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Energy + Climate

PEI ENERGY STRATEGY

Summary

Introduction

Prince Edward Island (PEI) stands at a pivotal moment in its energy transition. Since the release of its last energy strategy in 2017, energy consumption has increased and electricity demand has grown due to electrification of transportation and buildings, and population growth. These changes reflect new challenges on the province's energy systems, particularly during periods of winter peak demand, where continued growth in electricity demand are putting pressure on the electricity grid. Meanwhile, recent extreme weather events—such as post-tropical storms Dorian and Fiona—have underlined the need for a more resilient energy system that is adapted to changing climate patterns.

PEI remains committed to climate action, having adopted an ambitious goal of reaching net-zero by 2040. These commitments require a significant transformation in how energy is produced, delivered, and used across all sectors of PEI's economy while being mindful of the need to balance climate action, affordability, and energy system reliability. In 2023 the Province released its "PEI Energy Blueprint Discussion Paper" summarizing the state of energy within the province and suggesting key areas of focus for future energy planning.[1] This was followed by an extensive consultation process that included surveys, public and stakeholder sessions, and formal written submissions; all of which were summarized in the "PEI Energy Blueprint: What We Heard Report".[2] In 2024, the Province also undertook a review of the

[1] Prince Edward Island Energy Blueprint Discussion Paper, April 25, 2023. https://www.princeedwardisland.ca/en/publication/pei-energy-blueprint-discussion-paper

[2] Prince Edward Island Energy Blueprint - What We Heard Report, December 18, 2023. https://www.princeedwardisland.ca/en/publication/pei-energy-blueprint-what-we-heard-report

province's electrical service, the findings of which have also informed the actions contained in this strategy.[3]

In response to the challenges and opportunities presented by the evolving landscape, as well as the outcomes of province-wide consultation, Dunsky Energy + Climate Advisors (Dunsky) was retained to develop an updated energy strategy – building off the Province's previous work – and to chart a clear course for the next decade. This summary presents PEI's updated energy strategy for the 2026–2035 period.

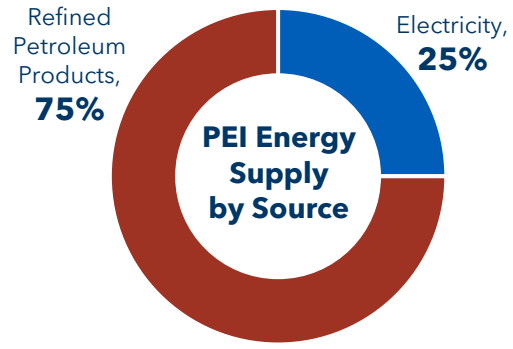
Current State

Prince Edward Island has experienced significant population growth in recent years. Between 2016 and 2023, the population increased from 142,907 to 173,787, representing a 22 per cent rise.[4] During the same timeframe, the total number of homes in the province grew from approximately 61,000 to 69,000 – a growth of approximately 13 per cent.[5] From 2017 to 2023, the number of vehicles on the road increased by five per cent, from approximately 113,800 to 119,500.[6]

Energy Use and Emissions

In 2022, about 75 per cent of the energy used in the province came from refined petroleum products (RPP) such as gasoline, diesel, propane, and heating oil.[7] Electricity made up the remaining 25 per cent. The use of electricity is growing and has increased by 16 per cent since 2016 but, RPP remain a substantial source of energy for transportation, home heating, and industrial operations. Transportation is the largest energy consuming sector in the province, making up 42 per cent of the

FIGURE 1. PEI ENERGY SUPPLY BY SOURCE [7]



[3] Prince Edward Island Energy Review, August 26, 2025. https://www.princeedwardisland.ca/en/publication/pei-energy-review

[4] Statistics Canada. 2023. (table). Census Profile. 2021 Census of Population. Statistics Canada Catalogue no. 98-316-X2021001. Ottawa. Released November 15, 2023, and PEI 50th Annual Statistical Review 2023.

