NL and NS and presents the findings using various representations, such as text, bar charts, clustered bar charts, and radar charts. It supports these findings with paraphrased comments (concerns) from the analysis to convey insights aligned with the research questions and objectives.

Chapter 5 discusses the recurring themes from the comments analysis and findings from Chapter 4, with some comparisons to other studies. It also outlines connections across the themes, including recommendations and practical implications related to the objectives of this study. Chapter 6 covers the study's contributions, major findings, conclusions, and possible future research directions.

Chapter 2: Literature Review

2.0 Understanding Canada's Regional Assessment: Navigating Sustainable Development and Indigenous Rights

Chapter 2 provides a foundation for understanding the contextual landscape within Canada's RA, intertwining environmental considerations, SDGs, and UNDRIP. This scholarly review sets the stage for subsequent chapters, highlighting insights into the importance and challenges shaping the next generation of IA in Canada.

2.1 Overview of Impact Assessment and Regional Assessment in the Canadian Context

Federal IA in Canada aims to ensure sustainable projects, considering a wide range of impacts and involving extensive stakeholder engagement (Arnold et al., 2022). For large projects like offshore wind energy, Halpern and Fujita (2013) note that assessing cumulative environmental impacts requires including ecological and social factors like pollution, climate change, *ecosystem services*, public health, livelihoods, cultural values and practices, stakeholder engagement, etc. Ecosystem services refer broadly to the capacity of ecosystems to provide goods and functions that meet human needs (De Groot et al., 2010), and the benefits people obtain from ecosystems, commonly grouped into provisioning services- *e.g., food, water, timber*, regulating services- *e.g., climate regulation, water purification*, cultural services- *e.g., recreation, spiritual values*, and supporting services- *e.g., soil formation, nutrient cycling* (Millennium Ecosystem Assessment, 2005).

Canada's IA process includes federal and provincial assessments, focused on project-specific assessment and RA. Thus, federal assessments evaluate broad impacts, including fisheries, navigable waters, and Indigenous rights, focused on cumulative effects across various projects and national interests (Price, 2018). In contrast, provincial assessments are more locally confined, emphasizing regional impacts and adhering to provincial policies, which generally

exclude areas under federal jurisdiction unless specific coordination agreements exist (Becklumb, 2019). Hence, public comments on federal assessments are posted on the Impact Assessment Registry, while provincial assessments use separate consultation processes unless jointly coordinated with the federal government (Doelle & Sinclair, 2006).

Project-specific assessments evaluate individual projects and are crucial for large-scale developments like mines, pipelines, and infrastructure projects, assessing environmental, socioeconomic, health, and cultural effects (Impact Assessment Agency of Canada, 2022c). Conversely, RA takes a broader approach. It goes beyond the scope of project-specific assessments to understand the regional context by examining the combined impacts of various projects and other human actions within specific areas (Impact Assessment Agency of Canada, 2022a).

Canada's RA is governed by the Impact Assessment Act, which took effect on August 28, 2019, replacing the 2012 Canadian Environmental Assessment Act (Impact Assessment Agency of Canada, 2023b). This assessment helps to understand and manage the cumulative impacts on the environment, communities, and economies of multiple past, present, and future projects in the same regions.

❖ *Canada's Impact Assessment Role in Environmental Management and Policymaking*

In Canada, various processes fall under IA, including RA, which are key processes in environmental management and policymaking. Project-level IA assesses the potential environmental and social effects of proposed projects one at a time, including the impact on marine biodiversity, bird species, and aquatic ecosystems; this is to find ways to avoid or reduce negative impacts by modifying or, in rare cases, stopping projects entirely (Fortuny, n.d.; Hall et al., 2022; Johnston & Ray, 2023). Hence, while outright cancellations are uncommon, some notable instances exist. The James Bay Hydroelectric Project in Quebec faced suspension in the

1970s due to Indigenous and environmental concerns, which led to negotiations and the James Bay and Northern Quebec Agreement (Marsh, 2023). Similarly, the Trans Mountain Pipeline Expansion project in 2018 was halted by Canada's Federal Court of Appeal because of insufficient Indigenous consultation and environmental assessment, prompting a review of the approval process (Keen et al., 2018). Therefore, these assessments are crucial for making informed decisions when planning and executing projects (Hall et al., 2022).

Environmental impact assessment is a vital part of IA. It evaluates proposed projects' environmental, social, and economic impacts to identify and address environmental consequences, making it a subset of IA that emphasizes environmental aspects (Jose, 2023; Rathi, 2023). So, "environmental impact assessment evolves and varies from study to study and from country to country, examining project effects in advance to protect the environment, with an emphasis on prevention, compared to other assessment mechanisms" (Glasson & Therivel, 2019, pp. 4–6).

Environmental assessment involves the systematic evaluation of proposed projects' environmental effects, including policies, plans, and programs to mitigate adverse impacts through early identification and management (Craik, 2019). Thus, "public comments on projects under environmental assessment influence the identification and evaluation of adverse ecological effects and significance, mitigation measures, and the development of a follow-up program" (Impact Assessment Agency of Canada, 2018, p. 1).

An RA evaluates the cumulative effects of multiple projects within a specific region and considers larger spatial and temporal scales (Arnold et al., 2022). Essentially, RA conducted under the Impact Assessment Act is broader in scope than project-specific assessments, evaluating environmental, health, social, and economic effects at a regional scale to inform and support future project assessments (Impact Assessment Agency of Canada, 2022a).

Also, the RA process involves reports, typically written and reviewed by the government, acting as both proponent and reviewer of the assessment (Arnold et al., 2022). However, an ethical concern arises from the government being both the proponent and reviewer, which may compromise the RA process's objectivity and impartiality (Arnold et al., 2022). This dual role raises concerns about the IA process's fairness and transparency, though its purpose is to conduct unbiased assessments to inform project decisions in Canada (Dimayuga et al., 2023). Furthermore, Canada's RA process could affect sustainable development and Indigenous rights when consultation accommodations are not included in project decisions to prevent threats to Indigenous land titles (Mascher, 2019).

❖ *The Regional Assessment Process*

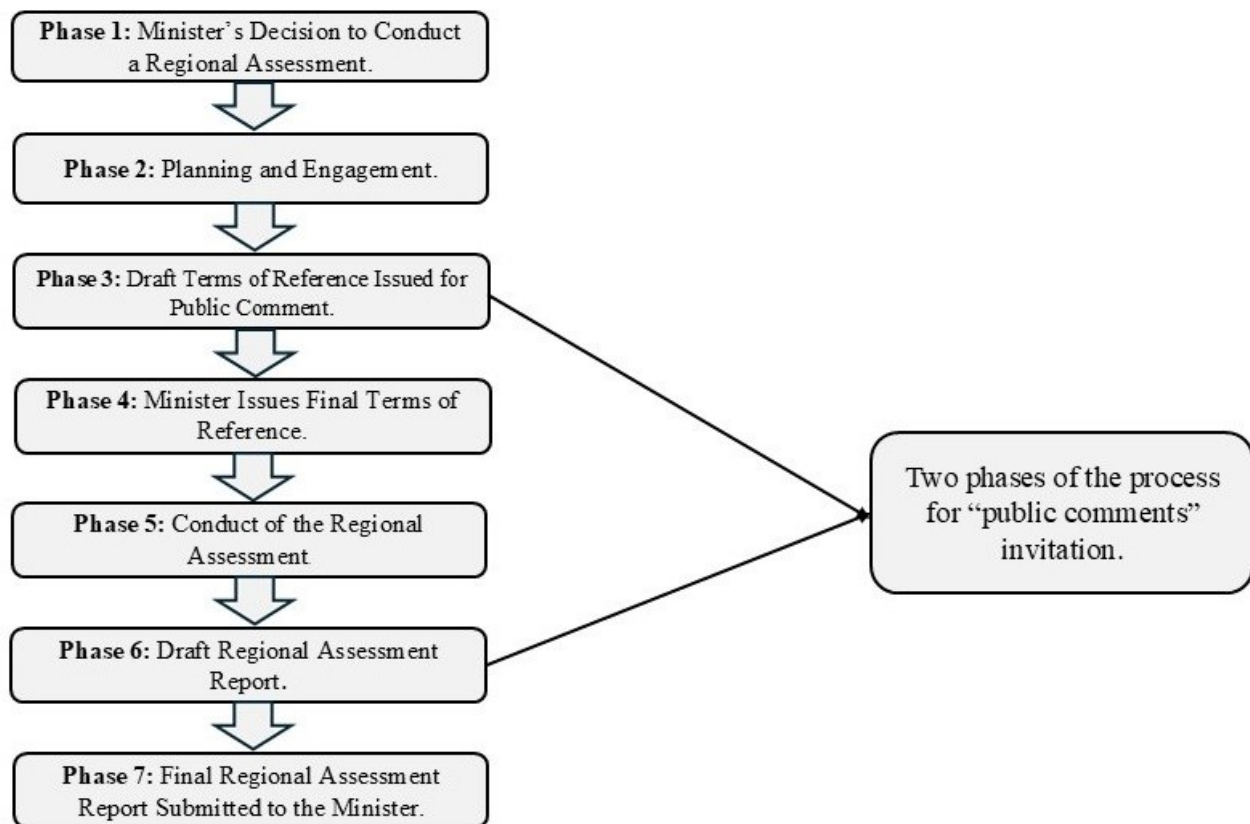


Figure 3: The Seven (7) Phases of the Regional Assessment Process in Canada.
Adapted from Impact Assessment Agency of Canada. (2022a). DRAFT – Policy Framework for Regional Assessment under the Impact Assessment Act. *Canada | Unclassified*, 1–13. <https://letstalkimpactassessment.ca/policy-framework-for-regional-assessment-under-the-impact-assessment-act>

As shown in Figure 3, Canada's RA process has *seven phases*, with each phase having varying timeframes (Impact Assessment Agency of Canada, 2022a). These phases help evaluate the cumulative effects of multiple projects like offshore wind energy in NL and NS on ecosystems, biodiversity, and Indigenous communities.

In the initial phase, *the Minister's decision to conduct a project assessment* might be due to a public request, a recommendation from the Impact Assessment Agency of Canada, or the Minister's discretion, with the decision posted on the Impact Assessment Registry (Impact Assessment Agency of Canada, 2022a). However, specific deadlines, like the Minister's 90-day response to RA requests, are designed to balance thorough decision-making and timely regulatory progress (Impact Assessment Agency of Canada, 2022a). The Registry is a formal, centralized, and transparent platform to collect, manage, and publish public comments like 'OWEP-RA comments' during IA to ensure legal compliance, accountability, and broader public participation (Department of Justice Canada, 2019; Impact Assessment Agency of Canada, 2019).

The next phase is the *Planning and engagement*, where the Impact Assessment Agency seeks input from other federal agencies, Indigenous Peoples, the public, and stakeholders to design the RA, defining its goals, objectives, and outcomes (Impact Assessment Agency of Canada, 2022a).

This is followed by the *draft terms of reference*, including agreements with other jurisdictions posted on the Registry for public comment (Impact Assessment Agency of Canada, 2022a). The entities involved in this phase include the minister and other jurisdictions, who jointly establish an assessment committee (Impact Assessment Agency of Canada, 2022a). The Minister sanctions the terms of reference and timeframes and designates committee members, including at least one individual recommended by another jurisdiction (Impact Assessment

Agency of Canada, 2022a). The draft agreements and terms of reference organize the RA process and ensure consistent criteria and efficient stakeholder dialogue for better decision-making (Doelle & Sinclair, 2006). These elements are crucial for projects in Canada's IA context, particularly in balancing NL and NS development of offshore wind energy projects with Indigenous rights and sustainability.

So, the RA draft agreements focus on four aspects: scope, study area, stakeholder roles, and governance structures, to ensure collaboration and clarity in planning and execution (Impact Assessment Agency of Canada, 2022a). However, the RA draft agreement differs from the legal or common draft agreement, which includes timelines, financial terms, legal obligations, and dispute resolution (Fewings & Henjewe, 2019). Similarly, the RA's terms of reference outline the project's objectives, scope, governance, timelines, and engagement requirements to ensure clarity and inclusivity in its conduct (Impact Assessment Agency of Canada, 2022a). Thus, the draft agreement and terms of reference are essential to ensure RA complies with the Impact Assessment Act, providing clear objectives, engaging stakeholders meaningfully, streamlining processes for future assessments, and supporting sustainable development (Impact Assessment Agency of Canada, 2022a).

After the RA draft agreement and terms of reference, the fourth and fifth phases are: (1) the *Minister's issuance of the final terms of reference* and (2) *assigning the RA conduct* to either a Committee or the Agency, respectively. This ensures the assessment proceeds according to these terms, with avenues created for public participation (Impact Assessment Agency of Canada, 2022a). Meaningful participation stresses the importance of involving local communities, considering and addressing their perspectives and concerns, and providing opportunities for stakeholders to share knowledge, discuss, and influence outcomes (Park et al., 2022; Yates, 2018). Not surprisingly, scholars have long debated what constitutes meaningful

participation. Arnstein's (1969) seminal paper '*A Ladder of Citizen Participation*' describes participation as a spectrum from nonparticipation—where stakeholders have little influence, through tokenism, to genuine citizen power—where stakeholders can shape decisions. In a Canadian RA context, a simple public information session without feedback represents nonparticipation, whereas a community advisory committee that can recommend changes demonstrates genuine citizen power. This underscores the need to move beyond mere consultation, ensuring stakeholders can meaningfully influence projects and policy decisions (Xiang et al., 2023).

The sixth phase is *the draft of the RA report* posted on the Registry for further public comment when it is completed. The final phase is *the final report submission to the Minister*, also posted on the Registry, where the Minister may provide additional guidance (Impact Assessment Agency of Canada, 2022a). Furthermore, it is important to note that public comments are invited exclusively at two phases of the RA process. This part of the comment invitation occurs during *drafting the terms of reference and the RA report* phases (Impact Assessment Agency of Canada, 2022a). This approach aims to ensure transparency in the RA process, which is essential for supporting responsible development. Hence, this study defines public comments as the concerns, interests, and perspectives of diverse stakeholders, like Indigenous Peoples, nonprofit organizations, etc., about offshore wind energy projects in NL and NS.

In conclusion, Canada's RA process assesses cumulative impacts on ecosystems, communities, and Indigenous rights, aiming to balance sustainability with development through collaboration, engagement, and transparency. Although the government's dual role as proponent and reviewer raises impartiality concerns, the seven-phase process, guided by draft agreements and terms of reference, helps to ensure clarity, accountability, and informed decisions for

sustainable project outcomes (Arnold et al., 2022; Doelle & Sinclair, 2006; Impact Assessment Agency of Canada, 2022a).

❖ ***Canada's Evolving Impact Assessment Framework: Indigenous Consultation and Historical Context***

The Impact Assessment Agency of Canada (IAAC) conducts federal IA and RA. In Canada, provincial and territorial agencies handle IA in their area, with Indigenous consultation integral at all levels to protect Indigenous rights and integrate Indigenous knowledge (Eckert et al., 2020). This consultation allows for valuable input, addresses concerns, and incorporates feedback to enhance IA outcomes, considering collective impacts on Indigenous rights and ecological sustainability, especially in projects like offshore wind energy (Kim & Wolf, 2014; Larsen, 2018; O'Faircheallaigh, 1999; Watson et al., 2023). Hence, meaningful consultation involves more than mere information sharing; it emphasizes genuine dialogue and collaboration, empowering stakeholders to co-develop solutions, provide feedback, and contribute to evaluating cumulative project effects (Xiang et al., 2023).

The Canadian IA process, introduced in 1973, has been reformed several times. These changes aim to align with sustainable development principles and incorporate VC concepts to ensure that ecological, social, economic, cultural, and biophysical elements are considered in project decisions (Impact Assessment Agency of Canada, 2023a). Historically, the Environmental Assessment and Review Process Guidelines Order was one of Canada's first frameworks for IA and provided a basis for conducting IA, including RA; however, it focused mainly on project-specific assessments (Gibson, 2002).

In the context of IA, including the OWEP-RA, VCs are important to stakeholders. Hence, VCs represent key elements of the environment that integrate ecological features with human well-being and activities, reflecting aspects that stakeholders consider important to preserve or

enhance during a project assessment (Impact Assessment Agency of Canada, 2023a). These components include ecological features, like marine biodiversity, and social or economic aspects, like community health, cultural practices, and local employment opportunities.

However, while VCs are crucial to structuring IAs, the term may be unfamiliar outside the IA field. Keats and Evans (2020) note that terminological confusion hinders meaningful consultation and integration of Indigenous knowledge in decision-making. So, this study uses VCs as reference points to understand stakeholder perspectives and to express their main concerns on the OWEP-RA (Fominykh et al., 2016; McKittrick, 2022). Consequently, this approach highlights the VCs as shared references and the RA's cumulative insights, setting the stage to explore how Canada's evolving IA processes address broader environmental, economic, social, and Indigenous concerns, particularly in the context of offshore wind energy projects in NL and NS.

The 1992 Canadian Environmental Assessment Act introduced stricter procedures for IA, including provisions for comprehensive studies and panel reviews that consider regional factors (Doelle, 2008). The Canadian Environmental Assessment Act 2012 further refined the assessment process and stressed the need for cumulative effects assessment, which often requires broader regional perspectives to understand the overall impacts (Noble, 2010a).

The 2019 Impact Assessment Act formalized the RA tool to identify cumulative effects within a regional context and guide project IA to promote sustainability, considering Indigenous rights and public input in decisions (Cherwick, 2021). However, while the Impact Assessment Act provides a framework for evaluating project impacts, recent legal challenges have significant implications for its implementation, especially concerning the offshore wind energy projects in NL and NS.

❖ *Canada's Impact Assessment Act Legal Challenges and Jurisdictional Implications for NL and NS Offshore Wind Energy Projects*

The *Impact Assessment Act*, passed in June 2019, redefined how Canada evaluates major projects, including offshore wind energy, by considering environmental, social, economic, and cultural impacts (Langstaff, 2024). However, its legitimacy soon came under scrutiny due to concerns about federal overreach into provincial jurisdiction over natural resources (Eckert et al., 2020; Langstaff, 2024).

As such, in 2022, Alberta's government challenged the Act, asserting it granted excessive federal control over industries legally managed by provinces (Langstaff, 2024). Hence, Alberta's Appeal Court ruled the Act unlawful, citing interference in provincial economies (Langstaff, 2024). This was later partially upheld by Canada's Supreme Court, which ruled that the Act's "screening" and "public interest decision" provisions exceeded federal authority, while affirming Ottawa's jurisdiction in areas like federal lands and international projects (Langstaff, 2024).

Though advisory, the ruling from Canada's Supreme Court prompted calls for legislative amendments. As a result, the federal government issued interim guidance in October 2023, suspending the Minister's discretionary project designation powers for federal scrutiny, with expected amendments in 2024 to clarify jurisdictional boundaries, restrict federal assessments to matters within its scope, and promote equivalency with provincial processes (Langstaff, 2024; Langstaff et al., 2024).

As of August 2025, the anticipated amendments to the Impact Assessment Act have already been enacted. These changes, introduced through Bill C-49 (*amendments to Canada-NL Atlantic Accord Implementation Act and the Canada-NS Offshore Petroleum Resources Accord Implementation Act*), received Royal Assent on June 20, 2024, and came into force on January 31, 2025 (Hatton & Mckibbon, 2025; Langstaff et al., 2024). The amendments clarify federal and

provincial roles in project assessment, establish joint regulatory frameworks for offshore renewable energy, and expand the mandates of the new Canada-NL Offshore Energy Regulator and Canada-NS Offshore Energy Regulator to oversee offshore wind energy projects (Hatton & Mckibbon, 2025; Jan et al., 2024; Parliament of Canada, 2024). For NL and NS, these changes provide clearer jurisdictional guidance, streamline assessment processes, and promote coordinated oversight for offshore wind energy projects (Hatton & Mckibbon, 2025; Jan et al., 2024; Langstaff, 2024; Parliament of Canada, 2024).

In conclusion, the legal challenges to the Impact Assessment Act and the Supreme Court's ruling highlight the complex interplay between federal and provincial jurisdictions in regulating large-scale energy projects. The enactment of Bill C-49 clarifies roles, establishes joint regulatory frameworks, and expands the mandates of offshore energy regulators to shape assessment processes as NL and NS pursue bold offshore wind energy goals. Hence, coordinated collaboration between federal and provincial authorities remains essential to achieve Canada's 2050 renewable energy and greenhouse gas reduction targets (Langstaff et al., 2024).

❖ *Cumulative Effects Assessment and Regional Assessments: Limitations, Strengths, and Challenges for Sustainability*

Cumulative effects assessment and RA focus on evaluating project impacts without specifically aiming to assess effects on the SDGs and UNDRIP. As Bevilacqua et al. (2018) described, cumulative effects assessment maps expected ecosystem impacts and assumes a linear response to cumulative pressure, but does not accurately predict the connection between ecosystem effects and degradation. Conversely, Carius et al. (2018) note that RA adopts a broader view to consider effects at multiple scales, from local to global, and aims to inform other IA types by emphasizing regional economic, social, and ecological dynamics.

However, despite its utility, Duinker and Greig (2006) criticized cumulative effects assessment as focusing more on project-specific impacts and assuming linear connections between cumulative pressures and ecosystem degradation. This constrained view often fails to capture the difficulties and challenges of sustainability. Likewise, Noble (2010b) criticized the cumulative effects assessment's tendency to operate in isolation, focused on stressor-based practices that scrutinize specific environmental components rather than the cumulative impacts across diverse scales and sectors.

Conversely, RA offers a more comprehensive approach, addressing many of the cumulative effects assessment's limitations. Thus, RA integrates cumulative ecological pressures with regional planning and socio-economic considerations, providing a broader IA framework. This, Noble (2010b) argue that rectifying the deficiencies of cumulative effects assessment requires implementing a regional plan that transcends project-level assessment and includes cumulative effects. Similarly, Duinker and Greig (2006) proposed a regional environmental effects framework that accounts for cumulative impacts and meets broader sustainability and planning objectives.

However, despite the RA's intended role in enhancing the effectiveness of federal IA processes to address sustainability in environmental, social, and economic realms (Impact Assessment Agency of Canada, 2022a). Challenges persist in evaluating the cumulative effects of development activities on ecosystems and climate resilience. For example, Halpern and Fujita (2013) highlight several issues. These include data gaps, utilization of coarse-resolution data, movement understanding and spatial connections, historical impact considerations, temporal dynamics examination, the ocean's three-dimensionality incorporation, potential confusion between stressors and uncertainty surrounding drivers in data, and their combination. Similarly, Malhi et al. (2020) assert that ecosystems are affected by extreme climatic variability, climate

change interactions, human-induced stressors, threshold and potential abrupt and irreversible changes, and energy flux or trophic interactions of climate.

Hence, these factors highlight the challenges in assessing cumulative effects and the need for data integration and consideration of multiple stressors to understand the dynamic nature of ecosystems in IA.