[5] NRCan Comprehensive Energy Use Database. https://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/showTable.cfm?type=CP&sector=res&juris=pe&year=2022&rn=14&page=0

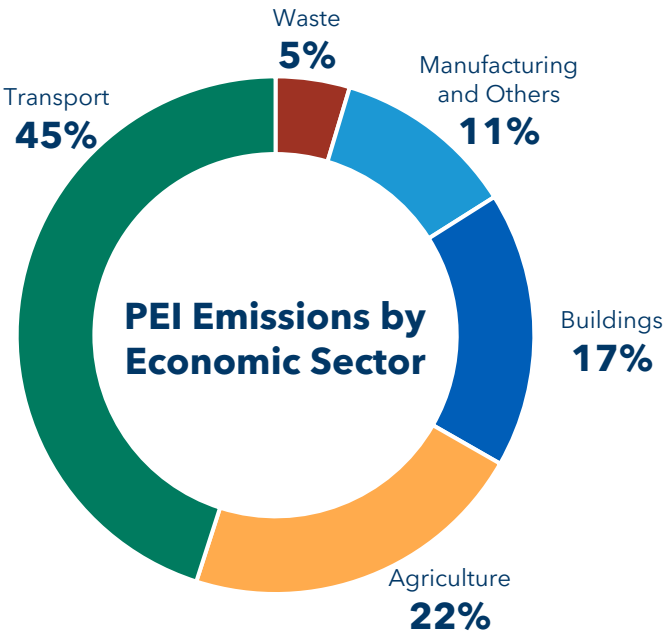
[6] Statistics Canada. Table 23-10-0308-01 Vehicle registrations, by type of vehicle and fuel type

[7] Canada's Energy Future, End Use Demand, Current Measures. https://www.cer-rec.gc.ca/en/data-analysis/canada-energy-future/2023-data-supplement/

total demand for energy in 2022, with the residential and industrial sectors accounting for about 25 per cent of provincial energy use.[7]

Even though the province's economy and population have been growing, greenhouse gas (GHG) emissions have been slowly going down over the past three years, with overall emissions, and emissions per person, remaining steady since 2016.[8] Transportation is the biggest source of GHG emissions in the province, making up 45 per cent of emissions in 2023.

FIGURE 2. PEI'S GHG EMISSIONS BY ECONOMIC SECTOR [8]



Emissions from buildings dropped by nine per cent over the past year thanks to efforts to improve energy efficiency and reduce the use of heating oil. Most of these reductions came from homes, showing that government programs and investments in household energy upgrades are helping to lower emissions. Today, 29 per cent of homes in the province still use heating oil as their main source of energy for home heating, down from 53 per cent in 2016.[9] The high number of homes still heated with oil along with continued use of gasoline and diesel vehicles, remain some of the biggest challenges to reaching the province's net-zero emissions goals.

Electricity Demand, Capacity, and Imports

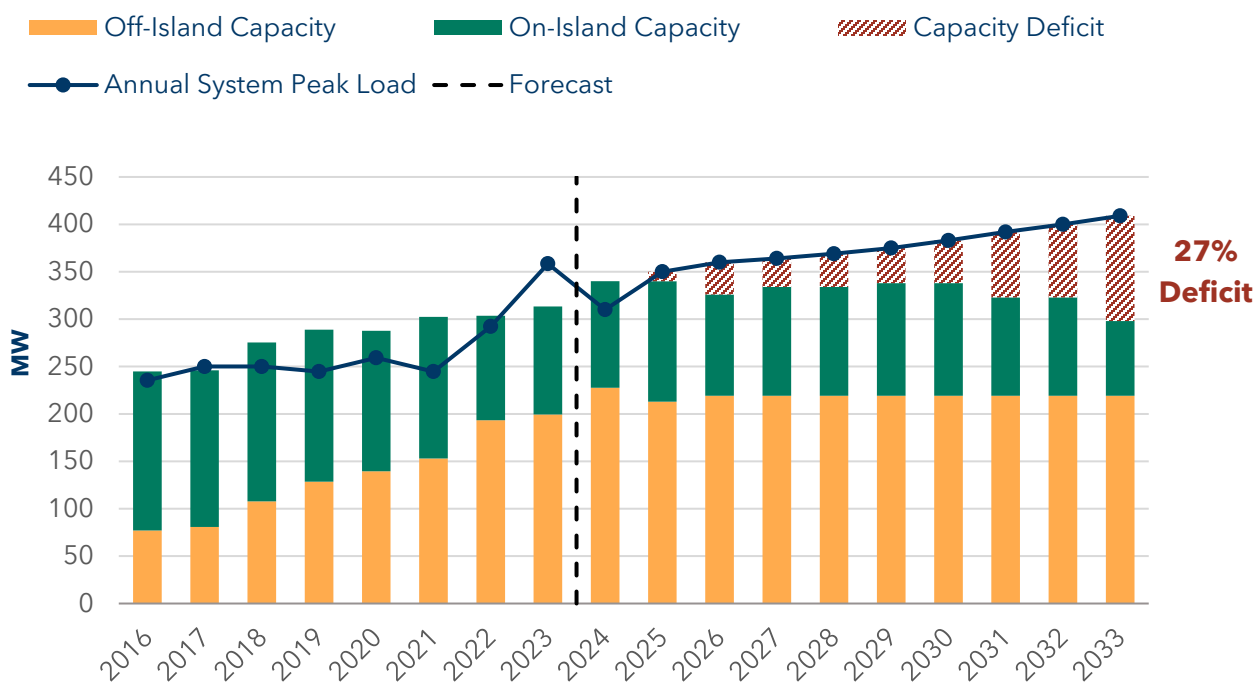
Electricity use in the province has grown quickly over the past 10 years. Maritime Electric, which provides power to about 90 per cent of homes and businesses in PEI, saw a 60 per cent increase in its annual peak electricity demand between 2014 and 2023. That demand is expected to grow by another 32 per cent between 2024 and 2033.[10] The province's fast population growth, in addition to new housing construction, have directly increased electricity use, with most new homes in PEI using electricity as their main source of heat.

[8] NIR 2025: Canada's National Inventory Report (NIR). Table A12-3: 1990-2023 GHG Emission Summary for Prince Edward Island.

[9] MQO Research, Inc. Prince Edward Island 2024 Home Energy Survey, April 2025.

[10] UE20742 – Supplemental Capital Budget Request for MECL's On-Island Capacity for Security of Supply Project

FIGURE 3. MARITIME ELECTRIC CAPACITY AND PEAK [10]



This rise in demand has been faster than the growth in local electricity generation. In 2023, the amount of electricity that was produced on the Island dropped to just 31 per cent of the utility's peak demand. This means PEI is relying more on electricity from neighbouring provinces. However, provinces like New Brunswick, Nova Scotia, and Québec are also facing their own energy challenges, increasing the risk of potential supply problems. As PEI approaches the limit of how much electricity it can import, relying on other provinces for its energy needs could become a long-term risk.

Most of PEI's electricity that is generated on the Island comes from renewable sources like wind and solar. Less than one per cent comes from fossil fuels. PEI is also reliant upon the long-standing partnership with New Brunswick (NB) which also boasts a clean supply in comparison to other parts of the country with over 67 per cent non-emitting generation, though still a higher proportion of generation from fossil fuel sources.[11] Since about two-thirds of PEI's electricity is imported from NB, the province's overall electricity supply has a higher carbon footprint. For this reason, it's important to build more clean energy in PEI, to both make the power supply more secure and help meet climate goals.