❖ ***Addressing Indigenous Knowledge, Epistemic Belonging, and Consultation Challenges in Regional Assessments***

Similar to the UNDRIP principles, RA includes provisions that support using Indigenous knowledge, recognizing its value in understanding ecosystem dynamics and potential impacts on Indigenous land (Impact Assessment Agency of Canada, 2022a). “Indigenous knowledge is defined as a distinct, evolving body of knowledge owned by its holders, derived from millennia of continuous, holistic observations, and distinguished from traditional knowledge for its inclusivity and dynamism” (Houde et al., 2022, p. 2).

Recognizing Indigenous participation and knowledge enriches IA and promotes complete epistemic belonging. This ensures that all voices, especially those from marginalized or underrepresented groups, are acknowledged and valued in creating and validating knowledge (Allen et al., 2023; Medina, 2013; Nyamnjoh & Ewuoso, 2023). Medina (2013) examines epistemic justice, emphasizing how knowledge recognition and validation are essential for fostering intellectual belonging, which upholds personal identity and community integrity. Conversely, Medina (2013) also discusses how epistemic injustice excludes marginalized groups from shaping collective knowledge, distorting shared understanding, and perpetuating unequal power dynamics.

Nonetheless, Duria et al. (2023) discuss conflicts that may arise when Indigenous contributions challenge other interests, hindering efforts to achieve complete epistemic

belonging. Epistemic belonging is feeling included and accepted in a community or group based on shared knowledge, understanding, and values (Bhopal, 2018). Hence, the concept is important in discussions about knowledge production, particularly in contexts where certain groups may feel marginalized or excluded from mainstream environmental assessment.

Again, Indigenous communities often face barriers due to a lack of understanding and respect for their cultural and historical contexts, compounded by ongoing marginalization and historical trauma (Truth & Reconciliation Commission of Canada, 2015a). Inadequate financial and technical resources also inhibit full participation in project assessments and consultations (Booth & Skelton, 2011). Furthermore, overlapping regulatory responsibilities between federal and provincial authorities create inefficiencies and complicate coordination, hindering effective engagement (Marc, 2005; Organization for Economic Co-operation & Development, 2021).

Moreover, Indigenous consultation issues persist due to operational challenges and historical distrust. Den Houting et al. (2022) note that past negative experiences and power imbalances continuously affect Indigenous participation in government-led assessments. Tamirat and Lemi (2023) argue that consultations take much time and resources, discouraging meaningful participation. Schocat (2021) observes that consultation often leads to conflicts between Indigenous perspectives and those of settler-colonial views on land, emphasizing the importance of engagement that respects different worldviews.

Despite these challenges, Canada's RA process is crucial in engaging with Indigenous communities and offering funding for independent projects (Savic & Hoicka, 2023; Yalamala et al., 2023). Nevertheless, when consultations are rushed due to tight deadlines and budget cuts, it often results in insufficient engagement, leading to tensions and even legal conflicts (Hanna et al., 2022). These rushed approaches echo colonial attitudes that prioritize profit over the rights of

Indigenous Peoples, continuing a long history of marginalization and exploitation (Tamirat & Lemi, 2023).

Engaging with Indigenous Peoples is essential for offshore wind energy projects in NL and NS. Tran and Salamanca (2023) highlight the need to include Indigenous voices in climate policy discussions, pointing out how valuable Indigenous knowledge can be in creating fair and effective environmental solutions. Similarly, Bertilsson and Soneryd (2023) stress valuing Indigenous views for inclusive development, criticizing the Green Climate Fund for prioritizing technical and financial aspects over the meaningful involvement of Indigenous Peoples. Gleeson and Fletcher (2022) advocate for sustainable energy development that incorporates Indigenous knowledge and meaningful consultation and respects Indigenous rights and culture.

Ultimately, meaningful consultation with Indigenous Peoples is crucial for effective climate action (United Nations Framework Convention on Climate Change, 2022). Thus, Indigenous communities, often affected by climate change, must be involved in climate policies to ensure that solutions are culturally appropriate, sustainable, and effective (Ford, 2012; Whyte, 2013). Berkes (2018) argues that Indigenous-led conservation and climate initiatives are more successful due to their deep local ecological knowledge. As such, fostering genuine consultation and partnership with Indigenous Peoples is crucial to upholding Indigenous rights and achieving environmental outcomes that are sustainable and resilient (Blok, 2023).

2.2 Public Participation in Energy Projects and Impact Assessments: Scholarly Reviews and Findings

Public participation in energy projects and IA in Canada has become essential for policy decisions, project approvals, and addressing ecological and socioeconomic issues. Recent initiatives, like the Wind-Hydrogen Fiscal Framework in NL, highlight the government's plans to involve the public in energy projects, outlining the need for IA and transparent consultations

before approval (Government of Newfoundland and Labrador, 2024). These provisions aim to ensure that wind energy projects contribute to the economy and align with local communities' environmental and social priorities (Government of Newfoundland and Labrador, 2024).

However, evidence from the Port au Port Peninsula underscores the complexities of translating IA into genuine community alignment. The World Energy GH2 wind-to-hydrogen project, proposing 164 turbines, cleared all EA hurdles despite surveys showing that 84% of residents opposed the project and expressed concerns over impacts on land, water, wildlife, and cultural sites (Butler, 2022). Residents in local service districts reported feeling excluded from meaningful consultations, suggesting that compliance with IA regulations does not automatically ensure that community priorities are fully addressed. This instance highlights the importance of inclusive, transparent, and meaningful public engagement, complementing formal assessment processes to align energy projects with sustainability goals and Indigenous rights.

Building on real-world evidence, some scholarly studies offer valuable insights into the mechanisms, benefits, and challenges of public participation in energy projects. Studies indicate that while formal impact assessments are essential for regulatory compliance, the extent to which they align with community priorities depends on the inclusiveness, transparency, and responsiveness of engagement processes (Liu et al., 2020; Pandey & Sharma, 2021; Perlaviciute, 2019). Thus, projects that integrate local knowledge and sustain early, meaningful dialogue gain higher social acceptance and sustainable outcomes.

Hence, the following sections explore some studies from Canada and other countries about public participation, examining its impact on decision-making, and how their findings and insights connect with the current study's aim of aligning OWEP-RA public concerns with sustainability goals and Indigenous rights.

2.2.1 Procedural Justice in Energy Projects

Based on the Port au Port Peninsula's experience, procedural justice is crucial in assessing fairness and inclusivity, especially regarding public engagement and ensuring that Indigenous rights and sustainability are respected (Rioux-Gobeil & Thomassin, 2024). Del Río and Burguillo (2008, 2009) highlight that procedural justice fosters fairness in decision-making by involving stakeholders in transparent and participatory processes. This inclusive approach supports environmental, economic, and social standards and enhances stakeholder acceptance and project success by addressing concerns, sharing benefits fairly, and reducing socio-political inequalities (Del Río & Burguillo, 2008, 2009).

According to Del Río and Burguillo (2009), procedural justice comprises three vital components: **(1)** engaging stakeholders in a meaningful way, **(2)** being aware of the socio-economic and political dynamics at play, and **(3)** conducting stakeholder structured assessment to understand their interests, motivations, and strategies. Additionally, it is important to ensure effective participation to mitigate resistance from stakeholders who might be adversely impacted by the project or have environmental concerns (Del Río & Burguillo, 2009). Thus, to address these concerns, successful projects often offer compensation benefits like financial support, job opportunities, or improved infrastructure for affected communities (Del Río & Burguillo, 2008).

In the context of offshore wind energy projects in NL and NS, procedural justice ensures that stakeholder voices are included in the development process and that these inputs can meaningfully influence project decisions, rather than being tokenistic (Liu et al., 2020; Perlaviciute, 2019). This approach builds trust, promotes transparency, and helps gain local acceptance. Doing so aligns renewable energy projects with broader sustainability goals by reducing emissions and inequality, supporting social cohesion, enhancing livelihoods, and

promoting equitable, balanced development across technical, environmental, and socioeconomic dimensions (Del Río & Burguillo, 2008, 2009).

2.2.2 Public Participation in Environmental Assessments Under CEAA 2012

The Canadian Environmental Assessment Act 2012 requires the public to be involved in IA, meaning that public comments must be collected at different stages of project evaluations (Impact Assessment Agency of Canada, 2018). A study by Hanna et al. (2019) assessed the efficacy of public participation in IA of low-carbon energy projects. Their findings uncovered that public feedback often highlights climate change, ecosystem degradation, and biodiversity loss concerns. Hanna et al. also found a gap that public input rarely influences policy decisions, mainly because political or economic priorities eclipse environmental considerations.

Hunsberger et al. (2020) echoed these findings in their review of the regulatory reforms in Canada's IA system. Hunsberger et al. noted that while avenues exist for participation, public input does not have much influence on final decisions. They posited that many public concerns, particularly environmental protection and community welfare, are not effectively included in decisions, with engagement often falling short of expectations (Hunsberger et al., 2020).

However, according to Hunsberger et al. (2020), recent regulatory reforms in NL aim to address the issue of public concerns, which are often sidelined in the IA process. Hence, the Canada-NL Offshore Energy Regulator, responsible for offshore renewable projects, has expressed a commitment to transparency and inclusive consultations as key parts of its mission (Committee for the Regional Assessment of Offshore Wind Development in Newfoundland and Labrador, 2024). This shift in regulation marks a step forward in how public concerns might be considered in decision-making.

Overall, these studies indicate that while the process of public comments is thorough, ensuring these comments influence project outcomes is challenging. These findings are relevant

to this study, examining the alignment of public concerns with the SDGs and UNDRIP in the context of NL and NS OWEP-RA.

2.2.3 Social Acceptance of Wind Energy Projects

Wind energy projects, onshore and offshore, are facing extensive scrutiny because of their potential impact on local communities and ecosystems. Enevoldsen and Sovacool (2016) explored public participation in wind energy projects in France and Germany. Their study uncovered social acceptance as an obstacle, highlighting public concerns like noise pollution, visual disruptions, and probable effects on Indigenous wildlife. According to Enevoldsen and Sovacool (2016), these concerns often lead to opposition, even when the projects aim to promote sustainability and reduce carbon emissions.

Similarly, a study by Jami and Walsh (2017) examined public participation in wind energy projects in Ontario, Canada. Their findings uncovered that while the public supports renewable energy, resistance arises when perceived local costs outweigh the benefits. This opposition often stems from concerns about environmental impacts, land use, and inadequate community engagement. Jami and Walsh (2017) concluded that for public participation to be effective, it must go beyond mere consultation and evolve into genuine collaboration in decision-making.

Overall, these findings emphasize the importance of addressing stakeholders' concerns in NL and NS offshore wind energy projects. Hence, this study thematically and quantitatively analyzes public comments to assess stakeholder perspectives or stances on VCs from OWEP-RA in NL and NS and their alignment with SDGs and UNDRIP.

2.2.4 Indigenous Rights and Consultation in Energy Projects

Engaging the public in NL and NS offshore wind energy projects involves important consultation with Indigenous communities, particularly when these projects affect their land and resources. Hence, Booth and Skelton's (2011) public comment study on the Northern Gateway

Pipeline project discovered that many Indigenous communities were concerned about the project's potential environmental and cultural impact. Booth and Skelton (2011) highlighted that Indigenous communities wanted genuine consultation, as mandated by UNDRIP, including free, prior, and informed consent. However, the Indigenous participants felt their views were overlooked in the project's decision-making (Booth & Skelton, 2011).

Similarly, Doelle and Sinclair (2006), in their analysis of public comments on offshore oil and gas projects in Atlantic Canada uncovered that while the assessment allowed for public and Indigenous input, it did not fully incorporate Indigenous knowledge and concerns in the project planning. Thus, Indigenous communities contended that consultation processes were mere formalities rather than proper engagements (Doelle & Sinclair, 2006). As such, these patterns of exclusion erode trust and cause project opposition, highlighting persistent consultation and participation gaps in the IA process (Booth & Skelton, 2011; Doelle & Sinclair, 2006).

In response to these concerns, the RA guides the recent NL and NS offshore wind energy projects in prioritizing Indigenous consultation. Hence, these assessments aim to ensure that Indigenous views are acknowledged early in the project planning process, addressing prior concerns about the marginalization of Indigenous contributions in energy projects (Booth & Skelton, 2011; Impact Assessment Agency of Canada, 2022a).

Building on these analyses, this study will contribute to the discourse by examining how public comments, particularly from Indigenous communities, align with UNDRIP principles, emphasizing free, prior, informed consent and Indigenous rights in the decision-making processes of offshore wind energy projects in NL and NS.

2.2.5 Strategic Environmental Assessments and Public Comments

Strategic environmental assessments evaluate the ecological impacts of policies, plans, and programs (Organization for Economic Co-operation and Development, 2023). Fischer et al.

(2020) evaluated these assessments in renewable energy planning and concluded that public comments often raise concerns about long-term sustainability, which are often overlooked in project-specific assessments. Their study showed that public comments in these assessments advocate for environmental protections and considerable focus on cumulative impacts, particularly in large-scale projects like offshore wind energy (Fischer et al., 2020).

Similarly, in their analysis of public comments on strategic environmental assessments for NL's offshore oil and gas projects in the Canadian context. Greig and Duinker (2011) uncovered that stakeholders were concerned about potential oil spills and their impact on marine ecosystems. Despite these concerns, the final decisions from the assessment tend to prioritize economic development over reducing the environmental hazards (Greig & Duinker, 2011). Hence, this disconnect between public concerns and assessment decisions highlights the need for more transparent and responsive strategic environmental assessment (Greig & Duinker, 2011).

Building on earlier critiques of strategic environmental assessment by Fischer et al. (2020), NL's Wind-Hydrogen Fiscal Framework and some regulatory changes from the Canada-NL Offshore Energy Regulator represent a step toward a more transparent and responsive approach to public participation by establishing advisory committees, consultation sessions, and transparent reporting (Committee for the Regional Assessment of Offshore Wind Development in Newfoundland and Labrador, 2024; Government of Newfoundland and Labrador, 2024). These frameworks intend to address public concerns about lasting environmental impacts, including those about marine ecosystems and local fisheries (Government of Newfoundland and Labrador, 2024). However, they primarily facilitate consultation rather than entrusting decision-making power to communities, as no mechanisms like referendums, citizen juries, or community-based natural resource management are embedded within the framework. Thus, while these frameworks

mark progress in formalizing stakeholder engagement, they remain limited in achieving true participatory justice because communities cannot meaningfully influence final project outcomes.

Hence, this study aims to build upon these findings by thematically and quantitatively analyzing public comments to assess how OWEP-RA addresses concerns about lasting environmental and socioeconomic issues, focusing on sustainability goals.

2.2.6 Conclusion

The Wind-Hydrogen Fiscal Framework and the Canada-NL Offshore Energy Regulator reflect a growing emphasis on public engagement and highlight increasing momentum of offshore wind energy development in Atlantic Canada. These advancements aim to align energy projects with sustainability and Indigenous rights, supporting a more transparent and inclusive approach to future projects (Government of Newfoundland and Labrador, 2024; Impact Assessment Agency of Canada, 2022a).

Also, the various studies reviewed support the argument for public participation in IA, ensuring wind energy projects, particularly offshore wind, align with sustainability goals and uphold Indigenous rights. Nonetheless, from the reviewed studies, some gaps exist between public input and the decision-making process, with many public concerns underrepresented in the final project approvals.

This study offers a timely contribution by reviewing OWEP-RA comments and discussing their alignment with sustainability frameworks like the SDGs and UNDRIP, using thematic and quantitative analyses. The study focuses on NL and NS to show how these provinces consider public and Indigenous perspectives in the context of offshore wind energy development. This scholarly work would guide policy and practical applications to improve forthcoming energy projects' inclusivity, transparency, and environmental sustainability.

2.3 The Concept of Sustainable Development

Sustainable Development refers to that type of development that promises to meet present generations' needs without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987). It highlights the need to view human progress from a holistic, multidimensional perspective. Hence, our efforts to reduce social marginalization and boost the economy must not harm biodiversity, ecosystems, our environment, or systems and structures of good governance. However, while the Brundtland Commission formalized this concept in global sustainability discourse, Indigenous Peoples articulated similar principles long before. For instance, the Haudenosaunee Confederacy's oral constitution, over 1,000 years old, emphasizes the "Seventh-Generation" principle, requiring decision-makers to consider the impacts of their choices on descendants into the future. This principle of intergenerational stewardship and the inseparability of human well-being and the natural world reflect a holistic understanding of sustainability (Haudenosaunee Confederacy, n.d.; Indigenous Corporate Training Inc., 2020).

Sustainable Development has two key ideas: **(1)** prioritize the needs of the world's poor and **(2)** the idea of limitation, which comes from technology and society that restricts the environment's ability to meet current and future needs (Burton, 1987). However, some scholars critique the conventional concept for oversimplifying complex relationships. Caradonna (2014) and Purvis et al. (2019) critique the three aspects of sustainable development (environmental, economic, social) for encouraging siloed thinking, which obscures the profound interconnectedness of ecological, social, and cultural systems. In contrast, the Seventh-Generation principle embodies a holistic worldview where sustainability is not a balancing act among separate aspects, but a relational responsibility spanning generations.

So, viewing sustainable development as a four-dimensional concept, including economic growth, social inclusion, environmental sustainability, and good governance, is more holistic and accurate. This, Fiorino (2014) asserts that sustainable development's ecological, economic, and social aspects advocate good living standards within the planet's limits and require social structures, including good governance, that support and sustain people's values. Good governance, the fourth aspect, helps balance the other aspects, as politics determines their equilibrium (Fiorino, 2010). Additionally, Moreno Rocha et al. (2023) emphasize that public consultations during energy project assessment can align with sustainability frameworks if key SDGs are included earlier in project plans. This shows the importance of governance and public engagement in ensuring sustainability in project planning.

Sustainable development aims for lasting benefits by including economic, social, and ecological factors in decision-making (Kandakoglu et al., 2019). This highlights the need to align stakeholders' concerns with sustainable energy policies by integrating climate change mitigation and aquatic conservation into renewable projects to support global sustainability (Lelieveldt & Schram, 2023; Moreno Rocha et al., 2023; Pathirana, 2023). Thus, sustainable development is vital to preserving the ability of current and future generations to meet their needs (World Commission on Environment and Development, 1987). As such, it is unsurprising that all sectors of society must plan, implement, and evaluate project activities to achieve these goals.

2.4 Timelines of Important Milestones Leading to Sustainable Development Goals

The history of sustainable development shows a growing awareness of environmental effects and the world's unending quest for economic growth (Dietz, 2023). This effort began with the 1972 Stockholm Conference on the Human Environment and continued with the 1980 World Conservation Strategy from the International Union for the Conservation of Nature (Paglia,

2021). These early efforts and proof of environmental harm led to the 1987 creation of the Brundtland Commission (Robinson, 2021).

The Brundtland Commission's report, 'Our Common Future,' sparked global action and provided a framework to tackle the widely recognized environmental decline (Robinson, 2021). A key moment in this progress was the 1992 Rio Earth Summit, which defined sustainable development's three aspects: environmental, economic, and social (Purvis et al., 2019). The summit stressed the interconnectedness of these aspects and the need to connect ecology and society with economics for genuine progress.

Built on prior declarations and plans, including the World Summit in South Africa, the 2002 Johannesburg Declaration on Sustainable Development addressed global challenges like climate change, biodiversity loss, poverty, hunger, inequality, etc. (Purvis et al., 2019). This declaration reaffirmed international commitments to sustainable development as outlined in the Rio Declaration and Agenda 21 (Purvis et al., 2019).

Thus, understanding sustainable development as a complex idea starts with recognizing its environmental impacts and focusing on its economic and social roots. This could be achieved using sustainable development principles in project planning, implementation, and assessment, like the offshore wind energy in NL and NS (Boulot & Collins, 2023).

2.5 Sustainable Development Goals

The SDGs in Figure 4, or 'Transforming our World': the 2030 Agenda for Sustainable Development, are 17 'Global Goals' with 169 targets (United Nations, 2015). These goals are global mandates to urge an end to poverty, protect the environment, and ensure everyone enjoys peace and prosperity (United Nations, 2022).



Figure 4: The Global Goals for Sustainable Development (United Nations, 2025a).
Adapted from the United Nations. (2025, June 18). Communications materials. *United Nations Sustainable Development*.
<https://www.un.org/sustainabledevelopment/news/communications-material/>

The United Nations established the SDGs at the 2012 Rio de Janeiro Conference on Sustainable Development. The goals are to create universal objectives to address the global community's urgent environmental, political, and economic challenges (Purvis et al., 2019). Hence, the SDGs are an ambitious, interconnected set of frameworks that nations worldwide aim to achieve by 2030 (United Nations, 2015). The SDGs build on the successes of the Millennium Development Goals, pledging to complete their unfinished work and address urgent global challenges through a balanced approach that promotes ecological sustainability, economic growth, social inclusion, and international partnerships, including Canada (United Nations, 2015; United Nations Development Programme, 2024).

The SDGs' unique feature is their broad coverage of global issues, underlining a universal commitment toward the permanent end of world poverty. These goals aim to ensure inclusiveness and participation to create a safe, sustainable, and prosperous world for all (United Nations Development Programme, 2024). The interconnectedness of the 17 Goals means that progress in one area impacts the success of others. Thus, tackling climate change, managing resources,

promoting gender equality, and improving healthcare help end poverty, promote peace, and build inclusive societies, eventually reducing inequality and boosting economic growth (United Nations Development Programme, 2024).

Despite their ambitious and interconnected design, the SDGs have seen uneven and insufficient progress. According to *The SDGs Report 2024*, only 17 % of SDG targets worldwide are on an achievable track, while over one-third of targets remain stalled or have even regressed, mainly due to the lingering effects of COVID-19, geopolitical instability, and accelerating climate impacts (United Nations, 2024). The subsequent *SDGs Report 2025* echoes this concern: only 35 % of targets are making moderate or consistent progress, nearly half are lagging, and 18 % have reversed (United Nations, 2025b). This shortfall underscores the urgent need for scaled-up global cooperation, decisive financial investment, and robust implementation mechanisms, particularly through reforms in international financing, peace-building, and social safety nets (United Nations, 2024, 2025b).

In the Canadian context, the IA process, including RAs, uses various indicators—ecological and socioeconomic—to assess how proposed projects or policies can affect sustainability and development goals, which may overlap with the SDGs (Morrison-Saunders et al., 2020). The IA process aims to ensure transparency in decision-making for projects that may significantly impact the environment (Impact Assessment Agency of Canada, 2025). These assessments are vital for SDGs on ecosystems and biodiversity, climate change, land use, habitat loss, water and air quality, and resource use. IA also helps to identify and reduce social and economic impacts on the general public (Impact Assessment Agency of Canada, 2025).

2.6 United Nations Declaration on the Rights of Indigenous Peoples

The term ‘Indigenous Peoples’ is complex and has many views. So, a universal definition may be impossible: a single definition might only partly capture the diverse experiences and

identities of Indigenous Peoples worldwide (Carino et al., 2009). Therefore, the UNDRIP states, “Indigenous Peoples are equal to all other peoples, recognizing the right of all peoples to be different, to consider themselves different, and to be respected (...) Indigenous Peoples have the right to self-determination. By that right, they freely determine their political status and pursue economic, social, and cultural development” (United Nations, 2008). The United Nations Policy of Engagement of Indigenous Peoples states: “We the peoples... declare our ability to stand by our belief in human dignity and worth, in fundamental human rights... and strive to improve social conditions and create greater freedom for all” (Fowler, n.d., p. 1).