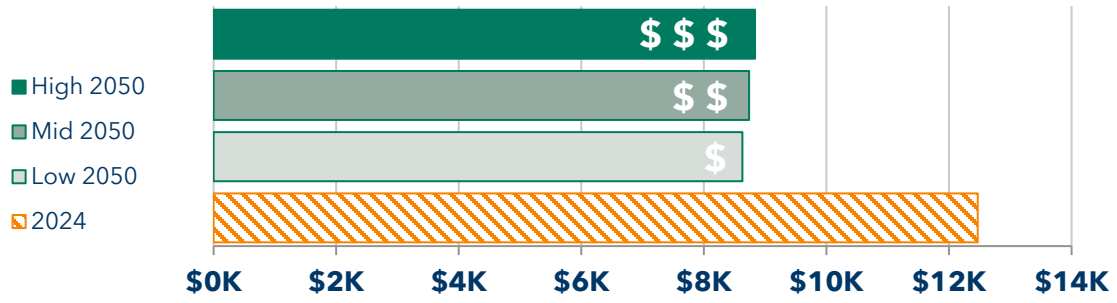
[11] NIR 2025: Canada's National Inventory Report (NIR). Table A13-3 and A13-5: 1990-2023 Electricity Generation and GHG Emission Details for Prince Edward Island and New Brunswick.

Affordability and Equity

Energy costs are a growing concern for many households. For many, high energy costs mean tough choices between paying for heat or other essentials like food. Vulnerable groups such as seniors, newcomers, and single-parent families are especially at risk, often living in older homes that are less energy efficient. According to the 2023 Canadian Income Survey, nearly seven per cent of PEI residents live below the low-income cut-off.[12] These households spend more of their income on basic needs and face greater energy challenges.

A recent study by the Transition Accelerator estimates that electricity rates could rise by 14 to 23 per cent by 2050, compared to 2024 prices (after adjusting for inflation).[13] However, switching away from expensive fossil fuel systems like oil boilers and gas-powered vehicles will help reduce overall energy costs for households. When considering a household's entire energy wallet (all costs associated with purchasing, operating, and maintaining the energy and technology needed for household energy needs), the study found that the average household in PEI could spend about 30 per cent less on energy in 2050 than in 2024 by switching to electricity.

FIGURE 4. MEDIAN ANNUAL ENERGY WALLET [13]



Lower-income households will feel the impact of rising electricity costs more than others. Research from Efficiency Canada shows that 26 per cent of households in the province spend over six per cent of their income on home energy, among the highest rates in Canada. This doesn't include transportation costs, which can be even more unpredictable.[14] To support all people living on PEI, future energy plans must focus on making clean energy affordable and reliable, while helping households transition away from fossil fuels like heating oil and gasoline.

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[12] Prince Edward Island 51st Annual Statistical Review 2024. Source: Statistics Canada. Table 11-10-0135-01 Low-income statistics by age, sex and economic family type. https://www.princeedwardisland.ca/sites/default/files/publications/web_asr.pdf

[13] Martin, N., Bowie, D., Fakhoury, R., and Kabbara, M. (2024). Household Energy Affordability in a Net-Zero Future. Electrifying Canada.

[14] Efficiency Canada, Energy Poverty in Canada. https://www.efficiencycanada.org/energy-poverty-in-canada/

Vision and Objectives

In light of the ongoing changes that have occurred over the last decade as well as the current context and future ambitions, PEI's vision for its energy future is to:

> ***Embrace change while ensuring the energy system is reliable and affordable, in a manner that is sustainable and leaves no community behind.***

This vision recognizes the need for continued modernization of PEI's energy systems while reinforcing the Province's core commitment to fairness, resilience, and sustainability. It also recognizes that the energy transition must be as inclusive as it is ambitious—delivering tangible benefits to all people living on PEI, particularly vulnerable, underserved, and Indigenous communities, as well as creating space for Island businesses to remain economically competitive.

The strategy is structured around four key objectives:

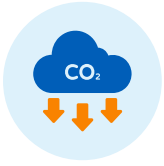
Reliability

Ensure a reliable and resilient energy system that can meet growing demand, withstand climate-related disruptions, and deliver consistent service to all communities.

Affordability & Equity

Maintain affordability and embed equity across all energy policies and programs, ensuring no community is left behind in the transition.

Sustainability



Build a balanced, low-carbon supply mix with clean fuels to accelerate the transition to a net-zero energy system that enhances energy security and reduces emissions.

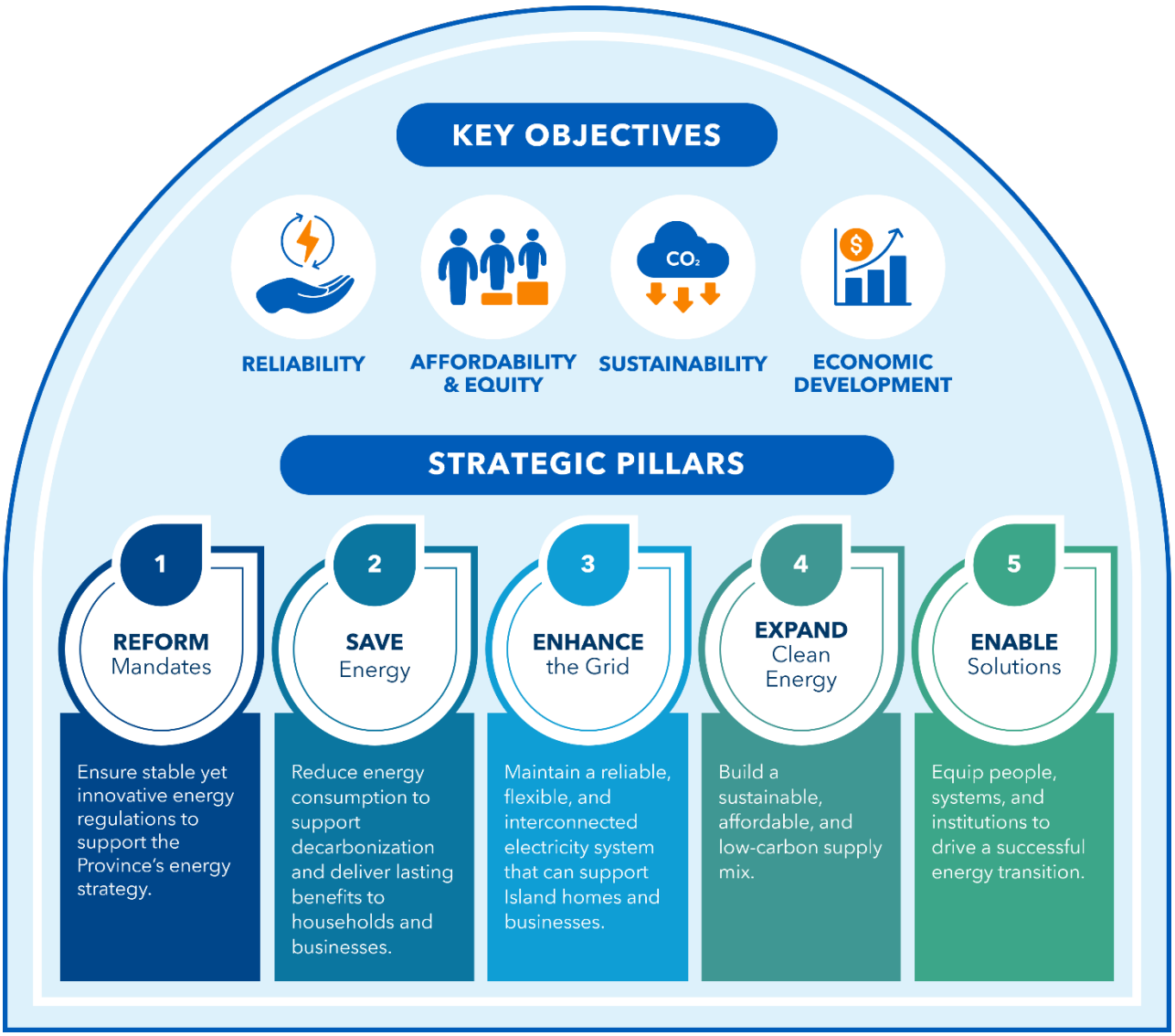
Economic Development

Leverage PEI's local expertise and economic potential to grow clean energy jobs, businesses, and innovation in communities across the province.

Recommendations

The following recommended strategies and actions reflect the Province's commitment to the key objectives of Reliability, Affordability & Equity, Sustainability, and Economic Development, which were identified through the strategy development process.

Together, they represent the policy, programmatic, and regulatory priorities that will shape PEI's energy system over the next decade. In total, there are 20 actions under five strategic pillars, including a foundational action to develop an implementation roadmap that will guide the delivery of other actions.



1

Reform Mandates

Ensure foundational stability and innovation in the regulatory space to support the Province's energy strategy.

As PEI moves toward a cleaner and more sustainable energy system, the institutions that manage and regulate the energy system need to be ready to support that change. This includes updating how decisions are made, improving public oversight, and making sure the system works fairly for everyone. The changes recommended will help protect consumers, support innovation, and make sure future energy investments are fair and in the best interest of all people living on PEI. Proposed actions include:

ACTION 1.1 – Strengthen Consumer Protections and Equity to ensure that all customers, especially those from vulnerable or underrepresented groups, are heard in energy decisions. By doing so, the benefits and costs of the clean energy transition will be shared more equally, improving affordability and participation.