With this, the 46 UNDRIP articles set standards for the survival, dignity, and well-being of Indigenous Peoples worldwide (United Nations, 2008). Key provisions include the right to self-determination to strengthen their unique cultural institutions and to participate in decisions that affect their rights (United Nations Department of Economic & Social Affairs, 2024).

Table 1: The 46 Articles of the United Nations Declaration on the Rights of Indigenous Peoples (United Nations, 2008). Adapted from the United Nations. (2008). *United Nations Declaration on the Rights of Indigenous Peoples. Resolution / Adopted by the General Assembly. A/RES/61/295.* https://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

UNDRIP Articles	Description
1	Indigenous Peoples are entitled to fully exercise all human rights and fundamental liberties collectively or individually.
2	Indigenous Peoples are free and equal to all others in dignity and rights.
3	Indigenous Peoples have the right to exercise self-determination. These rights allow them to determine their political status and freely pursue economic, social, and cultural advancement.
4	The Indigenous community is privileged to self-governance or autonomy within their internal and local affairs.
5	Indigenous Peoples have the right to uphold and reinforce their unique political, legal, economic, social, and cultural institutions.
6	Each individual belonging to an Indigenous community is entitled to a nationality.
7	Indigenous Peoples are entitled to the rights of life, physical and mental integrity, liberty, and security. They possess the collective entitlement to reside in freedom, peace, and security as distinct groups. They should not endure any form of genocide or violence, such as the forced relocation of children from one community to another.
8	The rights of Indigenous Peoples and individuals include protection against enforced assimilation or the eradication of their cultural heritage.
9	Indigenous Peoples have the right to belong to an Indigenous community or nation by the customs and traditions of that specific community or country.
10	Indigenous Peoples shall not face involuntary displacement from their territories or lands.
11	The rights of Indigenous Peoples encompass the freedom to uphold and revitalize their cultural customs and traditions. This includes the authority to conserve, safeguard, and enhance all aspects of their cultures over time, including archaeological sites, historical artifacts, ceremonial practices, technologies, and artistic expressions.

**Table 1: The 46 Articles of the United Nations Declaration on the Rights of Indigenous Peoples (United Nations, 2008).
Cont'd.**

12	Indigenous Peoples hold the right to express, exercise, develop, and educate others on their spiritual and religious practices, customs, and rituals. They also have the right to safeguard, conserve, and privately access their religious and cultural sites, manage their ceremonial items, and demand the return of their deceased. Nations must strive to facilitate the access and return of ceremonial items and deceased individuals in their custody through equitable, transparent, and efficient procedures devised in collaboration with the relevant Indigenous communities.
13	Indigenous Peoples have the right to revitalize, use, develop, and transmit their historical narratives, languages, oral traditions, belief systems, written languages, and literature to future generations. Additionally, they can designate and retain their own names for communities, places, and individuals.
14	Indigenous communities can establish and oversee their educational systems and institutions, incorporating language education that aligns with their cultural teaching and learning methods.
15	Indigenous Peoples have the right to the integrity and diversity of their cultures, traditions, histories, and aspirations, which should be appropriately represented in educational frameworks and public communication.
16	Indigenous Peoples have the right to create their own information systems for information access.
17	Indigenous individuals and communities are granted the right to fully enjoy all the rights stipulated in relevant international and domestic labor regulations. They should not face any discriminatory employment conditions, including but not limited to hiring and remuneration disparities.
18	The rights of Indigenous Peoples include the right to participate in decision-making processes on matters that affect their rights. This participation should be facilitated through representatives elected by Indigenous communities according to their established procedures, enabling the maintenance and advancement of their unique decision-making structures.
19	States must consult and cooperate with the relevant Indigenous communities through their representative bodies to obtain their voluntary, prior, and informed consent before adopting legislative or administrative measures that may affect them.
20	Indigenous Peoples have the right to develop and strengthen their political, economic, and social institutions or organizations, ensuring the security of their livelihoods and progress. They are also free to engage in traditional economic activities and other pursuits.
21	Indigenous Peoples are entitled, without bias, to enhance their economic and social circumstances, encompassing education, employment, skills training, housing, sanitation, healthcare, and social welfare.
22	Special considerations should be given to the rights and distinctive requirements of Indigenous elders, women, youth, children, and individuals with disabilities during the execution of this declaration. Nations must take steps, in collaboration with Indigenous Peoples, to guarantee that Indigenous women and children are shielded and safeguarded against all forms of discrimination and violence.
23	Indigenous communities possess the authority to establish and formulate priorities and tactics for implementing their right to development. Specifically, they have the right to actively formulate and execute health, housing, and other socio-economic schemes that impact them and, where feasible, administer such programs through their institutions.
24	Indigenous Peoples possess the right to access social and health services without facing discrimination.
25	Indigenous Peoples have the right to preserve and strengthen their spiritual relationship with their traditionally owned or occupied lands, territories, waters, coastal areas, and other resources. Moreover, they have a responsibility to future generations in this regard.
26	The rights of Indigenous Peoples extend to the lands, territories, and resources they have traditionally owned, occupied, used, or acquired. They have the right to own, use, develop, and govern the lands, territories, and resources they possess due to traditional ownership or occupation and those they have acquired through other means.
27	States must establish and execute a fair, independent, impartial, open, and transparent process in collaboration with concerned Indigenous Peoples. This process must appropriately recognize their laws, traditions, customs, and land tenure systems to acknowledge and settle the rights of Indigenous Peoples related to their lands, territories, and resources, including those traditionally owned or utilized.
28	Indigenous Peoples have the right to seek redress, including options such as restitution or, when restitution is not feasible, just, fair, and equitable compensation for the lands, territories, and resources that they have historically owned or used and that have been confiscated, taken, occupied, used, or harmed without their consent.
29	Indigenous Peoples have the right to conserve and protect the environment and the productive capacity of their lands, territories, and resources. States must establish and implement support programs for Indigenous communities to assist these conservation efforts, ensuring equality and non-discrimination.
30	Military operations are prohibited in the territories of Indigenous Peoples unless warranted by a legitimate public interest or consented to by the involved Indigenous communities. Before engaging in military activities on their territories, States must conduct meaningful consultations with the Indigenous communities, utilizing suitable protocols and engaging with their representative bodies.

Table 1: The 46 Articles of the United Nations Declaration on the Rights of Indigenous Peoples (United Nations, 2008). Cont'd.

31	Indigenous Peoples have the right to uphold, oversee, safeguard, and advance their cultural legacy, ancestral wisdom, and traditional cultural representations. This includes the demonstrations of their scientific advancements, technological innovations, and customs, encompassing human and genetic resources, seeds, medicinal remedies, knowledge of wildlife and plant life characteristics, oral histories, literary works, patterns, athletic activities, and customary pastimes, as well as visual and performing arts. Furthermore, they retain the entitlement to uphold, oversee, safeguard, and advance their intellectual property rights concerning cultural heritage, ancestral wisdom, and traditional cultural expressions.
32	Indigenous Peoples have the right to determine and promote priorities and strategies for developing or using their lands or territories and other resources.
33	Indigenous Peoples have the right to determine the structures and membership of their institutions following their established procedures.
34	Indigenous Peoples have the right to advance, cultivate, and preserve their organizational frameworks alongside their unique customs, spirituality, traditions, protocols, practices, and, where applicable, legal systems or traditions in alignment with global human rights principles.
35	Indigenous Peoples have the right to define the obligations of individuals to their societies.
36	Indigenous Peoples have the privilege to promote, develop, and uphold their institutional structures and unique customs, spirituality, traditions, procedures, practices, and, where existing, legal systems or customs according to international human rights norms.
37	Indigenous Peoples can acknowledge, adhere to, and enforce treaties, pacts, and other beneficial agreements reached with States or their successors.
38	States, in collaboration and consultation with Indigenous Peoples, are mandated to implement suitable measures, including legal actions, to realize the objectives of this Declaration.
39	Indigenous Peoples have the right to seek financial and technical support from nations and global cooperation to exercise the rights enshrined in this Declaration.
40	Indigenous Peoples have the right to access swift resolutions through equitable and impartial procedures for settling conflicts and disagreements with States or other entities and effective redress for any violations of their individual and collective rights. Such decisions must duly consider the customs, traditions, regulations, and legal frameworks of the respective indigenous communities and global human rights standards.
41	The entities and specialized bodies within the United Nations system and other intergovernmental institutions are expected to contribute to the complete realization of stipulations in this Declaration by mobilizing, among other things, financial aid and technical support. Mechanisms ensuring the involvement of Indigenous Peoples in matters affecting them must be established.
42	The United Nations, its entities, such as the Permanent Forum on Indigenous Issues, and specialized bodies, including at the national level, along with States, are obligated to advocate for and fully implement the principles of this Declaration and monitor its efficacy.
43	The rights acknowledged herein establish the fundamental standards for Indigenous Peoples' survival, honor, and welfare.
44	All the rights and liberties acknowledged herein are equally guaranteed to both male and female Indigenous individuals.
45	No provision in this Declaration shall be construed in a way that diminishes or abolishes Indigenous Peoples' current or future rights.
46	No stipulation in this Declaration shall be construed as suggesting any State, populace, group, or individual's right to engage in activities contrary to the United Nations Charter or as permitting or encouraging any actions that would undermine wholly or partially the territorial integrity or political unity of sovereign and independent states.

Hence, the idea of Indigenous Peoples' rights, as outlined in the UNDRIP, underscores the importance of meaningful consultation and engagement in IA processes to uphold these principles and Indigenous sovereignty (Gleeson & Fletcher, 2022). Indigenous engagement and consultation are essential in planning, development, and appraisal. Also, Appiah and Osman (2014) argue that stakeholders' comprehensive and judicious involvement is vital to successful IA and projects. Engagement is a strategic communication process that fosters trust, cultural

understanding, collaboration, and empowerment through partnerships with stakeholders or Indigenous communities (Johnston & Taylor, 2022; King, 2024). Consultation is about providing feedback on the quality of regulations through the participation of interested and affected parties on a project (Amo & Rodrigo, n.d).

2.7 NL and NS Offshore Wind Energy Projects Evaluation through the Lens of Sustainability and Indigenous Rights Frameworks

Offshore wind energy projects are key to the renewable energy shift, especially in coastal regions like NL and NS (Azarpour et al., 2022; Natural Resources Canada, 2023). Consequently, offshore wind energy projects boost economic growth, energy security, and emissions reduction by creating jobs, lowering costs, diversifying energy sources, supporting hydrogen production, and advancing global climate goals (González et al., 2024; Goyal, 2024; Hajiyeve, 2024; Lei et al., 2024; Wang et al., 2024).

Nonetheless, these projects pose challenges to sustainability and Indigenous rights. This includes fishing and tourism disruption, impact on livelihoods and cultural practices, harm to marine species like giant sea scallops, and encroachment on Indigenous lands (Cones et al., 2024; Forastiero et al., 2024; Goyal, 2024; Łazuga, 2024).

As such, establishing large-scale offshore wind energy infrastructure in NL and NS communities must be examined critically to ensure that projects align with global sustainability goals and Indigenous rights. Hence, this study evaluates public concerns about offshore wind energy projects in NL and NS through the SDGs and UNDRIP frameworks. These frameworks provide a structured approach to evaluate the balance between environmental, social, and economic factors while acknowledging Indigenous communities' historical and ongoing marginalization in energy projects.

2.7.1 Limitations of Alternative Sustainability Models: Justification for Choosing the SDGs and UNDRIP to Evaluate Offshore Wind Energy Projects in NL and NS

Whereas alternative sustainability models, like the three-pillar framework and doughnut economics, offer valuable perspectives on balancing environmental, economic, and social priorities and considering planetary limits and social foundations (Purvis et al., 2019; Raworth, 2017). These concepts fall short in contexts that involve Indigenous lands and rights. This section critically examines these limitations and explains why the SDGs and UNDRIP are suitable frameworks for analyzing NL and NS OWEPR comments.

For instance, the *three-pillar model of sustainability*, as described by Purvis et al. (2019) aims to strike a balance between the environment, society, and economy. The model is often represented with three intersecting circles, with sustainability at their center. Although this concept is widely recognized, Purvis et al. (2019) state that the model offers no theoretical explanation for how these aspects of sustainability (environment, society, and economy) interact. More importantly, with its lack of theoretical depth and attention to systemic inequality, as emphasized by Purvis et al. (2019). This makes the model less suitable for projects like offshore wind energy that involve Indigenous communities, where historical injustices and power imbalances are central to the sustainability conversation.

Also, Kate Raworth's *doughnut economic framework*, a doughnut-shaped model, balances human needs with planetary boundaries, defining a "safe and just space" between social foundations for a good life- inner ring and ecological limits- outer ring (Raworth, 2017). The doughnut economics challenges traditional economic models focused on Gross Domestic Product growth and advocates for a system that meets human needs without exceeding Earth's ecological limits (Raworth, 2017). While Raworth's (2017) doughnut economics emphasizes this balance between social foundations and ecological limits, scholars have argued that such

mainstream sustainability frameworks, including Raworth's, overlook Indigenous rights, governance systems, and the ongoing reality of colonialism (Gonzalez, 2012; Todd, 2016; Whyte, 2018). For instance, Gonzalez (2012, pp. 1, 5–6, 13–15) highlights how international legal systems tied to these frameworks tend to favor trade over human rights and environmental justice, making Indigenous communities vulnerable, as these systems are often fragmented and rooted in colonial structures. Similarly, Whyte (2018) emphasizes that popular sustainability models, like the three-pillar and doughnut frameworks, overlook the ecological harm caused by settler colonialism and fail to recognize Indigenous governance systems, which are crucial for achieving justice and sovereignty. Todd (2016, pp. 6, 15–18) argues that sustainability frameworks, including those focused on climate change, resilience, or the Anthropocene, often appropriate Indigenous knowledge without addressing the colonial violence that continues to shape Indigenous lives. Hence, these frameworks fall short when meaningfully addressing rights, justice, or Indigenous sovereignty.

Consequently, this study uses the globally recognized SDGs and UNDRIP frameworks to critically analyze OWEP-RA comments in NL and NS. These frameworks are better suited for this study as they address global objectives and local sustainability challenges, offering a more thorough view than the three-pillar model and doughnut economics. Thus, the SDGs and UNDRIP go beyond socioeconomic and environmental concerns, making these frameworks well-suited to understanding the complexities of offshore wind energy projects in NL and NS.

❖ *Sustainable Development Goals*

Expanding on this, the *SDGs framework* was selected for its global scope in addressing multiple aspects of sustainability, like renewable energy, environmental impacts, economic growth, and social inequality (United Nations, 2015). Offshore wind energy plays a significant

role, as these projects connect with several SDGs like Goal 7- Affordable and Clean Energy, Goal 8- Decent Work and Economic Growth, and Goal 13- Climate Action.

However, there are some criticisms surrounding the SDGs. For instance, the focus of SDG 8- Decent Work and Economic Growth has raised concerns among scholars. Hickel (2019) argues that SDG 8's emphasis on Gross Domestic Product can harm long-term ecological sustainability, leading to resource depletion and increased inequality, which are significant concerns. As a result, Hickel proposes ending global growth requirements and setting per capita resource use goals with reductions in high-income nations. Thus, pursuing economic incentives can overshadow key environmental and community needs, especially in NL and NS, where offshore wind energy projects are on the horizon.

Moreover, the World Economic Forum (2017) notes that while SDGs address complex global issues, critics argue that their many targets can dilute accountability and hinder implementation. Also, despite SDGs being ambitious, extensive criticism exists about their inadequate progress. The 2023 Global Sustainable Development Report indicates systemic issues persist with the goals, especially in developed nations with inequality and unsustainable consumption patterns (Independent Group of Scientists, 2023). This raises serious questions about whether offshore wind energy projects align with the SDGs, or do these projects serve corporate interests and worsen inequalities?

Building on this, Nicolai et al. (2015) contend that systemic inequality and unsustainable consumption patterns must be addressed for the SDGs to be truly transformative. Hence, this study uses the SDGs framework to examine how NL and NS OWEP-RA integrate economic, social, and environmental considerations. Thus, through thematic and quantitative analyses, the study offers insights into stakeholders' comments' alignment with the SDGs.

❖ *United Nations Declaration on the Rights of Indigenous Peoples*

Similarly, *UNDRIP* is crucial to this study as it addresses Indigenous rights vital to offshore wind energy projects' socio-economic and political context in NL and NS (United Nations, 2008). Both provinces have a complex relationship with Indigenous communities, making *UNDRIP* vital to ensure these projects uphold Indigenous sovereignty and justice (Lightfoot, 2016). Thus, the *UNDRIP* declaration establishes important guidelines for protecting Indigenous rights, emphasizing land rights, cultural preservation, and free, prior, and informed consent before any projects are undertaken (United Nations, 2008).

However, some critiques of *UNDRIP* reveal essential considerations. Lightfoot (2016) argues that while *UNDRIP* recognizes and supports Indigenous rights, it reinforces settler states' sovereignty, leading to superficial applications of consent principles. Other scholars argue that the declaration does not effectively challenge colonial systems and, thus, perpetuates power imbalances. For instance, Boutilier (2017) highlights the difficulties of putting these consent principles into practice. Boutilier argues that while the principle is included in international law, its practical application often falls short of genuine consultation, respect for Indigenous sovereignty, and true participatory justice.

Participatory justice means genuine involvement of all stakeholders in decisions, ensuring transparency, and giving voice to historically marginalized groups (Schlosberg, 2007). With this, offshore wind energy projects in NL and NS must be viewed through a participatory justice lens to evaluate the Indigenous participation level from all assessment phases. Thus, if NL and NS Indigenous Peoples lack equal decision-making power in shaping offshore wind energy project outcomes, this violates their rights and the sustainability principles.

In this context, this study uses the *UNDRIP* framework to examine how OWEPR-RA aligns with ethical obligations to Indigenous Peoples. However, while the *UNDRIP* offers a valuable lens for

evaluating Indigenous rights, Lightfoot (2016) highlights its limitations, underscoring the importance of examining whether these projects perpetuate existing power imbalances. Hence, through thematic and quantitative analyses, the study explores the extent to which stakeholders' comments reflect the UNDRIP principles.

2.8 Conclusion

Chapter 2 explores Canada's complex IA and RA and examines sustainability and Indigenous rights issues within this framework. While IA and RA aim to evaluate projects' cumulative environmental, social, and economic impacts, critical challenges remain. This includes integrating Indigenous knowledge, upholding Indigenous sovereignty, ensuring meaningful participation and engagement, and enabling free, prior, and informed consent in project decisions.

The review also notes that, despite the Impact Assessment Act's efforts to promote inclusive decision-making, the government's dual role as proponent and reviewer of projects can compromise objectivity and risk marginalizing Indigenous voices. Furthermore, the comparison between the SDGs and UNDRIP with Canada's RA processes shows gaps in the application of sustainability and equity-driven principles concerning renewable energy projects. The literature review also highlights the need to balance economic growth with ecological limits and address Indigenous concerns to support sustainable development. By analyzing the SDGs and UNDRIP frameworks in the context of offshore wind energy projects in NL and NS. This chapter provides a basis for future work on how public participation and policy adaptation could improve Canada's IA and RA processes to enhance the assessment's transparency, equity, and sustainability. Again, this exploration provides a foundation for evaluating the effectiveness of these frameworks to promote a respectful, balanced, and forward-thinking approach to regional development, particularly within Atlantic Canada's burgeoning renewable energy sector.

Chapter 3: Research Methodology

3.0 Introduction

Overall, the study used a mixed-methods approach, with thematic content and quantitative analyses to examine NL and NS OWEP-RA public comments. The comments from NL and NS OWEP-RA play a crucial role in the IA process, allowing for various stakeholders to express their views to help shape the future of offshore wind energy projects in Atlantic Canada (O’Faircheallaigh, 2010). Based on the results from these analyses, this study explored the alignment of themes from the public comments with the SDGs and UNDRIP to better understand how these comments align with global sustainability frameworks.

Scientific and grey literature were used to support the introduction, results, and discussions. Scientific literature comprises scholarly works that are “scientific in their objective, process, structure, and output, emphasizing systematic argumentation and evidence-based evaluation; it includes critical discourse on scholarly publications relevant to specific research fields and focuses on analyzing, synthesizing, and interpreting knowledge to identify research gaps and establish new insights” (Chigbu et al., 2023, pp. 2–4). Grey literature refers to information produced outside standard publishing means, including reports, policy papers, working documents, newsletters, and government publications (McKenzie, 2023).

This thesis chapter describes how stakeholders’ comments were collected and categorized, including search methods, selection criteria, and stakeholder categorization. The chapter also details the thematic and quantitative analyses of OWEP-RA public comments, outlining the criteria and rationale for the comment analysis and explaining how themes were identified, coded, and refined. It then describes frequency analysis to determine recurring themes and examines how themes like environmental sustainability and Indigenous consultation align with sustainability frameworks like the SDGs and UNDRIP. Finally, positionality and ethical

considerations reflect my role as a researcher, acknowledging potential biases and the steps taken to uphold ethical standards, including cultural sensitivity, respect for Indigenous rights, and transparency in analyzing stakeholders' concerns.

3.1 Comment Collection and Categorization

3.1.1 Search Methods

The analysis reviews public comments submitted on NL and NS OWEP-RA. The source materials (OWEP-RA comments) were obtained from the IAAC Registry, a database of the Impact Assessment Agency of Canada (Impact Assessment Agency of Canada, 2024a, 2024b). This includes comments from multiple stakeholders and rightsholders: provincial, federal, territorial, Indigenous communities, international bodies, non-governmental organizations, industry, and individual comments from members of the public, herein referred to as “individuals.” It is important to note that some comments were in French, but only the comments submitted in English were selected and analyzed for this study.

3.1.2 Selection Criteria

The comments analyzed were submitted to the Registry from September 2022 to October 2023. A total of 254 comments were collected and analyzed for this study, with 163 attributed to NL and 91 to NS. This number of comments represents the entirety of submissions available on the Registry from 2022 to 2023 during the study's analytical stage.

One key challenge in this study was accurately attributing comments to the appropriate provinces. Thus, during the initial comment submission stage in 2022, the comments lacked differentiation between provinces on the Registry. The differentiation was introduced in September 2023. As a result, substantial overlap exists between NL and NS comments before that date, and many records have been duplicated across the two provinces. Hence, the comments were attributed to the appropriate province based on the geographical indicators (*Sender's*

location) to resolve this issue. This approach ensured consistency in analysis and minimized potential regional comment duplications (see Appendix 1 for details on the attribution). This left a total of 103 non-duplicated comments.

Another challenge was excluding certain comments (**n=6**) due to confidentiality requests and insufficient content for analysis. Two of the comments could not be analyzed as they were sent to express the intent to submit comments while requesting confidentiality on behalf of stakeholders. These comments were from Natural Resources Canada (Title: Confidentiality Request - NL RA OSW Committee Meeting with NRCan) and Simply Blue Group (Title: Confidentiality Request and Response).

Also, four comments had headings but lacked sufficient content for analysis. These comments included requests for geographical coordinates of the proposed study area boundaries, questions about how to post information on the registry, and inquiries about the committee's operational and confidentiality procedures regarding comment posting timelines.