ACTION 1.2 – Modernize a Responsive Regulatory Process to create clearer processes, timelines, and expertise for faster and higher-quality decision-making, allowing the regulator to keep pace with new technologies and speed up the development of local, clean energy projects.

ACTION 1.3 – Launch a Demonstration and Innovation Hub to provide a space for testing new energy ideas, technologies, and policies in real-world conditions before permanent adoption. This approach reduces risk, encourages collaboration, and turns climate goals into practical solutions.

ACTION 1.4 – Formalize a Total Energy System Planning Process to coordinate planning for all energy sources, including electricity, fossil fuels, and emerging clean fuels, under one clear framework. Doing so will ensure decisions balance short-term needs with long-term goals.

2

Save Energy

Reduce energy consumption to support decarbonization and deliver lasting benefits to households and businesses.

Using less energy is one of the fastest and most affordable ways for PEI to meet its climate and energy goals. By investing in equipment and building upgrades, and programs that help people and businesses use energy more efficiently, PEI can avoid expensive upgrades to the electricity system. The Save Energy pillar supports a stronger, well-funded approach to demand-side management (DSM) through updated policies, regulations, and programs. Proposed actions include:

ACTION 2.1 – Modernize the DSM Framework to ensure that energy savings are maximized, fairly distributed, and aligned with emerging system and policy needs. This may include updating targets to reflect energy goals or changing the definition of DSM.

ACTION 2.2 – Expand Investment in DSM by increasing and sustaining funding, especially for low-income and underserved communities. Doing so will enable deeper energy retrofits, broader participation, and support non-energy improvements such as better health, comfort, and housing quality.

ACTION 2.3 – Strategically Pursue Beneficial Electrification by focusing on high impact uses like heat pumps and electric vehicles while managing new electric loads and recognizing that electrification isn't practical for all sectors. Additionally, pair electrification with energy conservation to help reduce emissions, lower costs, protect the grid, and bring long-term benefits to communities, businesses, and the environment.