The final step involved compiling a clean dataset of unique stakeholders' comments. After removing all duplicates between the two OWEP-RA comments and excluding comments due to confidentiality and insufficient content for analysis, 97 unique stakeholders' comments were compiled for this study. These comments capture concerns on the draft agreements and terms of reference for OWEP-RA in NL and NS.

3.1.3 Categorization of Public Comments into Stakeholder Types

For this study, the public comments were categorized into six stakeholder types: (a) academic institutions (universities and colleges), (ii) Indigenous Groups, (iii) individuals, (iv) private organizations/companies, (v) non-profit organizations, and (vi) provincial and federal government authorities. This categorization of comments into stakeholder types supported the

analyses by providing measurable insight into each stakeholder's diverse perspectives and concerns.

3.2 Thematic and Quantitative Analyses in OWEP-RA Public Comments

This section shows how mixed methods (thematic and quantitative analyses) were used to understand how public comments on OWEP-RA align with SDGs and UNDRIP, exploring how decision-making processes integrate these frameworks into offshore wind energy projects. According to Minc et al. (2022, p. 447) “mixed methods is an approach that intentionally integrates qualitative and quantitative methods to answer a research question.”

Hence, combining thematic (qualitative) and quantitative (frequency) analyses is particularly effective for analyzing OWEP-RA comments, capturing the scope and context of stakeholders' concerns. The thematic analysis provides depth, explaining the underlying reasons behind these concerns, while quantitative analysis identifies the frequency of specific stakeholder concerns. This dual approach reinforces the understanding of stakeholders' concerns, offering a more comprehensive and nuanced analysis (Creswell & Clark, 2017). By combining these two approaches, the study ensures that both subtle nuances and broad patterns are captured, enhancing the robustness and reliability of the findings (Creswell, 2014; Johnson & Onwuegbuzie, 2004).

However, integrating thematic and quantitative methods presented challenges, especially the difficulty of aligning both approaches, which can complicate analysis and often demand more time, resources, and expertise (Alavi et al., 2018; Creswell & Clark, 2017). Despite these challenges, the thematic and quantitative methods are important for this study, allowing for a thorough analysis of the themes' contextual nuances and frequency within stakeholders' comments. This approach offers valuable insights into public concerns about NL and NS offshore wind energy projects and their alignment with the sustainability frameworks.

3.2.1 Thematic Analysis: Categorizing Emerging and Specific VCs

This study employs an ‘inductive thematic analysis,’ which involves identifying and analyzing patterns or themes within a dataset and allows themes to develop naturally from the comments rather than forcing them into predefined categories (Byrne, 2022). This interactive process fostered continuous engagement with the comments to capture subtle nuances in stakeholders’ concerns (Neuendorf, 2018). A qualitative coding approach ensured a meticulous examination of stakeholders’ perspectives, enabling emerging VCs to reflect genuine concerns (Medelyan, 2019).

Notably, no comments were submitted from Indigenous Groups in NS. This represents a significant gap in the comments, limiting the ability to fully capture Indigenous concerns in that province, and should be considered when interpreting the findings. This gap also highlights an important avenue for future research to meaningfully engage Indigenous communities in NS more directly.

Building on this method, thematic content analysis was conducted to identify and explore emerging and specific VCs from the comments, providing a more nuanced understanding of stakeholders’ concerns. Thus, the analytical process began with comment familiarization to identify and categorize common themes into sustainability themes. These themes were refined further for emerging VCs and specific VCs. This approach interpreted the content, identified underlying concerns, and captured subtle nuances, setting this analysis apart from frequency-based methods.

For instance, the comment frequency analysis quantified the mentions of themes like ‘environmental impacts,’ whereas the thematic content analysis explains how stakeholders expressed concerns about these impacts. By following this process, the study ensured that while VCs emerged naturally from the comments, they were categorized to facilitate a thorough and

transparent analysis to ensure that stakeholders' concerns are meaningfully represented and interpreted.

To differentiate between sustainability themes and emerging VCs, this study defines sustainability themes as broad, well-recognized aspects of sustainability commonly discussed in literatures. Hence, the environmental, economic, social, cultural, and conservation themes represent the overarching categories for organizing and analyzing stakeholders' comments, aligning with the widely recognized SDGs and UNDRIP frameworks. Emerging VCs are the context-specific priorities identified in the OWEP-RA comments. These serve as intermediary analytical categories between broad sustainability themes and specific VCs—highlighting particular concerns of stakeholders within each emerging VC.

Elaborating on this foundation, the content analysis followed various criteria to capture stakeholders' perspectives and concerns about NL and NS OWEP-RA through public comments. Criteria and rationale for the analysis are presented in Table 2 and include the purpose, the underpinning sustainability themes, the emerging valued components, the specific valued components, and the key takeaways.

Therefore, an iterative and hierarchical approach was adopted to categorize stakeholders' concerns. Sustainability themes were used to identify the themes that emerged from the comments. Emerging VCs highlight the components that stakeholders consider most important, like Indigenous rights and environmental sustainability. In contrast, as further described in Table 2 below, the specific VCs delve into the particular concern that is very important under the emerging VCs (see Table 3 for details). This approach allowed flexibility to ensure that stakeholders' concerns were effectively highlighted without forcing every comment into each classification criterion.

Table 2: Classification Criteria and Rationale for Offshore Wind Energy Project Regional Assessments Comments Analysis.

COMMENT CLASSIFICATION	RATIONALE
Purpose	The analysis begins by understanding the objectives of each stakeholder's comment. Understanding the stakeholders' intentions and desired outcomes was critical in deciphering their goals, expressing support, raising concerns, or advocating for specific actions. This criterion facilitated the identification of stakeholders' primary motivations for engaging in the discourse on the OWEP-RA.
Sustainability Themes	The analysis explores five overarching sustainability themes—environmental, social, economic, cultural, and conservational—focusing on principles or values emphasized by stakeholders in their comments. Relevant to the OWEP-RA, these five themes were the only ones used, as they capture sustainability's core dimensions and form the foundation for a holistic comment analysis. They align with stakeholders' priorities and sustainability frameworks like the SDGs and UNDRIP, making this criterion exclusively focused on identifying fundamental values to the project context.
Emerging Valued Components	The analysis involves a comprehensive review of VCs in the stakeholders' comments and entails categorizing and summarizing the main topics or subjects expressed by stakeholders. By identifying recurring issues, concerns, or perspectives across various submissions, the criterion helped construct an overview of the key focus areas that stakeholders find most relevant or crucial in the OWEP-RA context.
Specific Valued Components	The analysis also delves into associated VCs within the overarching emerging VCs. This pinpointed the precise elements that stakeholders prioritize or express concerns about. For example, under the emerging VCs, specific VCs may include biodiversity, ecosystem protection, or climate impact, adding granularity to the assessment of stakeholder perspectives. These specific VCs also served as themes to connect the content of stakeholders' comments to the broader sustainability frameworks.
Key Takeaways	The analysis focuses on extracting and summarizing stakeholders' key takeaways from their comments. This criterion was instrumental in distilling the core messages or insights derived from stakeholders' comments related to the OWEP-RA. Identifying the takeaways allowed for a concise representation of the most salient points made by stakeholders.

Moreover, the derivation of VCs involved combining and standardizing emerging themes across all comments to create a manageable list of VCs. This list of emerging and specific VCs was then used as non-exclusive categories to classify each comment.

Table 3 presents the emerging and specific VCs, providing an organized view of specific concerns from the stakeholders' comments. This structured approach holistically addresses stakeholders' socioeconomic, environmental, cultural, and conservational concerns. It complemented the sustainability theme criteria outlined in Table 2 and ensured that stakeholders' concerns were appropriately analyzed in alignment with the sustainability frameworks.

Table 3: Emerging and Specific Valued Components from the Offshore Wind Energy Project Regional Assessments Comments.

EMERGING VALUED COMPONENTS	SPECIFIC VALUED COMPONENTS
Project impacts on the environment	Biodiversity protection, marine ecosystem health, pollution.
Environmental sustainability and resilience	Project sustainability, climate change mitigation, environmental regulatory framework.
Economic impact/Economic benefit	Job creation, revenue generation, local community investment, economic equity, economic growth, etc.

Table 3: Emerging and Specific Valued Components from the Offshore Wind Energy Project Regional Assessments Comments Cont'd.

Social impact	Community well-being, gender equality, social equity, gender-based violence.
Cultural impact/Communication/Engagement	Inclusive decision-making, cultural preservation, communication, meaningful engagement, public participation.
Human health	Human Health and Well-being.
Tourism	Tourism, cultural and heritage sites, aesthetic places.
Capacity building/Education	Capacity-building initiatives and efforts, educational initiatives or considerations.
Indigenous Rights & Consultation	Free, prior, informed, and consent, land and water sovereignty, cultural heritage preservation, participation, project benefit, proper consultation mechanism, Indigenous knowledge, fishing rights.
Technological advancement	Technological readiness (of projects), Innovation.
Legislation/Transparency	Legislative frameworks, regulatory framework, transparency measures.
Study area	Study areas, proposed focus areas (for OWEP projects).
Cumulative effects assessment	Cumulative action effects (of projects).

To analyze how this applies in the real case scenario, for instance, as shown in Figure 5, when examining Qalipu First Nation's (2022) comment, their concerns encompass multiple criteria:



Figure 5: Analyzed Comment from Qalipu First Nation on Newfoundland & Labrador and Nova Scotia Offshore Wind Energy Project Regional Assessments (Qalipu First Nation, 2022). Qalipu First Nation. (2022). Qalipu First Nation Comments on the Regional Assessment of Wind Development in Newfoundland and Labrador and Nova Scotia. Adapted from the Impact Assessment Registry on Regional Assessment of Offshore Wind Development in Newfoundland and Labrador. <https://iaac-aeic.gc.ca/050/evaluations/proj/84343/contributions/id/59365>

- **Purpose:** Qalipu First Nation expressed their views on the NL and NS OWEP-RA by providing information, knowledge, and analysis to improve the RA process.
- **Sustainability themes:** Their comment engaged with multiple sustainability themes, including environmental, social, cultural, and conservation aspects. While economic sustainability is one of the five broad themes considered in the analysis, the Qalipu First Nation's comment did not explicitly emphasize economic concerns.
- **Emerging VCs:** The VCs identified from the comment include environmental sustainability, Indigenous rights, and consultative processes, reflecting key areas of concern for the Qalipu First Nation. These emerging VCs align with the sustainability dimensions that Qalipu First Nation believes require more consideration within OWEP-RA.
- **Specific VCs:** The highlighted elements from the comment include cultural sensitivity and ecosystem repercussions, focused on specific concerns or priorities under the emerging VCs that the Qalipu First Nation holds important. These elements clarify how the broader sustainability themes are operationalized, ensuring the analysis directly addresses their critical concerns.
- **Key Takeaways:** Qalipu First Nation's comment raised concerns about project timelines and the adequacy of assessments.

However, while all five sustainability themes apply to the comment, the Qalipu First Nation's comment did not explicitly mention economic concerns. This suggests that their main concerns were more about environmental sustainability, Indigenous rights, and the importance of consultation processes, rather than focusing on the economic aspects of the OWEP-RA.

3.2.2 Quantitative (Frequency) Analysis of OWEP-RA Comments

The quantitative content analysis identifies patterns in the comments, validating quantitative models and enabling a nuanced understanding of stakeholders' concerns and their

integration into measurable outcomes (Alavi et al., 2018; Creswell & Clark, 2017). Also, classifying themes into quantifiable themes ensured the robust organization of comments (Boydston, 2024; Edwards, 2024). Quantitative content analysis is a systematic approach that emphasizes dividing texts into units and using numerical counting and categorization to ensure replicability, context sensitivity, and the careful application of design to validate conclusions (Krippendorff, 2019).

The study employed frequency analysis as the primary quantitative method to identify the frequency of sustainability themes and recurring VCs in NL and NS OWEP-RA public comments (Stemler, 2001). Furthermore, comments were categorized as ‘favor,’ ‘against,’ or ‘neutral’ to analyze stakeholders' perspectives based on the emerged VCs. This categorization was developed by analyzing key takeaways in stakeholders' comments to determine their overall stances and highlight prevailing concerns and priorities regarding the offshore wind energy projects.

Hence, comments that expressed positive sentiments like support for renewable energy, perceived benefits, or potential advantages were classified as *favorable*. In contrast, comments that highlighted concerns, perceived harms, or direct opposition were categorized as *opposed*. Lastly, comments that did not indicate support or opposition, often offering procedural suggestions without a definitive stance, were considered *neutral*. This approach enabled qualitative stakeholders' comments to be converted into measurable themes to facilitate pattern recognition and comparative analysis (Stemler, 2001). It also provided an opportunity to stratify the comments using various criteria, which allowed the analysis to be more granular and specific.

3.2.2.1 Alignment of Stakeholders' Comment Themes with Sustainability Frameworks

The study utilized themes to organize and better understand stakeholders' concerns within specific contexts, providing a practical concept for analysis and categorization. These themes, derived from the comments' specific VCs, became analytic categories for thematic coding and

quantitative analysis to connect stakeholders' concerns with the broader framework of SDGs and UNDRIP (see Appendix 1).

For instance, the 'renewable energy' theme connects to SDG 7 (Affordable & Clean Energy), while the 'consent or consultation' theme connects to UNDRIP Article 19 (free, prior, and informed consent). Hence, this study's themes function similarly, gaining meaning through contextual examples and evaluations and aligning thematic insights with the SDGs and UNDRIP.

Therefore, to determine the alignment of stakeholders' comments with **Sustainable Development Goals**, the identified themes were used to connect concerns from the comments to the appropriate SDG, as shown in Table 4.

Table 4: Themes from the Offshore Wind Energy Project Regional Assessments Comments, and their alignment with the SDGs.

SDGs	THEMES
SDG 3: Good Health & Well-being	Health, healthcare, disease prevention, well-being, maternal health, mental health
SDG 4: Quality Education	Education, literacy, inclusive education, skills development.
SDG 5: Gender Equality	Gender equality, women's rights, gender discrimination, empowerment, gender-based violence
SDG 7: Affordable & Clean Energy	Clean energy, renewable energy, sustainable energy, energy efficiency, off-grid energy, energy conservation, renewable resources.
SDG 8: Decent Work & Economic Growth	Decent work, economic growth, employment, job creation, income inequality, small and medium-sized enterprises (SMEs), economic development, productivity.
SDG 9: Industry, Innovation & Infrastructure	Innovation, technology, industrialization, sustainable industrialization, infrastructure development, digitalization.
SDG 10: Reduced Inequality	Inequality, income inequality, social inequality, social protection, equal opportunities, wealth distribution, inclusive societies.
SDG 11: Sustainable Cities & Communities	Sustainable cities, urbanization, affordable housing, public transportation, resilient infrastructure, sustainable development.
SDG 12: Responsible Consumption & Production	Sustainable consumption, sustainable production, resource efficiency, environmental impact.
SDG 13: Climate Action	Climate change, global warming, climate adaptation, carbon emissions, renewable energy, climate resilience, climate mitigation.
SDG 14: Life Below Water	Marine conservation, ocean health, biodiversity, sustainable fisheries, aquatic ecosystems, and protection of coastal areas.
SDG 15: Life on Land	Biodiversity, land conservation, sustainable agriculture, wildlife protection, habitat conservation, and ecosystem protection.
SDG 16: Peace, Justice, & Strong Institutions	Strong institutions, access to justice, accountable institutions.
SDG 17: Partnerships for the Goals	Global partnerships, cooperation, international collaboration, public-private partnerships, capacity-building.

Also, to determine the alignment of stakeholders' comments with the **United Nations Declaration on the Rights of Indigenous Peoples**, the identified themes were used to connect concerns from the comments to the specific Articles, as shown in Table 5.

Table 5: Themes from the Offshore Wind Energy Project Regional Assessments Comments, and their alignment with the UNDRIP articles.

UNDRIP ARTICLES	THEMES
Article 3: Right to Self-Determination	Self-determination, autonomy, sovereignty, traditional institutions.
Article 8: Protection Against Forced Assimilation	Indigenous rights, cultural preservation, cultural destruction, self-determination.
Article 11: Culture, Religion or Custom	Cultural rights, traditional knowledge, cultural practices, spiritual beliefs, cultural heritage.
Article 13: Right to Culture and Communication	Language, cultural heritage, communication, traditions.
Article 15: Right to Education and Public Information	Education, public awareness, cultural diversity, non-discrimination.
Article 18: Participation in Decision-Making	Participation, decision-making, consultation, consent, Indigenous representation.
Article 19: Free, Prior, and Informed Consent	Free, Prior, and Informed Consent, consent, land rights, development projects, and Indigenous consent.
Article 20: Right to Maintain and Strengthen Distinctive Political, Economic, Social & Cultural Institutions	Political autonomy, economic self-sufficiency, cultural preservation, and self-governance.
Article 25: Right to maintain and strengthen their distinctive spiritual relationship	Cultural heritage, sacred sites, spiritual beliefs, cultural identity, cultural continuity.
Article 26: Right to Indigenous Lands, Territories & Resources	Land rights, territorial rights, resource rights, land ownership, traditional lands, resource management.
Article 29: Protection of Cultural Heritage	Cultural heritage protection, artifacts, preservation, traditional knowledge, and cultural practices.
Article 31: Right to Maintain, Control, Protect & Develop Their Cultural Heritage and Expression, and Traditional Knowledge	Traditional knowledge, cultural expressions, cultural heritage, intellectual property, and cultural preservation.
Article 32: Prior Review and Approval of Projects	Project approval, resource development, environmental impact assessment, Indigenous consent, and development projects.

Applying this approach, a presence-absence method was used to codify the comments' specific VCs against the SDGs and UNDRIP articles. The results of the analysis and coding of each were used as an entry in a Microsoft Excel spreadsheet for subsequent analysis (see Appendix 2). This method enables the identification of trends and measurable insights into stakeholders' concerns and their alignment with global goals and Indigenous rights (Alavi et al., 2018; Creswell & Clark, 2017; Edwards, 2024).

3.3 Conclusion

Through careful analysis, the study's research methods will present findings from NL and NS OWEP-RA comments, using various representations like text, bar charts, clustered bar charts, and radar charts to convey insights that align with the study questions and explore themes of

Indigenous rights, consultations, and sustainable development for potential policy recommendations.

3.4 Positionality as a Researcher of this Study and Ethics Considerations

Committed to ethical responsibility, cultural sensitivity, and sustainability, I approach this study as a Ghanaian Black Cis man with a background in community development, and environment and development studies. As a non-Indigenous scholar, I recognize the diverse cultural and historical backgrounds that influence public perspectives on major projects like offshore wind energy.

Also, as an international student studying in Atlantic Canada, I bring a global perspective to exploring Canada's renewable energy ambitions, particularly within the context of NL and NS offshore wind energy projects. My perspective is shaped by my cultural background, academic journey, and lived experiences as an outsider to NL and NS's communities and as a Black international student. Moreover, I acknowledge the intersection between sustainability and Indigenous rights, especially within NL and NS's historical and cultural landscapes, where offshore wind energy projects are situated on territories with deep Indigenous connections. I review the public comments on OWEP-RA in NL and NS in this study and discuss their alignment with the SDGs and UNDRIP.

Furthermore, though this study does not require an ethics permit, my approach is guided by the ethical standards in Chapter 9 of the Tri-Council Policy Statement 2 (TCPS-2), which emphasizes respect for Indigenous rights, collaboration, and recognition of cultural knowledge in research that impacts Indigenous Peoples. Finally, using publicly available comments from the Registry, albeit secondary data, I prioritize transparency, accuracy, and respect to ensure that concerns raised in these comments are represented with integrity and cultural sensitivity. This

research reflects my commitment to Indigenous sovereignty and balanced sustainability across Canada and beyond.

Chapter 4: Data Analysis and Presentations of Results

4.0 Introduction

This chapter examines findings from the mixed-methods analyses of the public comments submitted on NL and NS OWEP-RA. It explores OWEP-RA comments that align with the SDGs and UNDRIP and those that do not. Through careful analysis, this chapter explores outcomes of OWEP-RA comments, using text, bar charts, clustered bar charts, and radar charts to share insights that answer the study questions.

The analysis uncovered mixed perspectives in the comments on OWEP-RA. Some comments support the NL and NS offshore wind energy projects and note their environmental and economic benefits. Conversely, some oppose or are neutral on the project, expressing concerns about environmental impacts, insufficient consultations with Indigenous Peoples, and fair benefit distribution.

4.1 Results: Insights on the Regional Assessment Draft Assessments and Terms of Reference for Offshore Wind Energy Projects in NL and NS

Table 6 categorizes the analyzed comments by stakeholder type, geographic distribution, and stakeholders' stance on offshore wind energy projects. It is structured into three sections: **(1)** The first two columns list stakeholder types and the total comments analyzed; **(2)** the following five columns show the geographic distribution of comments, including NL, NS, other provinces, federal agencies, and other countries, and **(3)** the final three columns summarize the stance of comments as Favor, Against, or Neutral. Each section is distinct for clarity, adding up to the 97 unique comments analyzed.

Table 6: Stakeholder Types and Total Number of Analyzed Offshore Wind Energy Project Regional Assessments Comments, Number of Analyzed Comments from NL and NS and other Provinces, Countries, and Comments in Favor, Against, and Neutral on the Project.

Type of Stakeholders	Comments Analyzed	Comments from NL	Comments from NS	Comments from other provinces	Comments from Federal Agencies	Comments from other Countries	Favor	Against	Neutral
Academic Institutions	12	10	1	1	0	0	0	3	9
Indigenous Groups	7	7	0	0	0	0	0	4	3
Individual	20	14	6	0	0	0	3	6	12
Non-Profit Organizations	36	15	14	7	0	0	7	9	22
Private Organizations /Companies	12	7	3	1	0	1	4	1	7
Provincial/Federal Government Authorities	10	1	1	1	7	0	1	1	8
TOTAL	97	54	25	10	7	1	15	24	61

So, from Table 6, non-profit organizations submitted more comments, 36 out of 97. Their contribution focused on ecological sustainability, social justice, economic equity, and conservation impacts. However, these substantial comments from non-profit organizations varied by provinces, with 15 from NL, 14 from NS, and seven across other provinces, indicating a higher participation from non-profit organizations in the two Atlantic provinces involved in the OWEP-RA.

Moreover, the study analyzed 20 comments from individuals, 12 from academic institutions, 12 from private organizations, and 10 from provincial and federal government agencies. Hence, while academic institutions, private organizations, and government agencies provided structured input from an institutional perspective, individual commentators contributed diverse viewpoints, often reflecting personal or professional expertise.

Lastly, Indigenous Peoples (Groups) in NL submitted seven comments, focused on Indigenous rights, consultation, respect for traditional land, and cultural preservation. Overall, this distribution shows the diversity of participation among stakeholder types in the OWEP-RA process.

4.1.1 Comparative Analysis of Stakeholder Types Among OWEP-RA Comments'

Sustainability Themes in NL and NS

As shown in the radar chart below (Figure 6), stakeholders expressed sustainability themes (environmental, social, economic, cultural, and conservational) in various ways, as uncovered through the content analysis of OWEP-RA comments. The categorization of stakeholders by sustainability themes allows for the exploration of the differences between concerns, interests, and priorities coming from the stakeholders.