ACTION 2.4 – Strengthen Building Regulations by adopting updated energy codes and electrical standards that improve energy efficiency, safety, and readiness for renewables and electric vehicles. This ensures new and existing buildings use less energy and better prepared for a net-zero future.

ACTION 2.5 – Increase Investments in Transportation to accelerate the shift to zero-emission vehicles and reduce emissions from the transportation sector. Coordinate this with land-use planning and transit improvements to lower energy demand, reduce emissions, and build a more resilient and equitable transportation system.

3

Enhance the Grid

Maintain a reliable, flexible, and interconnected electricity system that can support Island homes and businesses.

PEI's electricity system needs upgrades to keep up with growing demand and support the shift to clean energy. Despite lots of local, clean electricity, backup power and stronger infrastructure are needed to ensure reliable supply. Upgrading transmission and distribution lines, adding energy storage, and building smarter grid systems are recommended to accomplish this. The Enhance the Grid pillar focuses on working with utilities and other partners to build a modern, reliable, and flexible electricity grid. Proposed actions include:

ACTION 3.1 – Upgrade and Expand Transmission Infrastructure to improve reliability and support clean energy growth. This might include replacing aging transmission cables, increasing regional connections with neighbouring provinces, and building new high-voltage lines. This will require coordination with provincial and federal partners and can result in better collaboration with neighbouring provinces, unlocking new renewable energy projects.

ACTION 3.2 – Upgrade and Expand Distribution Infrastructure to improve reliability and support clean energy projects across all communities. This will help prevent outages, improve power quality, and ensure that clean energy technologies are accessible everywhere. A stronger distribution system also supports local economic growth and helps prepare the grid for increasing electricity demand.

ACTION 3.3 – Accelerate the Rollout of Load Flexibility Programs that help shift electricity use to times with less electricity use (off-peak times), easing pressure on the grid and reducing the need for costly upgrades. Technologies like smart meters and vehicle-to-grid systems can give customers more control over their energy use while supporting clean energy integration. These programs can also empower consumers to actively participate in energy management.

4

Expand Clean Energy

Build a sustainable, affordable, and low-carbon supply mix.

As PEI electrifies heating, transportation, and industry, it must ensure that the energy powering this transition is clean, reliable, and locally or regionally sourced. In this way, PEI can cut emissions, reduce dependence on fossil fuels, and protect people living on PEI from global energy price swings. Setting long-term goals for renewable energy and storage will be key. The Expand Clean Energy pillar focuses on increasing the supply of both on-Island and non-emitting energy to meet growing demand and support energy independence and security. Proposed actions include:

ACTION 4.1 – Establish Targets for On-Island Generation and Storage to guide investment and meet growing electricity demand. Through this, the province can make sure there's enough reliable power available during times of high demand. Including equity-focused goals, like Indigenous-led or community-owned projects, helps ensure the benefits of clean energy are shared fairly.

ACTION 4.2 – Reduce Reliance on Fossil Fuels by supporting the strategic use of clean fuels like biomass and renewable diesel. These fuels can help lower emissions in sectors where electrification technology is still in development, such as rural heating, transportation, and industrial processes.

ACTION 4.3 – Explore Emerging Technologies like long-duration storage, clean hydrogen, and small modular reactors to address energy challenges not fully addressed by today's renewables and storage options. Early exploration and partnerships can help PEI innovate, attract investment, and build local expertise. Supporting these technologies also strengthens energy security.

5

Enable Solutions

Equip people, systems, and institutions to drive a successful energy transition.

Clean energy technologies are essential, but they only work if the people and institutions behind them are ready to deliver. That means preparing PEI's workforce, supporting government departments, and making sure programs are inclusive and practical. The Enable Solutions pillar focuses on building the skills, tools, and coordination needed to make PEI's energy strategy work in real life—not just on paper. Proposed actions include:

ACTION 5.1 – Invest in Training and Workforce Development to make sure PEI has the skilled workers needed to deliver clean energy projects and upgrades. As more electricians, engineers, and building contractors are needed, targeted programs can help fill gaps and create local jobs. These efforts also support equity by including training opportunities for women, Indigenous peoples, and other underrepresented groups. Without targeted investments in training, upskilling programs, and industry partnerships, these gaps risk delaying projects, increasing costs, and limiting access to low-carbon technologies.