Figure 6: Comparative Analysis of Sustainability Themes among Stakeholder Types in Newfoundland & Labrador and Nova Scotia Offshore Wind Energy Project Regional Assessments Comments.

The radar charts show the number of comments each stakeholder type expressed across the five sustainability themes: environmental, social, economic, cultural, and conservational, based on content analysis of OWEP-RA comments. The numerical values on the axes indicate the frequency of comments reflecting stakeholders' concerns within each theme.

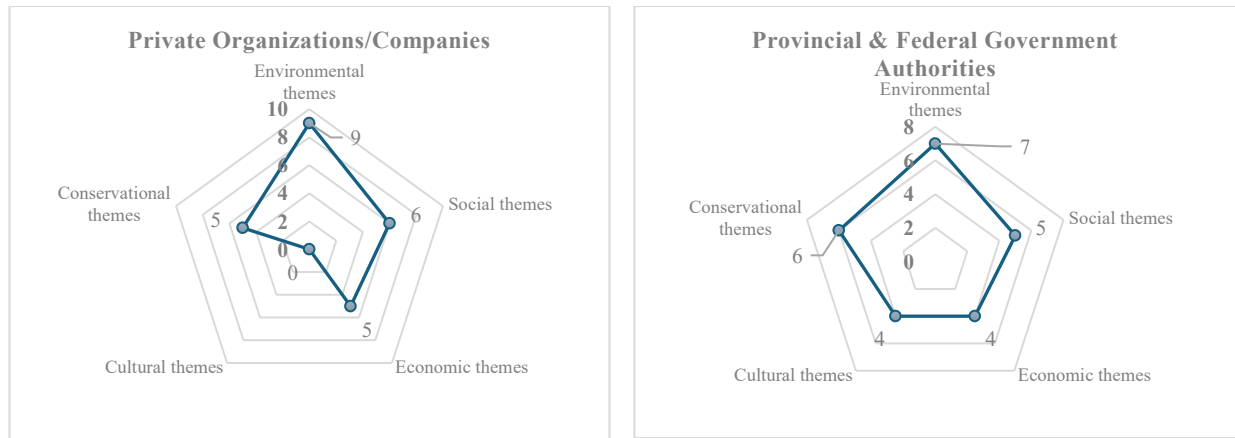


Figure 6: Comparative Analysis of Sustainability Themes among Stakeholder Types in Newfoundland & Labrador and Nova Scotia Offshore Wind Energy Project Regional Assessments Comments, cont'd.

The radar charts show the number of comments each stakeholder type expressed across the five sustainability themes: environmental, social, economic, cultural, and conservational, based on content analysis of OWEP-RA comments. The numerical values on the axes indicate the frequency of comments reflecting stakeholders' concerns within each theme.

The radar graph showcases that non-profit organizations expressed a broad range of environmental, social, economic, and conservation concerns. Also, individual commentators' environmental concerns far exceed other analyzed concerns.

Cultural concerns were the most important for Indigenous Groups, while conservation themes were the least expressed concerns. Environmental concerns were expressed by private organizations/companies with a secondary emphasis on economic and conservation concerns, but no emphasis on cultural concerns.

For academic institutions and provincial and federal government authorities, environmental, social, and conservation themes dominated their concerns, while economic and social themes were the least concerns.

Overall, this thematic variation reflects the diverse perspectives of each stakeholder type on the NL and NS OWEP-RA.

4.1.2 Emerging Valued Components from OWEP-RA Public Comments in NL and NS

Several VCs emerged from the content analysis of NL and NS OWEP-RA comments, as shown in Figure 7 (see Table 3, p. 71 for details).

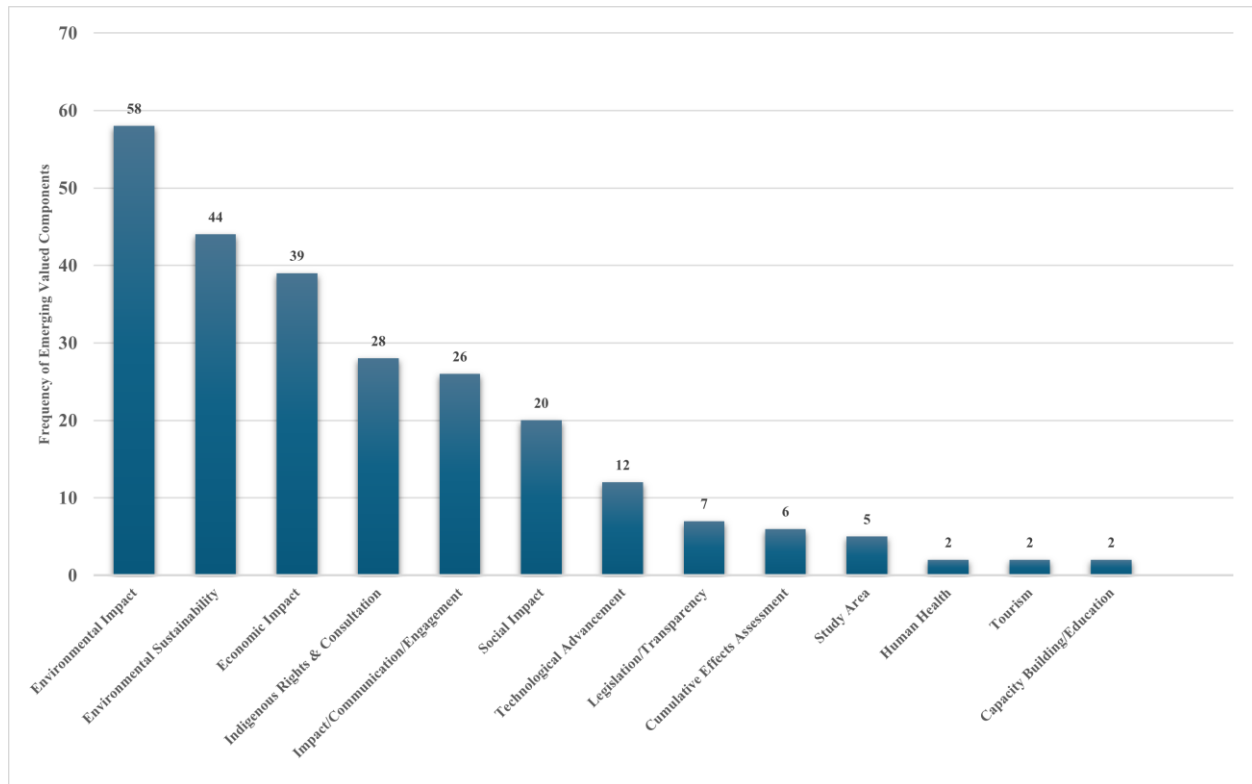


Figure 7: Emerging Valued Components from Newfoundland & Labrador and Nova Scotia Offshore Wind Energy Project Regional Assessments Comments.

From the analysis, environmental impact and environmental sustainability VCs emerged 58 and 44 times, respectively, emphasizing concerns about the ecological effects of offshore wind energy projects.

For instance, Qalipu First Nation (2022) raised concerns about whether the RA’s timeline and scope review were sufficient to capture the long-term ecological effects on marine and terrestrial ecosystems. Similarly, the Innu Nation (2022) noted the lack of explicit details about environmental sustainability objectives in the project’s documentation. Also, Benoit First Nation Inc. (2023) noted that offshore wind could reduce carbon emissions, but more studies are required to mitigate the environmental risks that Indigenous communities depend on for cultural and subsistence purposes.

Moreover, Purcell-Pilgrim et al. (2022) stressed the need for detailed assessments of potential impacts on marine species, pointing to the importance of incorporating ecological risk

in project planning. Miawpukek First Nation (2022) further warned of risks to marine ecosystems and species like cod, lobster, and halibut, emphasizing the need to preserve Mi'kmaq traditions and ecosystems. Association of Seafood Producers (2023) stressed the importance of assessing offshore wind energy projects' impacts on fisheries to balance clean energy goals with critical fishing industries. Atlantic Groundfish Council (2023) expressed concerns about fishing displacement and the impact on fish stocks from offshore wind energy projects.

This is followed by economic impact VCs, which appeared 39 times, highlighting concerns about the economic considerations of offshore wind energy projects.

For instance, Benoit First Nation Inc. (2022) recognized the potential of offshore wind projects to create jobs and revenue but stressed the need to ensure benefits are fairly distributed to avoid marginalizing Indigenous communities. Environment and Climate Change Canada (2022) called for the project's economic development to be balanced with environmental protection, warning against prioritizing economic gains at the expense of critical habitats or local ecosystems. Robinson and Natural Resources Canada (2023) advocated aligning projects' economic development with national clean energy strategies to prioritize environmental growth and sustainability.

Moreover, Qalipu First Nation (2023) enquired if the projects would deliver their promised economic benefits and contribute meaningfully to the long-term community development. Dumaresque et al. (2022) raised socioeconomic concerns, including gender and minority inequalities, fisheries, and employment, advocating for a balanced approach that considers sustainable economic development.

Furthermore, Atlantic Fixed-Gear Council (2023) highlighted the need to understand and mitigate the effects of offshore wind energy projects on commercial fisheries. Fish, Food & Allied Workers (FFAW/UNIFOR) (2023) raised concerns about the effects on fish populations,

spawning grounds, and the socioeconomic well-being of small fishing communities. Abanyin et al. (2022) explored how offshore wind energy projects may affect fish stocks and the socio-cultural life of local communities and advocated for sustainable measures to curb these concerns.

Another critical VC, Indigenous rights and consultation, emerged 28 times, highlighting concerns about respecting, consulting, and upholding Indigenous rights in the OWEP-RA process.

For instance, Miawpukek First Nation (2022) and Flat Bay Band Inc. (2023) raised concerns about inadequate consultation and warned that the undertaken offshore wind energy projects could threaten their land and culture if free, prior, and informed consent is not adhered to. Qalipu First Nation (2022) criticized the consultation timeline, noting that engagement often occurred too late in the planning process, limiting Indigenous communities' ability to influence decisions.

Also, Innu Nation (2022) stressed the need for land use rights and urged proponents to consider the historical and cultural significance of affected lands and waters. Pennell and Wadden (2022) explicitly recommended recognizing Indigenous knowledge and fishing rights in the OWEP-RA process.

Overall, the distribution from Figure 2 shows that environmental impact and sustainability, economic benefits, and Indigenous rights and consultation are the highest instances of stakeholders' concerns.

4.1.2.1 Stakeholders' Perspectives on Emerging Valued Components on NL and NS OWEP-RA

As shown in Figure 8, the content analysis uncovered varied perspectives of stakeholders' support, opposition, and neutrality on the emerging VCs from the OWEP-RA comments.

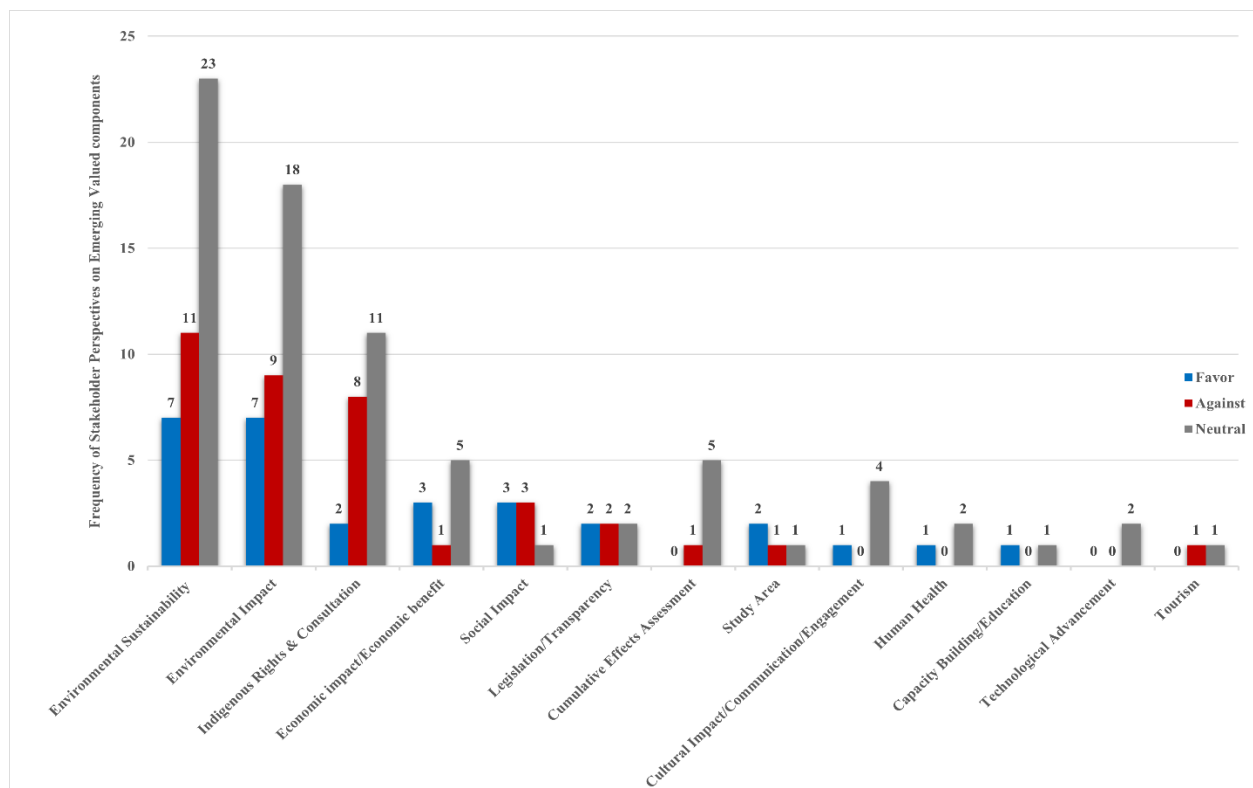


Figure 8: Stakeholders' Perspectives on Emerging Valued Components from Newfoundland & Labrador and Nova Scotia Offshore Wind Energy Project Regional Assessments Comments.

Among these, environmental impact and sustainability were the most expressed VCs, reflecting a mix of supportive, opposing, and neutral perspectives on NL and NS OWEP-RA.

Hence, the **supportive comments on environmental impact VCs** emphasized the role of offshore wind energy projects in promoting sustainable development. For instance, Qalipu First Nation (2022) advocated for knowledge sharing on the potential effects of offshore wind energy projects to improve the RA process while protecting the environment. Similarly, the Association of Seafood Producers (2023) urged thorough evaluation of the potential impacts of offshore wind energy projects on fisheries and related industries prior to project advancement.

Conversely, some stakeholders expressed **opposition on the environmental impact VCs**. For instance, Benoit First Nation Inc. (2023) opposed offshore wind energy projects with concerns about the potential damage to the ecosystem, including impacts on cod, lobster, halibut, and other species, and advocated for onshore wind energy instead. The Environmental

Transparency Committee (2023) also opposed offshore wind energy projects and requested the protection of the environment, ecosystems, wildlife, and residents' livelihood.

Some stakeholder comments took a **neutral stance on the environmental impact VCs**. For instance, Innu Nation (2022) expressed that the draft agreement does not include explicit environmental objectives and discussed potential measures to integrate ecological considerations into the RA. Also, Benoit First Nation Inc. (2023) acknowledged the potential of offshore wind energy projects and discussed the importance of assessing environmental and social impacts, including possible effects on marine ecosystems and wildlife. Last but not least, Health Canada (2022) expressed that the draft framework does not define cumulative ecological effects, which could influence air and water quality assessments, habitat conditions, and climate resilience.

Similarly, stakeholders' perspectives on **environmental sustainability VCs** varied. For instance, some supportive comments uncovered include Stotland (2022), who expressed support for offshore wind energy projects to address climate issues and global decarbonization, specifically sending ammonia to Germany to reduce reliance on Russian oil. Also, the Seafood Producers Association of Nova Scotia (2022) expressed support for offshore wind energy, urging the projects to respect the environment and maintain access to fisheries resources. Lastly, Benoit First Nation Inc. (2022) expressed that offshore wind energy projects can be a lifeline for dying communities and contribute to addressing the climate change emergency.

However, some **opposition comments on environmental sustainability VCs** reflect concerns about risks to environmental health. For instance, Flat Bay Band Inc. (2023) expressed concerns about the potential environmental, health, social, and economic impacts and called for a full Indigenous assessment before proceeding with the development. Also, Marchand (2022) expressed concerns about transportation, potential spills of liquid ammonia, and long-term

damage to natural resources and aquatic habitats, and questioned the safety and environmental effects of the hydrogen project.

Despite the opposition, some comments took a **neutral stance on environmental sustainability VCs**. For instance, Environmental Protection Operations Directorate - Atlantic Environment and Climate Change Canada (2023) provided observations and technical input regarding the proposed RA focus area, including ice conditions, icebergs, wind resources, wave height, and environmental factors. Also, Fisheries and Oceans Canada (2022) contributed expertise in assessing offshore wind energy projects, examining cumulative environmental effects, and offering recommendations for impact management.

Indigenous rights and consultation VCs also had a substantial expression with supportive, opposing, and neutral perspectives. The **supportive comments on Indigenous rights and consultation VCs** advocated for integrating Indigenous perspectives in the OWEP-RA process. For instance, Flat Bay Band Inc. (2023) called for meaningful engagement and full Indigenous assessment before developing the offshore wind energy projects. Miawpukek First Nation (2022) emphasized including traditional land use and Indigenous rights in the OWEP-RA's existing conditions to support future project-specific assessments. Also, they advocated for Indigenous representation in advisory groups and committees to integrate their perspectives into the RA. Moreover, Dicker & Dicks 2022 and Oceans North (2022) highlighted the need to use Indigenous knowledge in the RA process to ensure respect and accommodate Indigenous rights in offshore wind energy projects.

However, despite these supports, some **opposition comments on the Indigenous rights and consultation VCs** stemmed from dissatisfaction with existing consultation practices. For instance, the Mi'kmaq Rights Initiative (2022) criticized the OWEP-RA process for not addressing the rights and interests of the Mi'kmaw Nation and called for better consultation

with their traditional territories. Also, the Benoit First Nation Inc. (2023) opposed offshore wind energy projects, questioning the application of UNDRIP consultation principles in the context of the OWEP-RA process. Lastly, Qalipu First Nation (2022) opposed offshore wind energy projects, citing concerns over the inadequate timeline and consultation process and potential threats to culturally important species and ecosystem health.

Nonetheless, some **neutral comments on Indigenous rights and consultation VCs** focused on procedural improvement in the RA process. For instance, Oceans North (2022) sought clarification on the role of Indigenous knowledge in the OWEP-RA process and stressed the need for a balanced approach in integrating it with Western scientific methods. Also, Parsons et al. (2022) highlighted the importance of conducting proper consultations with Indigenous Peoples to enhance the assessment of the project's environmental impacts and address Indigenous rights.

In contrast, emerging VCs related to economic impact, cultural impact, capacity building, education, legislation, transparency, etc., were less frequently mentioned in the context of stakeholders' perspectives. Thus, the distribution of stakeholders' stances on these emerging VCs uncovered a range of concerns, reflecting diverse perspectives on the proposed offshore wind energy projects in NL and NS.

4.1.3 Expression of SDGs from OWEP-RA Comments in NL and NS

Based on the content analysis of NL and NS OWEP-RA comments to examine their alignment with some specific SDGs. Although stakeholders provided insights relevant to the SDGs, their comments did not explicitly mention any particular SDGs. This alignment was determined through thematic analysis, identifying concerns like climate change, ecosystem protection, clean energy, etc.

With this interpretation, it was observed that not all 17 SDGs were expressed in the stakeholders' comments. Not surprisingly, SDGs 1 (No Poverty) and 2 (Zero Hunger) were

absent, indicating that poverty and hunger alleviation of the global goals were not the primary concerns of the stakeholders in the context of NL and NS offshore wind energy projects.

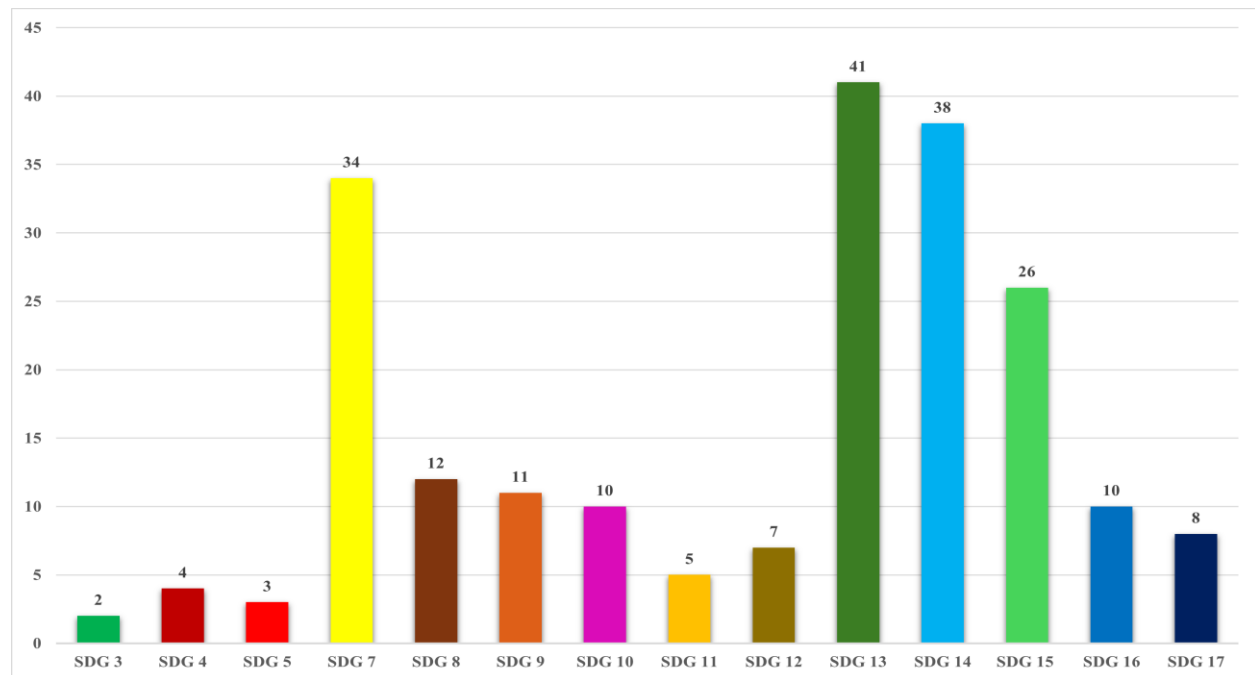


Figure 9: Frequency of SDG-related concerns in Newfoundland & Labrador and Nova Scotia Offshore Wind Energy Project Regional Assessments Comments.

SDG 3 (Good Health & Well-being), SDG 4 (Quality Education), SDG 5 (Gender Equality), SDG 7 (Affordable & Clean Energy), SDG 8 (Decent Work & Economic Growth), SDG 9 (Industry, Innovation & Infrastructure), SDG 10 (Reduced Inequality), SDG 11 (Sustainable Cities & Communities), SDG 12 (Responsible Consumption & Production), SDG 13 (Climate Action), SDG 14 (Life Below Water), SDG 15 (Life On Land), SDG 16 (Peace, Justice, & Strong Institutions), and SDG 17 (Partnerships for the Goals).