ACTION 5.2 – Engage and Empower Local Community Leaders to help connect energy policies with community needs. By supporting programs that build leadership, especially in underrepresented communities, PEI can increase participation in clean energy efforts and make solutions more inclusive and locally grounded. Strong community leadership helps ensure energy programs are practical, trusted, and widely supported.

ACTION 5.3 – Leverage Data and Transparency to support smarter planning and build public trust. Making energy data more accessible, such as building performance and electricity use, helps communities, businesses, and governments make informed choices. Clear and timely information also ensures decisions are based on evidence, progress is tracked, and the public stays informed and involved.

ACTION 5.4 – Enhance Energy Literacy so that people and communities can make informed choices and actively take part in the energy transition. A well-coordinated and inclusive approach to education across government, utilities, and community groups can help explain complex topics like electrification and rate design. Tailor communication to the needs of different groups to ensure people remain engaged in and informed of PEI's energy goals.

Implementation Roadmap

The PEI Energy Strategy outlines actions to guide the province's energy transition but is not a detailed implementation plan. Developing this plan will help focus efforts on the most urgent and cost-effective actions, based on readiness, risks, and opportunities. To move from strategy to action, PEI will need a clear plan that sets priorities, timelines, lead actors, budgets, and next steps.

Moving Forward Together

Prince Edward Island has made strong progress in its energy transition, especially in electrification and reducing fossil fuel use. However, electricity demand is now growing faster than supply. The Province faces an urgent challenge to secure reliable energy and has a unique opportunity to build a cleaner, fairer, and more resilient energy future.

The PEI Energy Strategy sets out a clear vision and goals across four focus areas: reliability, affordability and equity, sustainability, and economic development. To move forward, PEI must develop a detailed implementation roadmap that turns strategy into action—with clear priorities, timelines, and coordination across government, utilities, and communities. The actions identified within each focus area have been included because they directly support and advance the Province's overarching objectives, as outlined in the table below.

SUMMARY OF ENERGY STRATEGY ACTIONS

STRATEGIC ACTIONS		Reliability	Affordability & Equity	Sustainability	Economic Development
1.1	Strengthen Consumer Protections & Equity	○	●	○	○
1.2	Modernize a Responsive Regulatory Process	◐	●	●	○
1.3	Launch a Demonstration and Innovation Hub	◐	●	●	●
1.4	Formalize a Total Energy System Planning Process	●	◐	○	◐
2.1	Modernize the DSM Framework	◐	●	●	○
2.2	Expand Investment in DSM	●	●	●	◐
2.3	Strategically Pursue Beneficial Electrification	●	●	●	●
2.4	Strengthen Building Regulations	●	○	●	○
2.5	Increase Investments in Transportation	◐	●	●	●
3.1	Upgrade and Expand Transmission Infrastructure	●	◐	○	●
3.2	Upgrade Distribution Infrastructure	●	◐	○	●
3.3	Accelerate the Rollout of Load Flexibility Programs	●	○	●	◐
4.1	Establish Targets for On-Island Generation & Storage	●	●	●	○
4.2	Reduce Reliance on Fossil Fuels	●	●	●	◐
4.3	Explore Emerging Technologies	●	○	●	●
5.1	Invest in Training and Workforce Development	●	●	○	●
5.2	Engage and Empower Local Community Leaders	○	●	○	◐
5.3	Leverage Data and Transparency	●	◐	◐	◐
5.4	Enhance Energy Literacy	○	●	○	○

● Significant Progress ◐ Moderate Progress ○ Minimal Progress