As shown in Figure 9, the analysis of OWEPR-RA comments uncovered that SDGs 14 (Life Below Water) and 13 (Climate Action) were the most raised concerns, with 41 and 34 mentions, highlighting stakeholders' priorities about sustainable marine conservation and climate mitigation.

Similarly, SDGs 7 (Affordable and Clean Energy) and 15 (Life on Land) emerged closely with 34 and 26 mentions, respectively, emphasizing concerns about universal clean energy access and terrestrial and marine ecosystem protection.

Also, SDGs 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation, and Infrastructure) emerged with 12 and 11 mentions, respectively, reflecting concerns about job

creation, revenue generation, and infrastructure development within NL and NS's offshore wind energy projects sector.

Conversely, the analysis uncovered that SDGs 3, 4, 11, and 12 (Good Health and Well-being; Quality Education; Sustainable Cities and Communities; and Responsible Consumption and Production) received fewer mentions in the OWEP-RA comments.

4.1.4 Expression of UNDRP from OWEP-RA Comments in NL and NS

The content analysis of OWEP-RA comments in NL and NS focused on aligning with some specific UNDRIP articles. Similar to the SDGs, although stakeholders provided insights relevant to the UNDRIP principles, their comments did not explicitly mention specific UNDRIP articles. This alignment is based on thematic analysis, identifying concerns about Indigenous rights, self-determination, consultation, etc.

Furthermore, while examining the alignment of UNDRIP principles with RA, it is essential to note that the analysis provides a summary perspective through the lens of NL and NS OWEP-RA comments in the study's context. Thus, UNDRIP's complex, procedural nature contrasts with the SDGs' global focus, comprehensively considering environmental, economic, and social impacts. This distinction shows that UNDRIP's value is better suited to examine RA's legal and procedural aspects, especially in fostering Indigenous sovereignty.

Consequently, it was observed that not all 46 UNDRIP articles were expressed by the stakeholders' comments. Hence, stakeholders' comments were more focused on NL and NS offshore wind energy projects on energy production and environmental impact rather than the broader issues like governance, rights to security and freedom, cultural rights, labor and economic rights, special protections for vulnerable groups, land and resources rights, cultural and institutional autonomy, legal and international support, outlined in the UNDRIP. This observation

highlights the limited stakeholder engagement with UNDRIP and the need for broader consideration in future consultations.

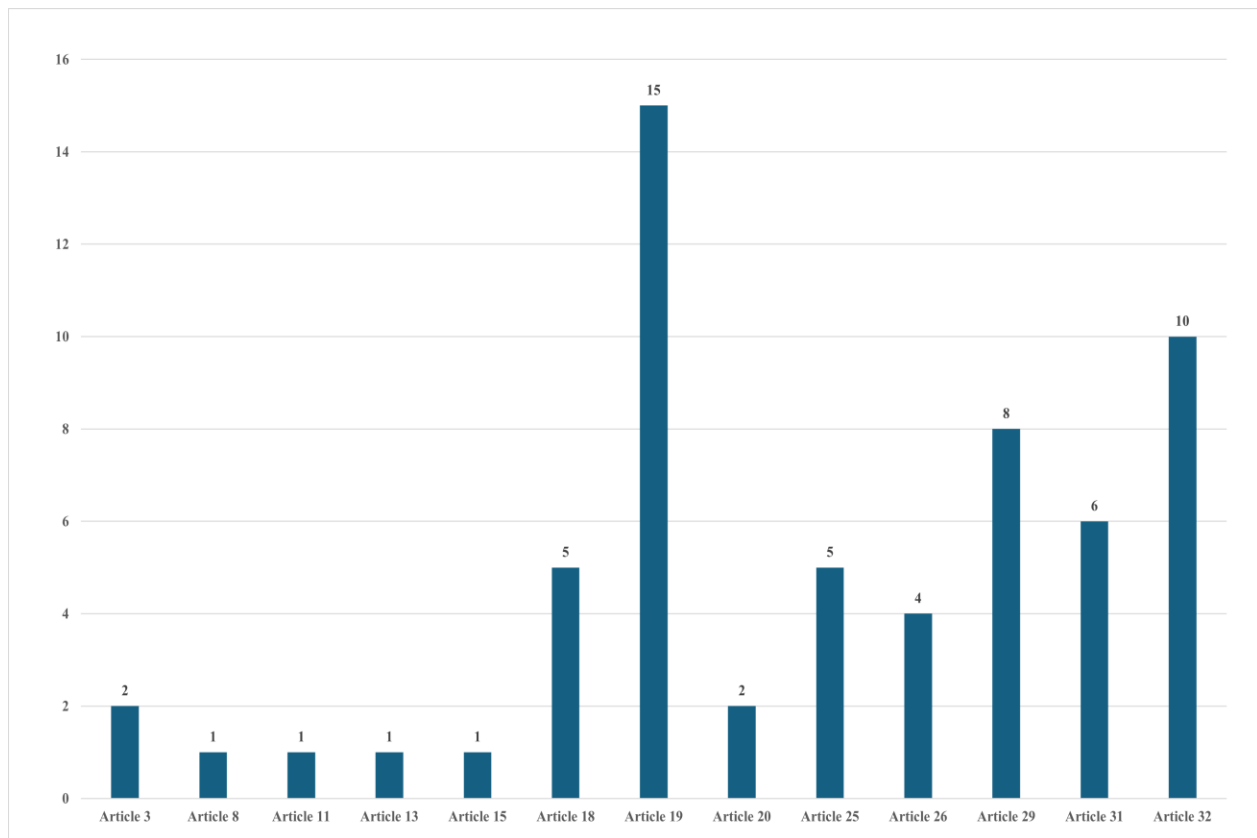


Figure 10: Frequency of UNDRIP-related concerns from Newfoundland & Labrador and Nova Scotia Offshore Wind Energy Project Regional Assessments Comments.

Article 3 (Right to Self-Determination), Article 11 (Culture, Religion or Custom), Article 13 (Right to Culture and Communication), Article 15 (Right to Education and Public Information), Article 18 (Participation in Decision-making), Article 19 (Free, Prior, and Informed Consent), Article 20 (Right to Maintain & Strengthen Distinctive Political, Economic, Social & Cultural Institutions), Article 25 (Right to maintain & strengthen their distinctive spiritual relationship), Article 26 (Right to Indigenous Lands, Territories & Resources), Article 29 (Protection of Cultural Heritage), Article 31 (Right to Maintain, Control, Protect & Develop their Cultural Heritage & Expression, & Traditional Knowledge), and Article 32 (Prior Review & Approval of Projects).

The analysis of the OWEP-RA comment, as shown in Figure 10, uncovered that Article 19 (Free, Prior, and Informed Consent) was the most raised concern, with 15 mentions. This article stresses the need to obtain prior consent or consult Indigenous communities before implementing projects that may impact their land and resources (Parker et al., 2024).

Similarly, Articles 29 (Protection of Cultural Heritage) and 32 (Prior Review and Approval of Projects) were mentioned 8 and 10 times, respectively. Article 29 calls for assistance

programs for Indigenous Peoples to help conserve and protect their heritage without discrimination. Article 32 stresses the right of Indigenous Peoples to determine and set priorities for using their lands and resources.

The findings uncovered stakeholders' utmost concern for Indigenous consent, especially Article 19 (Free, Prior, and Informed Consent) in the NL and NS OWEP-RA, and how this UNDRIP Article shapes discussions and actions on Indigenous rights and consultations.

4.1.5 Mentions for SDGs and UNDRIP Across Stakeholders

Based on the compiled OWEP-RA public comments, the content analysis uncovered a differing alignment of SDGs and UNDRIP among the stakeholders, as shown in Figure 11.

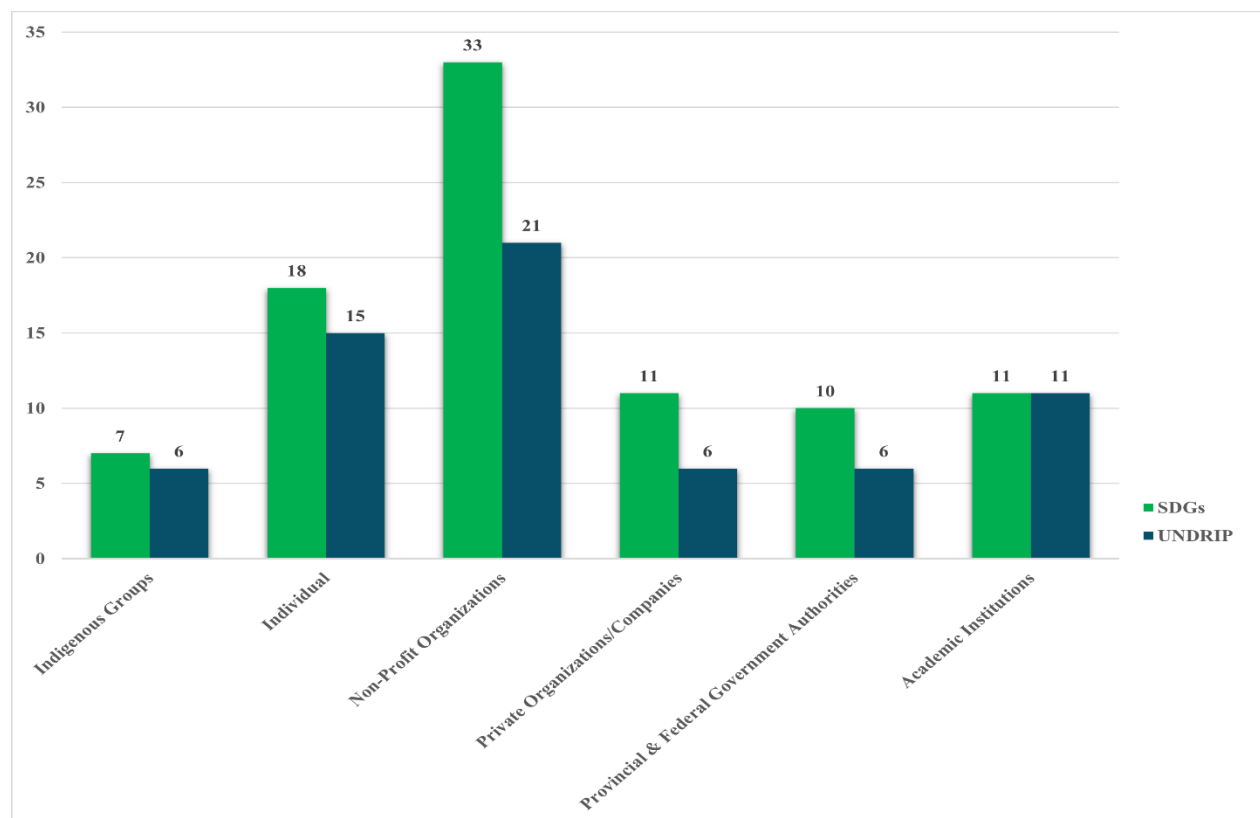


Figure 11: Frequency Trends in Stakeholders' Comments alignment with the SDGs and UNDRIP in Newfoundland & Labrador and Nova Scotia Offshore Wind Energy Project Regional Assessments.

Overall, non-profit organizations showed a 92% comment alignment with SDGs and 58% aligned with UNDRIP towards efforts to advance OWEP-RA in NL and NS. Conversely, individuals showed a 90% alignment with SDGs and 75% alignment with UNDRIP toward efforts to advance NL and NS OWEP-RA.

However, it is important to note that the high alignment observed in non-profit organizations' comments may partly reflect their higher submission volume, which might affect the analysis of SDGs and UNDRIP alignment.

Moreover, the differences in comment submission volumes reflect how diverse stakeholders contributed to the sustainability goals, Indigenous rights, and the objectives of Canada's offshore wind energy projects. This highlights the divergent stakeholders' comments' alignment with the SDGs and UNDRIP in NL and NS OWEP-RA.

4.2 Chapter Recap: NL and NS Public Comments and Sustainability Insights

This chapter analyzes public comments on NL and NS OWEP-RA and explores how the comments align with the SDGs and UNDRIP. The introduction outlines mixed opinions in these comments. It highlights support, opposition, and neutral stances related to environmental impacts, environmental sustainability, Indigenous consultations, and economic benefits.

The results section breaks down the types of stakeholders who commented on the OWEP-RA. It analyzed 97 unique comments from various stakeholders, including academic institutions, Indigenous Groups, individuals, non-profit organizations, private companies, and provincial and federal government authorities. Notably, non-profit organizations contributed a significant portion of the comments, raising concerns about ecological sustainability, social justice, economic equity, and conservational impacts.

Also, it explores emerging VCs in the comments, with environmental impact, environmental sustainability, economic impact, Indigenous rights and consultation evolving as

the most mentioned VCs. For instance, stakeholders stressed the need for thorough RA and proper consultations with Indigenous communities to sustain NL and NS offshore wind energy projects. Moreover, the analysis uncovered that while considerable support for offshore wind energy projects exists, concerns like ecological protections and sustainability, fair economic gains, and proper consultation must be addressed to align with global sustainability goals.

The chapter also examines how public comments align with some specific SDGs. The analysis uncovered that SDGs 13 and 14 (Climate Action and Life Below Water) were the most raised concerns, while SDGs 3, 4, 11, and 12 (Good Health and Well-being, Quality Education, Sustainable Cities and Communities, and Responsible Consumption and Production) received fewer mentions. SDGs 1 and 2 (No Poverty and Zero Hunger) were absent, as poverty and hunger alleviation were not primary stakeholders' concerns in this project context.

Similarly, the analysis of UNDRIP principles uncovered Article 19 as the most expressed concern, highlighting the need for free, prior, informed, and consent from Indigenous communities for projects that affect their lands and resources.

Overall, the chapter analyzes NL and NS OWEP-RA public comments, stressing the need to balance environmental, economic, and social factors while respecting and integrating Indigenous rights in offshore wind energy projects' planning and execution. The findings highlight a need for inclusive stakeholder engagement, which is vital to address concerns like environmental sustainability, economic equity, and meaningful consultation. This multifaceted approach is key to aligning the OWEP-RA process with the United Nations frameworks, aiming for sustainability and respecting Indigenous sovereignty.

Chapter 5: Discussion

5.0 Introduction

This chapter critically examines the public comments submitted in response to the OWEPA-RA in NL and NS. It focuses on key themes like environmental sustainability, economic justice, and Indigenous rights, especially regarding consultation and procedural justice, which were mostly mentioned in the stakeholders' comments. Specifically, through the thematic lens of SDGs 8, 10, 13, 14, 15, 16, and 17 (Decent Work and Economic Growth, Reduced Inequalities, Climate Action, Life Below Water, Life on Land, Peace, Justice and Strong Institutions, and Partnerships for the Goals) and key UNDRIP Articles 19 and 32 (Free, Prior, and Informed Consent, and Prior Review and Approval of Projects), this discussion interrogates how the RA process addresses stakeholder-defined priorities.

Hence, this study argues that even though offshore wind energy projects are seen as a green economic opportunity, stakeholders' comments uncovered complex tensions like ecological risks, unfair sharing of economic benefits, and the ongoing marginalization of Indigenous governance (Gill et al., 2022; Mercer et al., 2020b; Yalamala et al., 2023). Specifically, these concerns expressed through the lens of VCs highlight the limitations of the current RA process in addressing Indigenous perspectives and stakeholders' values (Whyte, 2020). Consequently, these concerns intersect with broader sustainability ambitions and expose the gaps between procedural structures and the transformative goals of inclusivity, decolonial justice, and equitable governance practices (Duran et al., 2024; Gill et al., 2022; Mercer et al., 2020b; Whyte, 2020; Yalamala et al., 2023).

Building on these insights, this study further analyzes how stakeholders' concerns expressed as VC could inform inclusive and responsive policy frameworks. Thus, by interpreting these concerns as VCs, the chapter examines broader implications for sustainability and

governance in NL and NS's offshore wind energy regions. Furthermore, the chapter identifies significant connections among these themes that emerged from the comment analysis and expands on the results' non-thematic findings.

However, while the analysis uncovered these concerns, it is important to note gaps in the comment sample, particularly the absence of comments from specific stakeholders, like the Registered Nurses' Union of NL, Sexual Health Clinics, the College of Medicine, Daycare Unions, the NL House of Assembly, Engineering associations, and Indigenous Peoples in NS. Their perspectives could have enriched discussions on several themes relevant to NL and NS offshore wind energy projects.

For instance, comments from the healthcare sector could have highlighted occupational safety and environmental health concerns from large-scale projects like offshore wind energy. Similarly, Daycare Unions could have addressed community well-being and workforce sustainability. Contributions from legislative and engineering bodies would have strengthened discourse on policy alignment, risk assessment, and technical feasibility components, which are critical to the success of offshore wind energy transitions in Atlantic Canada. Hence, the absence of these perspectives limits discussions on critical themes like healthcare capacity, infrastructure readiness, and workforce support in NL and NS offshore wind energy projects. Specifically, the perspectives from Indigenous Peoples in NS would have strengthened the concerns raised by the Indigenous Peoples in NL on Indigenous rights, consultation processes, cultural preservation, and the projects' equitable distribution of economic benefits.

5.1 Themes

5.1.1 Environmental Sustainability: Climate Action, Biodiversity Protection, and Economic Development

The analysis of OWEP-RA comments uncovered tensions between economic development and protecting the environment. Concerns from stakeholders like Qalipu First Nation (2022), Innu Nation (2022), and Benoit First Nation Inc. (2023) show their deep understanding of the cumulative effects associated with offshore wind energy projects. Their advocacy for in-depth ecological assessment to protect biodiversity and prevent habitat damage aligns with scholarly critiques cautioning about the potential long-term environmental risks of shifting to renewable energy (Basit et al., 2022; Danovaro et al., 2024; Green et al., 2022).

5.1.1.1 Environmental Concerns & Climate Change

Around the world, offshore wind energy projects are often seen as an important effort to achieve SDG 13, by mitigating climate change and reducing carbon emissions (Robertson et al., 2023; Su et al., 2024). However, it is worth noting that offshore wind energy involves life-cycle emissions from manufacturing, construction, operation, and decommissioning. The manufacturing phase is emissions-intensive, contributing up to 78% emissions due to materials like steel and concrete, while operational emissions are minimal, and decommissioning with recycling can reduce carbon dioxide emissions by up to 83% (Goyal, 2024; Shenbagaraman & Gnanavel, 2023). Despite these life-cycle emissions, offshore wind energy remains substantially cleaner than fossil fuels, with a short energy payback time of around 1.5 months, 4 months for larger turbines, and a lower carbon footprint, reinforcing its role in a sustainable energy transition (Shenbagaraman & Gnanavel, 2023; Sovacool et al., 2016; Tryfonidou & Wagner, 2004).

Hence, while these projects play a critical role in decarbonization and support Canada's net-zero commitments, local environmental risks must be addressed to ensure their successful

implementation (Choi, 2023; Wolf et al., 2022). However, stakeholder commentators warned that offshore wind energy projects may disrupt marine habitats, a risk, if not properly managed, could undermine climatic gains that the project aims to achieve. For instance, Flat Bay Band Inc. (2023) and the Seafood Producers Association of Nova Scotia (2023) emphasized risks to marine ecosystems and biodiversity, echoing scientific evidence of habitat loss and species displacement linked to offshore wind energy projects (Gill et al., 2020; Lipsky et al., 2024).

Thus, the issue is not to oppose offshore wind energy projects, but to ensure a net-positive outcome delivery, integrating robust environmental protections alongside climate actions (Goyal, 2024; Singh, 2023). In particular, these concerns align with broader scientific debate over inadequate cumulative effects assessment, which threatens marine life sustainability and undermines SDG 14- Life Below Water (Danovaro et al., 2024). This highlights that stakeholders are not only affected parties but also informed participants engaging with the ecological implications of energy transitions. Consequently, considering the current RA's inadequacies, this study argues for robust environmental protections to prevent lasting harm to ecosystems (Danovaro et al., 2024).

5.1.1.2 Environmental Sustainability & Economic Development

Stakeholders' concerns also pointed out tension between economic growth (SDG 8: Decent Work and Economic Growth) and SDG 14- Life Below Water (Singh, 2023). Though offshore wind energy projects can boost the economy, their implementation might push fishermen out of jobs and harm marine biodiversity (Blanch et al., 2018; Gill et al., 2020; Lipsky et al., 2024). Thus, this tension is not just part of the process; it is mainly due to poor governance structures that fail to balance economic growth with protecting the environment and managing resources fairly (Parsons et al., 2021; Whyte, 2013).

Hence, this governance gap has prompted broader critiques of the basic ideas driving offshore wind energy projects. For instance, stakeholders' concerns about offshore wind energy projects prioritizing economic gains over protecting the environment echo similar critiques of ecological modernization theory, which suggests that economic growth and environmental sustainability can coexist without making systemic changes (Weber & Weber, 2020).

These critiques are reinforced by Alkhalili et al.'s (2023) argument that projects, like the proposed offshore wind energy in NL and NS, often prioritize economic gains over protecting the environment, an observation that resonates with stakeholders' concerns about poor planning and assessment processes for these projects (Bose, 2024; Chew, 2024). Together, these insights suggest that stakeholders' concerns and lived experiences align with broader scientific critiques, that if offshore wind energy projects in NL and NS are not properly regulated, this could lead to harmful and unsustainable outcomes (Alkhalili et al., 2023; Gill et al., 2022; Whyte, 2020).

To reconcile these competing priorities, offshore wind energy projects must implement a management system that considers both economic benefits and the need for environmental protection. A takeaway from the comment analysis is the push for better project sustainability by integrating local management practices and doing thorough ecological assessments (Rioux-Gobeil & Thomassin, 2024). Without such measures, offshore wind energy projects may prioritize economic expansion over ecological integrity, reinforcing stakeholders' concerns about lasting environmental effects (Alkhalili et al., 2023; Chew, 2024; Gill et al., 2022).

❖ ***Strengthening Regulatory Oversight for Sustainable Offshore Wind Energy Projects***

Moreover, offshore wind energy projects must align with the most mentioned SDGs- 13, 14, and 15 (Climate Action, Life Below Water, and Life on Land) as uncovered in the comment analysis, to ensure environmental safeguards are adequately incorporated into project assessments (United Nations, 2022).

However, the inadequacies in current IA, particularly in accounting for cumulative and long-term effects and integrating stakeholder-defined priorities, pose significant risks to marine ecosystems and the livelihoods of coastal communities, as noted in stakeholders' comments and scholarly studies from Adams et al. (2023), Adewoyin et al. (2025), Lin et al. (2024) and Rai and Maheshwari (2024). These limitations undermine the alignment of offshore wind energy projects with the SDGs and point to a broader disconnect between regulatory processes and local sustainability concerns.

Hence, the comment analysis underscores the need for a collaborative ecological assessment model that meaningfully incorporates stakeholders' concerns and reflects scientific and locally based understanding of sustainability (Gilio-Whitaker, 2019). Such an approach would support more inclusive IA and enhance transparency in decisions, where regulatory oversight is strengthened to balance environmental sustainability with climate action and economic development (Danovaro et al., 2024; Singh, 2023).

Accordingly, this study suggests using participatory ecological assessment frameworks, beyond current IA practices, to integrate sustainable stakeholder-defined priorities into regulatory decisions and lasting project planning (Danovaro et al., 2024; Gilio-Whitaker, 2019). This change in project evaluation is important to connect stakeholder knowledge and institutional decisions, ensuring a fair and ecologically responsible energy transition.

5.1.2 Economic Justice

Economic justice within offshore wind energy projects is a recurring concern among stakeholders' comments, affecting Indigenous Peoples and the broader public. The main discussion points are job creation (economic opportunities) and the impacts on traditional fishing industries. These concerns reflect the need for fair access to resources and opportunities from large-scale energy transitions to avoid disruptions to existing industries (Garneau, 2022; Whyte,

2020). Thus, economic justice is about ensuring that affected communities have equal access to resources and opportunities from large-scale projects (Whyte, 2020).

1. Job Creation and Economic Opportunities

Offshore wind energy projects offer significant economic potential, particularly in creating jobs, inclusive local investment, and growing industries (Jolly et al., 2023). However, stakeholders like Benoit First Nation Inc. (2022) and Qalipu First Nation (2023) stressed that economic benefits, such as employment and industry growth from these projects, must be equitably distributed among all communities (Whyte, 2020). This is because the current structure of economic participation in assessment processes often excludes Indigenous Peoples and the broader public from meaningful ownership and decision-making in planning these projects (Ketaren & Prawira, 2024; Pouhe, 2024; Warrier et al., 2021).

Hence, this study argues that offshore wind energy projects should not just focus on creating temporary jobs but must be set up to ensure lasting economic stability through revenue-sharing, skills development programs, and support for community or member-owned businesses, including initiatives in tourism and local supply chain enterprises for both Indigenous Peoples and the broader public (Laurin & Jamieson, 2016; Porter & Kramer, 2019; Qalipu First Nation, 2021; Warrier et al., 2021). Moreover, restructuring these projects to support entrepreneurship and social enterprises aligns with SDGs 10 and 16 (Reduced Inequalities and Peace, Justice, and Strong Institutions), advocating for economic inclusivity and promoting fairness across affected communities (Cabrera & Cutright, 2023; United Nations, 2022).

Ultimately, promoting self-determination and including Indigenous Peoples and the broader public in renewable energy projects helps build strong communities and supports lasting inclusive economic development, highlighting the importance of having local economic efforts that benefit everyone (Warriar et al., 2021).

2. Potential Impacts on the Fishing Industry

Offshore wind energy projects offer considerable economic opportunities, but might disrupt traditional livelihoods, particularly in the fishing industry (Jolly et al., 2023; Lantz & Tegen, 2011), which serves as an economic backbone for Indigenous communities and the broader public. This connection of renewable energy development and traditions introduces tensions, complicating the broader narrative of economic justice.

For instance, comments from the Association of Seafood Producers (2023), Atlantic Fixed-Gear Council (2023), and Atlantic Groundfish Council (2023) highlighted the importance of assessing how offshore wind energy projects might affect fisheries, including fish stocks, commercial fish displacement, and the overall ecosystem health. Similarly, Abanyin et al. (2022), Fish, Food & Allied Workers (2023), and Miawpukek First Nation (2022) highlighted threats to fish spawning grounds and species like cod, lobster, and halibut, and how these changes impact the socio-cultural life of coastal and Indigenous communities, especially the Mi'kmaq people.

Collectively, these overlapping concerns reflect the risk-displacement of traditional fishing activities and aquatic habitats, threatening the livelihood of Indigenous Peoples and the broader public (Gill et al., 2020; Lipsky et al., 2024). This issue further underscores a more systemic concern that economic benefits from offshore wind energy projects must not override the sustainability of existing fishing industries that have supported Indigenous and coastal communities for generations (Assembly of First Nations, 2018).

Given that fishing remains a key livelihood for many Indigenous and coastal communities in Atlantic Canada (Fisheries and Oceans Canada, 2021). This study argues that offshore wind energy projects must integrate co-management agreements to mitigate economic displacement across coastal industries (Ainita, 2024; Charles, 2023; Warriar et al., 2021). Such agreements

would require the development of clear policies that prioritize economic inclusion and address the socio-economic risks associated with large-scale energy transitions (Garneau, 2022).

Moreover, while the most mentioned UNDRIP Articles, 19- Free, Prior, and Informed Consent and 32- Prior Review and Approval of Projects in the comment analysis, reinforce the necessity of Indigenous participation in economic decisions through prior consent and the right to control their land and resource use. To uphold these rights, the RA must ensure fair representation in economic decisions, aligning with SDG principles of inclusivity and equitable resource governance (United Nations, 2022). Finally, regulatory structures must guarantee sustainable fisheries, ensure shared economic benefits, and enforce industry-wide protections for Indigenous communities and the broader public (Batstone et al., 2021; Copes, 2020; Lam, 2012).

5.1.3 Indigenous Rights, Consultation, and Procedural Justice

Stakeholders like Flat Bay Band Inc. (2023), Innu Nation (2022), Miawpukek First Nation (2022), and Qalipu First Nation (2022) criticized the procedural justice framework for offshore wind energy projects, arguing that it threatens land sovereignty and cultural heritage.

Procedural justice, as outlined by Schlosberg (2004), stresses fair and inclusive processes in which affected communities participate in creating and managing environmental policies. However, comments from First Nations in Ktaqmkuk uncovered that consultation processes under OWEP-RA have been inadequate, often starting late in decisions and failing to integrate Indigenous perspectives meaningfully (Del Río & Burguillo, 2008, 2009; Trimmel et al., 2024). These procedural concerns further indicate that UNDRIP Articles 19- Free, Prior, and Informed Consent and 32- Prior Review and Approval of Projects, as outlined by the United Nations (2008), have not been properly followed in the OWEP-RA process.

Hence, despite Canada's commitments to Indigenous reconciliation, this OWEP-RA process gap exemplifies a top-down approach where consultation is treated as just another box to

check rather than a means of co-developing energy solutions with Indigenous Peoples (Carriere et al., 2024; Schocat, 2021). This critique aligns with SDG 16- Peace, Justice, and Strong Institutions, which advocates for inclusive societies and participatory decision-making for all. Moreover, these procedural gaps reflect past Indigenous marginalization in other resource developments, like the Great Lakes of Ontario project (Bacher & Beaton, 2022); the Muskrat Falls Generating Station project, criticized for its poor consulting with the Innu and Inuit communities and concerns over methylmercury contamination and local habitat disruption (Cole & Stoddart, 2021).

To address these procedural gaps, this study argues that the consultation process must be formalized and legally binding, beyond the current RA approach, which allows for advisory and regulatory committees' inputs. This strengthens the recognition of Indigenous communities as equal partners in decisions by shifting representation from mere consultation to direct governance, with their knowledge and legal rights shaping outcomes (O'Neill et al., 2021; Savic & Hoicka, 2023; Schlosberg, 2004). Also, UNDRIP Article 19- Free, Prior, and Informed Consent must be included in the RA as a law rather than a discretionary practice (Ketaren & Prawira, 2024; Klein et al., 2024). Thus, this would require a legally binding consultation process to empower Indigenous communities with decision-making authority rather than just soliciting their opinions on projects (Barros, 2024; Ketaren & Prawira, 2024).

Although the RA process, allowing stakeholders to comment on the offshore wind energy projects, aligns with SDG 17- Partnerships for the Goals, to foster collaboration and strengthen global sustainability (Glass et al., 2023; Tamrin & Lubis, 2023). However, the procedural gaps identified in the OWEP-RA comments, like the late consultation process, lack of enforceability, lack of decision-making power, tokenistic or symbolic representation on committees, etc., further

stress the need to reframe these concerns as integral to IA (Duran et al., 2024; Gill et al., 2022; Mercer et al., 2020b; Yalamala et al., 2023).

Hence, this study argues that Indigenous concerns should be interpreted as VCs in future RA processes, ensuring they are assessed with the same rigor as ecological or economic factors and reinforcing respect for Indigenous rights and consultation.

5.2 Interpreting Stakeholders' Concerns as Valued Components in OWEP-RA

In the context of OWEP-RA, VCs play a significant role in IA, but their interpretation requires expanding beyond standardized assessment to integrate diverse perspectives of stakeholders effectively. This is particularly important when assessments aim to reflect complex regional dynamics and lived experiences. Thus, a critical challenge in the OWEP-RA process is how the regulatory assessment tool interprets stakeholders' concerns or priorities.

While the final OWEP-RA reports for NL and NS address key considerations like job creation, environmental impacts, effects on fisheries and tourism, etc. (Committee for the Regional Assessment of Offshore Wind Development in Newfoundland and Labrador, 2025; The Regional Assessment Committee, 2025). Stakeholders' comments highlighted some concerns that require further attention, like lasting livelihood disruptions (e.g., fishing and tourism), infrastructure strain, and equitable distribution of benefits from offshore wind energy projects. These concerns from the comment analysis further suggest a disconnect between the RA process and local realities.

To address these gaps, the study stresses the need to improve how VCs are identified and integrated into the IA process to strengthen stakeholder participation. Thus, building on the idea of shared reference points proposed by Fominykh et al. (2016) and McKittrick (2022), positioning VCs in this way encourages stakeholder participation, aligns priorities with the SDGs and UNDRIP, and promotes an inclusive IA process that responds to emerging social, economic,

and ecological concerns rather than static, predefined ideas. In this context, the study defines shared reference points as co-created concepts that foster inclusive dialogue, bridge worldviews, and enhance collaboration in IA processes like the OWEP-RA.

Specifically, this study proposes a dynamic approach to identifying VCs, allowing new concerns to emerge naturally through continuous stakeholder engagement, regular updates, and knowledge sharing. Such adaptability keeps assessments in tune with stakeholders' priorities during project planning and evaluation phases, ensuring their concerns are the primary foci, not just an afterthought.

Building on this, incorporating these stakeholder-defined VCs throughout assessment phases helps create a more adaptable RA that connects with Indigenous worldviews and includes lived experiences and knowledge passed down through generations (Hudson & Vodden, 2020). This approach strengthens alignment between technical evaluations and socioeconomic and environmental realities of the affected communities.

5.3 Connections Across the Themes

Stakeholders' concerns on offshore wind energy projects shape the interwoven themes of environmental sustainability, economic justice, and Indigenous rights, including consultation and procedural justice. The OWEP-RA comment analysis uncovered how these concerns overlap, underscoring the need for policies that address these issues (together) in the context of NL and NS's energy projects. Hence, this interconnectedness highlights the need for a holistic approach to sustainability that prevents economic gaps and involves affected communities in decisions (Burton, 1987; Osborne et al., 2024; Schwartz, 2024).

Foremost, for instance, stakeholders' comments from the Association of Seafood Producers (2023) and Miawpukek First Nation (2022) underscored how environmental degradation and economic vulnerability are connected. Thus, if not properly managed, offshore

wind energy projects could harm marine ecosystems and threaten biodiversity (SDG 14), while affecting coastal and Indigenous communities dependent on these resources for decent work and economic growth- SDG 8 (Vinayaka et al., 2024). These insights call for co-governance models that support environmental stewardship and economic stability (Alkhalili et al., 2023; Parsons et al., 2021). Hence, environmental sustainability and economic justice should not be seen as separate goals but as priorities that must be pursued together.

Also, while offshore wind energy projects are seen as a good step toward fighting climate change (SDG 13), stakeholders' comments cautioned against the potential negative impacts on marine biodiversity- SDG 14: Life Below Water. This further stresses the importance of ocean health in cultural continuity and food security for Indigenous communities (Steiner & Neathway, 2019). Hence, scholars like Brancalion and Chazdon (2017) and Seddon et al. (2019) state that nature-based solutions are key to dealing with climate change. Similarly, Robertson et al. (2023) and Singh (2023) reinforces that marine ecosystems help preserve biodiversity and carbon storage, which is crucial to long-term sustainability.

Additionally, effective climate action is closely connected to meaningful consultation with Indigenous Peoples (United Nations Framework Convention on Climate Change, 2022). Hence, a key concern from the stakeholders' comments emphasized that climate action projects risk perpetuating existing inequities without meaningful consultation and recognition of Indigenous knowledge systems. For instance, as Qalipu First Nation (2022) and Benoit First Nation Inc. (2023) noted, Indigenous participation in climate decisions is a key concern. This echoes broader procedural justice principles and resonates with SDG 16- Peace, Justice, and Strong Institutions. These concerns reinforce the findings of scholars like Berkes (2018) and Whyte (2020), arguing that Indigenous participation strengthens governance and enhances climate resilience strategies, to make renewable projects more adaptive and culturally-driven. These insights further highlight

the connection between climate action- SDG13 and economic justice- SDG 8. In this context, Warrier et al. (2021) stress the importance of equitable benefit-sharing and Indigenous ownership of resource projects like offshore wind energy in addressing historical exclusion and empowering communities through economic self-determination.

Moreover, Indigenous rights and economic justice themes are intrinsically linked, ensuring that offshore wind energy projects respect Indigenous sovereignty and land rights. Comments from Flat Bay Band Inc. (2023) and Innu Nation (2022) stressed that the RA must be grounded in UNDRIP principles, particularly Articles 19 and 32 (Free, Prior, and Informed Consent, and Prior Review and Approval of Projects), to support Indigenous-led pathways fundamental to a just and sustainable energy transition. Hence, respecting these rights sets the foundation for achieving SDG 8's decent work and economic growth through equitable benefit-sharing and redress for historical injustices for Indigenous communities (Pouhe, 2024; Sirén Gualinga, 2023).

Overall, these intersecting themes of environmental sustainability, economic justice, and Indigenous rights emphasize the need for an integrated approach to offshore wind energy projects, supporting a just energy transition grounded in ecological integrity, equity, and self-determination (Glass et al., 2023; Lightfoot, 2016; Sovacool & Enevoldsen, 2015). In this context, the OWEP-RA comments analysis uncovered that these priorities are not conflicting, but mutually reinforcing elements of a holistic sustainability framework. Hence, achieving this requires policy and planning processes that integrate marine biodiversity conservation (SDG 14), climate resilience (SDG 13), inclusive economic development (SDG 8), and the recognition of Indigenous governance and procedural justice under the UNDRIP principles and SDG 16's peace, justice, and strong institutions. Furthermore, OWEP-RA stakeholder commentators emphasized the need for inclusive engagement. Similarly, scholars like Lightfoot (2016) and Sovacool and

Enevoldsen (2015) argue that meaningful multi-stakeholder collaboration, as encouraged by SDG 17, ensures that the offshore wind energy projects are sustainable, inclusive, and just.

5.4 Non-Thematic Findings Through SDGs and UNDRIP Perspectives

Beyond thematic stakeholders' concerns, the analysis uncovered two critical trends: **(1)** the role of non-profit organizations and individuals, and academic institutions in advancing sustainability goals, and **(2)** the prioritization of environmental and economic concerns over social considerations.

5.4.1 Role of Non-Profit Organizations, Individuals, and Academic Institutions

Non-profit organizations and individuals at the grassroots are key in bridging the SDG implementation gaps through effective communication, mobilization efforts, and Indigenous rights (Jumbam et al., 2020). This is echoed by Kurz (2021), asserting that International Non-Governmental Organizations are key partners in implementing the United Nations 2030 Agenda for Sustainable Development.

For instance, since 1962, the Nature Conservancy of Canada in NL and NS, a leading conservation nonprofit organization, has helped preserve 15 million hectares of ecologically significant land and 250 species across Canada (Nature Conservancy of Canada, 2024). This achievement by the Nature Conservancy of Canada demonstrates that conservation partnerships can drive meaningful environmental protection if the OWEP-RA exploits such models to promote sustainability and support global governance.

Conversely, as non-profit organizations and individuals advance some specific SDGs and UNDRIP principles, universities and colleges (academic institutions) cannot be ignored in ensuring offshore wind energy projects embody scientific rigor, inclusivity, and community-driven sustainability. For instance, academic comments from Pennell and Wadden (2022), Purcell-Pilgrim et al. (2022), and Dumaresque et al. (2022) emphasized the integration of

Indigenous knowledge, rigorous environmental assessment, and equity-based economic planning in offshore wind energy projects. These insights reinforce the relevance of SDGs 8, 10, and 14 (Decent Work and Economic Growth; Reduced Inequalities; and Life Below Water) and UNDRIP Article 19 principles on participation and consent.

Overall, these comments from academic institutions show the importance of scientific, inclusive, and community-driven approaches to offshore wind energy projects, aligning with key SDGs and UNDRIP principles (Hong et al., 2023; Leal Filho et al., 2023). Hence, these academic comments emphasized integrating research and training with real-world environmental and social issues to advance sustainability that is fair and just (Hong et al., 2023; Leal Filho et al., 2023). Without such interdisciplinary integration, the effectiveness of offshore wind energy projects may be compromised, limiting the promotion of true sustainability.

5.4.2 Stakeholders' Comment Trends in NL and NS OWEP-RA: Emphasis on Environmental and Economic Concerns Over Social Considerations

A notable finding from this study's analysis is that stakeholders emphasized environmental and economic priorities, often overlooking social considerations. Therefore, SDGs 3, 4, 5, 11, and 12, related to good health and well-being, quality education, gender equality, sustainable cities and communities, and responsible consumption and production, received fewer mentions in the OWEP-RA comments analysis.

Thus, the analysis shows stakeholders emphasized concerns like biodiversity protection, marine ecosystem health, pollution, climate change mitigation, clean energy, job creation, and local community investment over social equity, gender equality, and gender-based violence. This echoes with Blakley et al. (2020), observing that Canadian western and northern provinces and territories are primarily concerned about the environmental effects of project development. This is further reinforced by Grubert (2023), asserting that stakeholders involved in energy projects

prioritize environmental and economic issues and only pay attention to social problems if the project directly impacts them.

Hence, social equity issues must be key to planning NL and NS offshore wind energy projects. Without this, sustainability efforts toward the projects will fall short, reinforcing existing social gaps instead of addressing them (Wuebben et al., 2023; Loang, 2023; Sánchez et al., 2022).

5.5 Conclusion

The analysis of public comments on NL and NS offshore wind energy projects highlights the complex interplay between environmental sustainability, economic justice, Indigenous rights, and procedural justice. Stakeholders' comments emphasized the need for careful ecological assessments that address climate change, protect biodiversity, and consider the lasting effects on the environment, aligning with SDGs 13- Climate Action, 14- Life Below Water, and 15- Life on Land.

Economic justice for Indigenous communities and the broader public also emerged as a key concern, reinforcing the importance of meaningful participation in decision-making processes and fair benefit distribution in reducing inequalities (SDG 10) and respecting Indigenous rights. The focus on procedural justice and inclusive consultation further underscores the necessity of integrating Indigenous perspectives into assessment processes to foster stakeholder trust and cooperation.

Also, non-profit organizations and academic institutions help bridge the gap between policy and community engagement, advocating for transparent and fair assessments that consider the complex impact of offshore wind energy projects on the environment, economy, and society.

A stakeholder-defined VC framework presents a practical tool for balancing socioeconomic, environmental, and cultural priorities in future assessments. Identifying and

prioritizing these VCs can lead to an inclusive and sustainable approach that values diverse perspectives in offshore wind energy projects.

Ultimately, this study advocates for an inclusive and collective governance approach that integrates diverse stakeholder perspectives, ensuring that environmental and economic considerations do not overshadow social concerns. By fostering inclusivity and fairness, offshore wind energy projects can achieve a balanced and sustainable framework that supports nature and community well-being in NL and NS.

5.6 Recommendations and Practical Implications

This study addresses the shortcomings in the NL and NS OWEP-RA comment analysis by proposing four key recommendations based on the research questions for the project's sustainability.

Foremost, this study recommends the enhancement of environmental protection along with promoting Indigenous-led governance. Thus, enhancing cumulative environmental impact assessments is essential to mitigate biodiversity loss and lasting ecological consequences (Danovaro et al., 2024; Gill et al., 2020). This process must be supported by integrating stakeholders' inputs and co-governance mechanisms, like stakeholder-driven IA, to achieve a fair balance between environmental protection and economic development (Gilio-Whitaker, 2019; Rioux-Gobeil & Thomassin, 2024). In parallel, establishing stringent environmental policies with stakeholder-driven monitoring systems would make offshore wind energy projects accountable while prioritizing ecological integrity, economic growth, and supporting broader climate objectives (Bose, 2024; Chew, 2024; Singh, 2023).

Secondly, the study recommends adopting economic benefit-sharing policies to achieve economic justice. Hence, revenue-sharing agreements and community investment funds should be set up to foster lasting resilience and self-determination among Indigenous Peoples and local

communities (Warrier et al., 2021; Whyte, 2020). Such measures would ensure equitable distribution of economic benefits from offshore wind energy projects, while promoting community-driven entrepreneurship and fostering inclusive economic participation (Laurin & Jamieson, 2016; Porter & Kramer, 2019; Qalipu First Nation, 2021).

Thirdly, institutionalizing procedural justice through UNDRIP Article 19 (Free, Prior, and Informed Consent) is critical. Thus, adopting legally binding consultation protocols based on Article 19 would legitimize decision-making processes and ensure Indigenous communities have a stake in shaping project outcomes (Mercer et al., 2020b; Schlosberg, 2004; Trimmel et al., 2024). This approach would help reconcile state and Indigenous interests, strengthening the ethical basis of renewable energy governance (Mercer et al., 2020b; Schlosberg, 2004, 2007; Trimmel et al., 2024).

Finally, the study recommends establishing a dynamic framework based on stakeholder-defined VCs to guide future regional assessments. Project evaluations within such a framework should integrate stakeholder-defined values and concerns as foundational elements. Moreover, aligning these VCs with the SDGs and UNDRIP principles would create a balance between addressing environmental, economic, and social concerns. Additionally, mechanisms should be implemented to enable regular updates to VCs in response to changing stakeholder priorities, using familiar community language to promote public understanding, enhance transparency, and foster collaborative decision-making. Consequently, this would allow the RA to respond to new themes in a way that adapts and maintains relevance over time.

However, while adaptive stakeholder-driven frameworks would improve inclusivity and responsiveness, it is essential to recognize that these processes remain embedded within settler-institutional structures, limiting full Indigenous self-determination. Hence, to advance Indigenous energy sovereignty, future assessments could explore Indigenous-led IA institutions and

governance mechanisms, which empower communities to participate directly in assessments, integrate Indigenous knowledge systems, and shape outcomes according to their cultural, environmental, and socioeconomic priorities (O’Faircheallaigh & MacDonald, 2022; Roburn, 2018). Mechanisms like economic development corporations can promote ownership and long-term benefits, while collaborative approaches with state agencies can address power imbalances and strengthen Indigenous decision-making authority (Midzain-Gobin & McEvoy, 2024; Savic & Hoicka, 2023).

In summary, implementing these recommendations presents a pathway towards a just, sustainable framework for offshore wind energy and other major projects, ensuring lasting sustainability and Indigenous sovereignty. This approach reinforces inclusivity, strengthens governance structures, and supports renewable energy development, community resilience, and ecological preservation in NL and NS.

5.7 Limitations of the Study

This research thematically and quantitatively examines public comments on NL and NS OWEPA and discusses their alignment with the SDGs and UNDRIP. However, it is important to note these limitations of the study.

The analysis was limited to comments submitted to the Registry between September 2022 and October 2023. Contextually, the comments reflect the diverse perspectives of stakeholders, including academic institutions, Indigenous Peoples, individuals, nonprofit organizations, private companies, and provincial/federal government agencies on offshore wind energy projects in NL and NS, highlighting concerns about Indigenous rights and procedural justice, ecological sustainability, and economic justice. This study analyzed only English-language comments, which may have excluded perspectives expressed in French. While this decision was necessary for consistent coding and analysis, it limits the inclusivity of the comments and may omit some

stakeholder concerns. Also, notably, the absence of comments from Indigenous Groups in NS highlights a critical gap in stakeholder representation, limiting the ability to capture Indigenous perspectives in that province fully.

Specifically, these comments are formally invited during two key RA phases. *Phase 3 involves the development of the Draft Terms of Reference*, and *Phase 6 focuses on the Draft RA Report*. However, due to the study's timeframe, comments from *Phase 6* may not have been fully captured. Also, engagement beyond these phases, like ongoing consultations, policy development, and ministerial guidance in *Phase 7- the Final Report Submission*, was outside the study's scope. As a result of these constraints, evolving stakeholders' concerns and government directives beyond this period warrant further exploration.

Moreover, it is important to acknowledge the inherent limitations of the study's use of themes from OWEP-RA comments to align with SDGs and UNDRIP articles, as they may overlook other relevant themes used in broader academic and policy discussions.

Furthermore, my position as a non-Indigenous scholar introduces additional limitations to interpreting Indigenous history and experiences adequately. While this limits the depth of analysis, the study aims to identify critical issues that require consideration, including Indigenous rights, integration of Indigenous ecological knowledge, and procedural justice.

Lastly, the alignment focuses on OWEP-RA, SDGs, and UNDRIP principles within the NL and NS geographical setting, which might limit the generalization of findings to other regions or contexts. Future research could benefit from a broader temporal and geographical scope and additional data sources to provide a thorough understanding of the alignment between RA processes, sustainability frameworks, and local perspectives on offshore wind energy projects.

Chapter 6: Contributions, Conclusion, Recommendations, and Future Research Directions

6.0 Contributions and Major Findings of the Study

This study contributes to the scholarship on RA and offshore wind energy projects in Atlantic Canada. The study analyzes public comments using thematic and quantitative analyses to determine and discuss their alignment with the SDGs and UNDRIP within the NL and NS OWEPA-RA context.

Key contributions include:

1. Providing a first comprehensive review of public comments for NL and NS OWEPA-RA.
2. Highlighting the alignment of stakeholders' concerns with SDGs and UNDRIP, particularly SDGs 13- Climate Action, 14- Life Below Water, and 15- Life on Land and Articles 19- Free, Prior, and Informed Consent, which stresses the need to consult with Indigenous communities before undertaking any projects on their territories and 32- Prior Review and Approval of Projects, underscoring the right to prioritize the use of Indigenous lands and resources.
3. Proposing a stakeholder-defined VC framework to interpret stakeholders' concerns as VCs to guide the recognition and prioritization of community values and interests in NL and NS OWEPA-RA and future project assessment.

Beyond the contributions to scientific literature and policy recommendations, this study provides interesting findings supporting a green and just transition. The summary of major findings includes:

Firstly, the comment analysis on OWEPA-RA in NL and NS uncovered mixed stakeholder opinions. Some **supportive stances** include advocacy for Indigenous economic benefits and the projects' sustainability. Some **opposing stances** include environmental impact and socio-ecological concerns like ecosystem destruction and its effect on dependent communities. Some

neutral stances include advocacy for enhanced data assessment and meaningful consultation from the OWEP-RA process.

Secondly, the study uncovered that the public comments highlight the need for robust ecological assessments, biodiversity protection, and mitigation of marine and terrestrial ecosystem impacts as **environmental concerns**. The highlighted **economic concerns** from the comments include the fair distribution of benefits, including job creation and local investment, especially for Indigenous communities and the broader public.

Thirdly, the study uncovered that stakeholders emphasize **environmental and economic concerns** like biodiversity protection, marine ecosystem health, climate change, clean energy, job creation, local community investment, etc., over **social concerns** like gender equality, gender-based violence, and equity. This prioritization explains the lower visibility of socially related SDGs in OWEP-RA comments.

Fourthly, the content analysis revealed that while stakeholders engaged with issues relevant to the SDGs and UNDRIP, like climate action, ecosystem protection, clean energy, and Indigenous consent, **they rarely explicitly mentioned specific goals or articles**. For instance, Article 19- Free, Prior, and Informed Consent was the most expressed UNDRIP principle. In contrast, other rights, including governance, labor, cultural preservation, and protections for vulnerable groups, were largely absent, and SDGs 1- No Poverty and 2- Zero Hunger were not mentioned. This suggests that stakeholders' priorities are context-specific, and institutions may need to communicate these frameworks better to facilitate more comprehensive engagement.

Moreover, **procedural justice** emerged as a critical concern, highlighting the need for proper consultation processes to respect and include Indigenous voices in decisions to uphold Indigenous self-determination.

Lastly, the study also uncovered the crucial role of **nonprofit organizations** in promoting the United Nations Agenda 2030 for Sustainable Development and supporting global governance, as well as the role of **academic institutions** in translating research and training into practical solutions for sustainability.

Hence, these contributions and findings are valuable for policymakers, researchers, and stakeholders to shape policies and strategies that promote sustainability and protect Indigenous rights within Canada's IA and clean energy transitions.

6.1 Conclusion and Recommendations

Canada's RA process within the context of NL and NS offshore wind energy projects has exhibited progress in its alignment with the SDGs and UNDRIP. However, this study stressed that for Canada to meet its clean energy goals, sustainable offshore wind energy projects in NL and NS require a balanced approach that integrates ecological sustainability, socioeconomic equity, and Indigenous rights.

Key recommendations from the study include enhancing environmental safeguards and Indigenous-led governance to align projects with the SDGs and prevent the adverse effects of unsustainable practices. It also recommends the promotion of economic justice through benefit-sharing policies that support fair growth, community resilience, and self-determination, and the institutionalization of procedural justice through consent-based consultation (Article 19) to ensure Indigenous participation and reconcile state-Indigenous interests in offshore wind energy projects. Lastly, the study proposes prioritizing stakeholder-defined VCs to ensure inclusive, adaptive, and transparent alignment with community priorities and sustainability goals.

Overall, this study advocates for a holistic and inclusive RA approach that integrates diverse stakeholder perspectives and balances environmental sustainability, economic benefits,

social priorities, and respect for Indigenous rights and knowledge to promote fair renewable energy development.

6.2 Future Research Directions

This study highlights the need for sustainably integrated and socially responsive approaches to NL and NS OWEP-RA offshore wind energy projects. To further advance this work, future studies should consider the following broader directions:

1. Exploring Frameworks for Institutionalizing Indigenous Consent in Regional

Assessments: While the UNDRIP Article 19 outlines the principle of free, prior, and informed consent, as emphasized by Doyle (2019) and Doyle (2022), its institutionalization within Canada's RA processes remains underexamined. Hence, future studies should analyze global examples where consent has been effectively institutionalized, identifying pathways to embed these standards within Canada's IA.

2. Assessing Long-Term Social Outcomes of Offshore Wind Energy Projects: RAs often emphasize ecological and economic factors while neglecting long-term social effects, primarily on culturally distinct or rural communities (Grubert, 2023; Loang, 2023; Sánchez et al., 2022; Wuebben et al., 2023). Hence, future studies should develop and apply longitudinal methods to evaluate how offshore wind energy projects influence community well-being, cultural continuity, and social cohesion over time (Sari et al., 2024; Srinivasan, 2024; Tallent & Zabala, 2024).

3. Advancing Transdisciplinary Approaches in Regional Assessment Processes: Integrating Indigenous ecological knowledge with scientific assessments enhances environmental decision-making and cultural responsiveness (Jessen et al., 2022; Safford et al., 2017; Tajeddine, 2024). Hence, future studies should examine how transdisciplinary approaches that integrate Indigenous worldviews with community data practices and academic tools can lead to more equitable assessment systems (Datta et al., 2022; Houde et al., 2022).

4. Analyzing the Role of Regional Institutions in Supporting Equitable Energy Transitions:

According to Prentice et al. (2024), the potential exists for institutions to align economic objectives with community needs. However, their ability to support just transitions in Atlantic Canada needs further investigation. Hence, future research should explore how regional governance systems can enable fair offshore wind energy projects that support local sustainability objectives (Hudson, 2020; Hudson & Vodden, 2020; Warriar et al., 2021).

Overall, future research should promote fair energy governance in NL and NS through Indigenous rights protection and integration of Indigenous perspectives while addressing environmental, economic, and social priorities to facilitate equitable offshore wind energy transitions.

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<https://doi.org/10.1109/NAPS56150.2022.10012189>

Appendices

The supplementary materials provide a thorough understanding of the OWEP-RA public comments content and coding analysis. The detailed analysis and coding of NL and NS stakeholders' comments appear in Appendices 1 and 2, compiled from OWEP-RA draft agreements and terms of reference documents.

Note: Access Appendices 1 and 2 by clicking the link beneath each PDF file.

Appendix 1 details the purpose, sustainability themes, emerging VCs, specific VCs, how stakeholders' comments align with SDGs and UNDRIP principles, and key takeaways from the analysis.



NL & NS OWEP-RA Comments Analysis

Appendix 1: Analysis of the Newfoundland & Labrador and Nova Scotia Offshore Wind Energy Project Regional Assessments Comments.

Access the PDF from: <https://acrobat.adobe.com/id/urn:aaid:sc:us:21d238c5-7e04-4741-bfa4-9ed99ac50901>

Appendix 2 details the coding of stakeholders' comments used for presenting study results and discussions in Chapters 4 and 5.



NL & NS OWEP-RA Comments Coding

Appendix 2: Coding of the Newfoundland & Labrador and Nova Scotia Offshore Wind Energy Project Regional Assessments Comments.

Access the PDF from: <https://acrobat.adobe.com/id/urn:aaid:sc:va6c2:9b5523d2-3ac5-41f3-b1f1-1e0117463bf5>

Appendix 3 provides a list of authors (stakeholder types) from the comment analysis, from which the study paraphrased concerns from these stakeholders to inform and support the findings and discussions.

Appendix 3: Newfoundland & Labrador and Nova Scotia Offshore Wind Energy Project Regional Assessments Comments used in the Study's Chapters 4 (Results) and 5 (Discussion).

- Abanyin, N., Nditsi, L., & Tithy, D., 2022. In Dallaire Ouellet, C., Abanyin, N., Nditsi, L., Tithy, D., Myers, H., Hoyles, L., Brenton, C., Dicker, P., Dick Madison, Moriaty, J., Shear, J., Anil Vettukuzhiyil, J., Petiot, S., Purcell-Pilgrim, R., Rideout Wayne, A., Turner, S., Parsons, C., O'Neill, M., Kiana, J., & Chanyika, S. (2022). *Comments on the Draft Agreement and Terms of References for the Regional Assessment of Offshore Wind Power for Newfoundland and Labrador* (pp. 1–90). Memorial University of Newfoundland & Labrador.
- Atlantic Fixed-Gear Council, 2023. *Feedback on the Proposed Focus Area for Regional Assessment on Offshore Wind in Newfoundland and Labrador* (pp. 1–8).
- Atlantic Goldfish Council, 2023. *Feedback on the Proposed Focus Area for Regional Assessment on Offshore Wind in Newfoundland and Labrador*.
- Association of Seafood Producers, 2023. *Regional Assessment of Offshore Wind Development in Newfoundland and Labrador Committee*. 1.
- Benoit First Nation, 2022. *Benoit First Nation- Support for offshore windmills*.
- Benoit First Nation Inc., 2023. *Benoit First Nation Inc. cannot support offshore wind development 2023*.
- Dicker, P., & Dicks, M., 2022. In Dallaire Ouellet, C., Abanyin, N., Nditsi, L., Tithy, D., Myers, H., Hoyles, L., Brenton, C., Dicker, P., Dick Madison, Moriaty, J., Shear, J., Anil Vettukuzhiyil, J., Petiot, S., Purcell-Pilgrim, R., Rideout Wayne, A., Turner, S., Parsons, C., O'Neill, M., Kiana, J., & Chanyika, S. (2022). *Comments on the Draft Agreement and Terms of References for the Regional Assessment of Offshore Wind Power for Newfoundland and Labrador* (pp. 1–90). Memorial University of Newfoundland & Labrador.
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- Environment & Climate Change Canada, 2022. *Regional Assessment of Offshore Wind Development in Newfoundland & Labrador and Nova Scotia*. Federal Government Agency, Canada.
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- Environmental Transparency Committee, 2023. *Re: Regional Assessment of Offshore Wind Development in Newfoundland and Labrador (Reference 84343)*.

- Fish Food & Allied Workers (FFAW/UNIFOR), 2023. *RE: Requested Feedback on the Proposed Focus Area for the Regional Assessment of Offshore Wind Development in Newfoundland and Labrador*.
- Health Canada, 2022. *Subject: Health Canada's Comment on the Draft Agreement to Conduct the Regional Assessment of Offshore Wind Development in Newfoundland & Labrador and Nova Scotia*. Health.
- Marchand, J., 2022. *NL offshore wind projects*.
- Miawpukek First Nation. (2022). *Comments on the Regional Assessment of Offshore Wind in Nova Scotia and Newfoundland & Labrador: Draft Agreement & Terms of Reference*.
- Mi'kmaq Rights Initiative, 2022. *Re: Regional Assessment of Offshore Wind Development in Nova Scotia (Draft Agreement & Terms of Reference Comments)*.
- Oceans North, 2022. *Oceans North Comments on the Draft Agreement to Conduct a Regional Assessment of Offshore Wind Development in Newfoundland and Labrador*.
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- Qalipu First Nation, 2022. *Qalipu First Nation Comments on the Regional Assessment of Offshore Wind Development in Newfoundland and Labrador and Nova Scotia (Draft Agreement-Newfoundland and Labrador and Nova Scotia and Draft Terms of Reference)*.
- Qalipu First Nation, 2023. *Committee for the Regional Assessment of Offshore Wind Development in Newfoundland and Labrador*. 1–5.
- Robinson, N. & Natural Resources Canada, 2023. *Natural Resources Canada's comments on the proposed Focus Area for the regional assessment of offshore wind development in Newfoundland and Labrador*. (pp. 1–3). Federal Government Agency.
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- Seafood Producers Association of Nova Scotia, 2022. *Re: Regional Assessment of Offshore Wind Development in Newfoundland and Labrador and Nova Scotia*.
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NOTE: The following pages include supplementary PDFs containing the complete analysis and coding data of NL and NS OWEP-RA comments for Appendices 1 and 2.

95	Moriarty et al.	2022	Comments on the Draft Agreement and Terms of References for the Regional Assessment of Offshore Wind Power for Newfoundland and Labrador: Background research, evaluations, and recommendations for selected valued components (Tourism & Aesthetics).	Memorial University of NL, Corner Brook NL, Canada (School of Science & the Environment)	Academic Institutions	- The comments aim to advocate for the inclusion of the tourism industry in the assessment process and to provide recommendations on how to ensure that tourism-related interests and concerns are adequately addressed. - The objectives include protecting the tourism sector, considering aesthetics and resident perspectives, and promoting sustainable development.	- Environmental impact - Environmental Sustainability - Economic benefit or impact - Social impact	✓	✓	✓	✓	✓	- Tourism and Aesthetics - Economic Impact of Tourism - Impact on Protected Areas - Resident Perspectives and Mental Health - Recreational Activities and Residents	- Tourism is a significant economic driver in Newfoundland and Labrador, with diverse job opportunities. - The natural landscape is a major attraction for tourists, making tourism vulnerable to the impacts of offshore wind development. - Early involvement in the tourism industry can ensure sustainable development for both the tourism and energy sectors. - The potential visual discomfort, property value concerns, and impact on residents' recreational activities need to be considered. - Protecting UNESCO World Heritage Sites like Gros Morne National Park is crucial for tourism and ecological integrity.	SDG 3, 8, 10, 11, 15 & 17	1. Tourism and Aesthetics: - Emphasize the importance of considering the visual impact of wind farms, aligning with SDG 11 (Sustainable Cities and Communities) by promoting inclusive, safe, and aesthetically pleasing urban environments. - Recommendations to consult with tourism stakeholders align with SDG 17 (Partnerships for the Goals) by promoting partnerships and collaboration for sustainable development. 2. Economic Impact of Tourism: - Protecting the tourism sector aligns with SDG 8 (Decent Work and Economic Growth) by safeguarding employment opportunities in the tourism industry. - Excluding areas near Gros Morne National Park from wind development aligns with SDG 15 (Life on Land) by promoting the conservation of terrestrial ecosystems. 3. Resident Perspectives and Mental Health: - Considering resident opinions and addressing mental health issues due to wind farm construction aligns with SDG 3 (Good Health and Well-being) by promoting mental well-being and community health. - Compensation for residents impacted by disruptions aligns with SDG 10 (Reduced Inequalities) by addressing potential inequalities arising from wind farm development. 4. Recreational Activities and Residents: - Compensating individuals affected by disruptions in recreational activities aligns with SDG 11 (Sustainable Cities and Communities) by promoting the accessibility of recreational spaces. Overall, the comments emphasize the importance of sustainable and inclusive development that considers economic, environmental, and social factors. It aligns with various SDGs and the UNDRIP principles, particularly in promoting partnerships, community well-being, and ecological conservation.
96	Dicker & Dicks	2022	Comments on the Draft Agreement and Terms of References for the Regional Assessment of Offshore Wind Power for Newfoundland and Labrador: Background research, evaluations, and recommendations for selected valued components (Tourism & Aesthetics).	Memorial University of NL, Corner Brook NL, Canada (School of Science & the Environment)	Academic Institutions	- The purpose is to advocate for the meaningful involvement of Indigenous communities, specifically the Inuit, Innu, and Métis peoples, in the Nain Wind Micro-Grid Project and similar projects. - The objectives include addressing concerns related to impact assessments, language accessibility, protecting wildlife and marine species, and including Indigenous knowledge.	- Indigenous Rights & Consultation - Inclusivity - Biodiversity protection	✓	✓	x	✓	✓	- Indigenous Rights and Consultation - Cultural Sensitivity and Language Accessibility - Protection of Wildlife and Marine Species - Incorporation of Indigenous Knowledge - Community Consultation and Participation	- The importance of involving Indigenous communities in the Nain Wind Micro-Grid Project and similar developments. - The need for thorough research and communication with Indigenous community members to understand the project's impact. - Challenges faced in past projects include language barriers and lack of accessibility for Indigenous communities.	SDG 4, 14, 15 & 16 UNDRIP Article 13, 18, 19 & 31	1. Indigenous Rights and Consultation: - Emphasize the importance of respecting the rights and sovereignty of Indigenous peoples, aligning with the principles of the UNDRIP, notably UNDRIP Article 19, which recognizes the right of Indigenous peoples to be consulted and cooperate in decision-making processes. - Recommendations for involving local Indigenous community members in consultation processes align with UNDRIP Article 18, which recognizes the right of Indigenous peoples to participate in decision-making in matters that affect them. 2. Cultural Sensitivity and Language Accessibility: - Highlight the importance of addressing language accessibility and providing documents in multiple Indigenous languages, which aligns with UNDRIP Article 13, recognizing the right of Indigenous peoples to revitalize, use, develop, and transmit their languages. - Ensuring cultural sensitivity and respect for Indigenous traditions and knowledge aligns with SDG 4 (Quality Education) by promoting inclusive and culturally relevant education. 3. Protection of Wildlife and Marine Species: - Underscore the importance of protecting waterfowl, salmon, and marine species, aligning with SDG 14 (Life Below Water) by promoting marine life conservation and ecosystems. - Incorporating Indigenous knowledge in wildlife and marine species protection aligns with UNDRIP Article 31, which recognizes the importance of traditional knowledge in resource management. 4. Incorporation of Indigenous Knowledge: - Recommendations to include Indigenous knowledge in project assessments align with UNDRIP Article 31 and SDG 15 (Life on Land) by promoting traditional knowledge in environmental management. 5. Community Consultation and Participation: - Emphasize the importance of community consultation and participation, aligning with SDG 16 (Peace, Justice, and Strong Institutions) by promoting inclusive and accountable decision-making processes. Overall, the comments advocate for the respectful and inclusive involvement of Indigenous communities in development projects, aligning with the principles of the UNDRIP and contributing to the achievement of several SDGs, including SDG 4, SDG 14, SDG 15, and SDG 16.
97	Montevocchi et al.	2023	Review of NL and NS Marine Wind Development Agreements and Terms of Reference	Memorial University of NL, St John's, NL, Canada	Academic Institutions	- To provide feedback on the NL and NS agreements and terms of reference, recognizing the differences in biodiversity and occupancy between the two regions. - To emphasize the importance of due diligence in the RA process, given its precedent-setting nature. - To seek clarification on the definition of "Offshore wind development activities" and its environmental protection contingencies, especially for developments with fewer than ten turbines. - To advocate for effectiveness over efficiency in IA. - To question how unbiased committee members will be selected and whether there will be equal representation from various stakeholders. - To suggest including academia as participants in the RA process. - To stress the importance of transparency in providing information and advice to all participants. - To recommend considering technical, economic, and environmental factors, including biodiversity and ecological hotspots, in determining critical locations for future offshore wind development. - To emphasize the significance of siting and location as a key mitigation factor. - To request advice on mitigation strategies and positive effects. - To highlight the need for transparency and accessibility of compiled information on the Study Area's environmental, health, social, and economic conditions. - To advocate for research planning and development that extends beyond monitoring exercises. - To suggest explicitly including transportation effects in the assessment and impact on the pelagic microbiome, reefs, marine invertebrates, ice flows, and water currents. - To seek clarification on whether recommendations will include the wind farm's location. - To concur that the Study Area should include marine refuges and inquire about how this was addressed. - To highlight data availability on seabird colonies and interactions with environmental factors.	- Environmental Sustainability - Indigenous Right & Consultation - Inclusivity	✓	✓	✓	x	x	- Due diligence in the RA process. - Clarity in definitions and environmental protection contingencies. - Effectiveness in IAs. - Unbiased committee representation. - Inclusivity of academia. - Transparency and accessibility of information. - Consideration of technical, economic, and environmental factors. - Mitigation strategies and positive effects. - Comprehensive research planning and development. - Transportation effects and environmental impacts.	The comment offers comprehensive recommendations and concerns regarding the RA process for marine wind development.		6. Risk Assessment: - Highlight the importance of addressing language accessibility and providing documents in multiple Indigenous languages, which aligns with UNDRIP Article 13, recognizing the right of Indigenous peoples to revitalize, use, develop, and transmit their languages. - Ensuring cultural sensitivity and respect for Indigenous traditions and knowledge aligns with SDG 4 (Quality Education) by promoting inclusive and culturally relevant education. Overall, the comments advocate for the respectful and inclusive involvement of Indigenous communities in development projects, aligning with the principles of the UNDRIP and contributing to the achievement of several SDGs, including SDG 4, SDG 14, SDG 15, and SDG 16.

