POWERING A GREEN NOVA SCOTIA, TOGETHER

2023 Evergreen Integrated Resource Plan

UPDATED ACTION PLAN AND ROADMAP

Nova Scotia POWER
An Emera Company

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EVERGREEN IRP PROCESS

The 2020 Integrated Resource Plan (IRP) process identified both Action Plan and Roadmap items intended to advance NS Power's long term electricity strategy. As part of the Roadmap, NS Power proposed an evergreen IRP process, which allows for the refinement of the Action Plan and Roadmap in alignment with planning environment changes. The changes in environmental policy, load, and resource assumptions since the 2020 IRP indicated it would be appropriate for NS Power to revise the long-term electricity strategy in alignment with Nova Scotia's 2030 environmental targets and beyond. The results of this work, in addition to the extensive stakeholder engagement process and ongoing consultation, demonstrates NS Power's commitment to ensure that its long-term strategy is in alignment with significant policy and market changes and supports the progression towards a decarbonized future.

The evergreen IRP process included updates to the assumptions and new modeling scenarios to reflect significant changes since the 2020 IRP and corresponding modeling work to support the assessment of these changes. The twenty-four scenarios assessed as part of the evergreen IRP capture a broad range of potential planning environment outcomes. The final modeling results, which can be found here, provide NS Power with a range of potential system planning outcomes. The common elements amongst the scenarios signal to NS Power key areas of focus for our long-term electricity strategy and inform tangible Action Items to meet our 2030 targets and beyond.

The intent of this document is to summarize those findings and provide an updated IRP Action Plan and Roadmap.

MODELING APPROACH

Capacity expansion and production cost optimization modeling developed least-cost portfolios for each scenario. The scenarios are compliant with current legislation, including the 2030 environmental policy targets of coal phase out and 80% renewable electricity. The scenarios are defined by the range of net zero targets (2035, 2050), electrification pace and trajectory, the resource strategy (with the Atlantic Loop, without the Atlantic Loop) and additional sensitivities to assess future unknowns. The results of the modeling for each scenario provides a resource plan that minimized total system costs, as measured by the Net Present Value of Revenue Requirement (NPVRR). Additional results including total system emissions, planning reserve margin, capacity additions/retirements and generation profile for each scenario considered are also provided.

KEY FINDINGS

Based on the common themes observed, the following are the key guiding principles to inform the Action Plan and Roadmap Items:

- Variable renewable capacity additions are required to meet the 2030 targets. Up to 1500MW of additional wind capacity is required on the system (above the current 600MW).
- The addition of 200MW of solar capacity is consistent among all scenarios by 2030 and requires further assessment as a near term renewable resource option.
- The Reliability Tie was added in all scenarios including the No Atlantic Loop scenarios, indicating this resource demonstrates value to the system with or without the Atlantic Loop.
- The addition of firm capacity in the form of new fast acting generation is observed in all scenarios; most scenarios add at least 150MW and up to 900MW by 2030. This resource is critical to meeting peak capacity and dispatching around variable renewable generation availability. New fast acting capacity is required in all scenarios; the ultimate capacity requirement is dependent on firm peak growth rate, presence of the Atlantic Loop, and availability of Demand Response programs such as those evaluated in the hybrid peak scenario.
- Battery storage is added in all scenarios; at least 100MW is added by 2030 in all of the No Atlantic Loop scenarios. Battery storage additions begin as soon as 2025 in many scenarios.
- When modeled as a bi-directional flow, with the development of local wind capacity in Nova Scotia and enabling import and export transactions, the Atlantic Loop shows lower system costs and lower overall emissions than the without Atlantic Loop scenarios. Government funding and support are key enablers of the Atlantic Loop project.
- Synchronous condensers will be an important aspect of the system in the future to enable inverter-based resource integration.
- The hybrid peak scenario demonstrates overall system value through the reduction in system peak requirements. This points to an area of focus as part of the electrification strategy.
- SMRs are added in the late planning horizon for all No Atlantic Loop scenarios. This demonstrates the value that emerging technologies capable of providing firm, dispatchable, non-emitting generation could play as the system requirements, environmental policies, and commercial availability of developing technologies change beyond 2030.

NS Power has updated its 2020 IRP Action Plan and Roadmap to reflect the key findings and outcomes of the 2023 evergreen IRP modeling.

CAPACITY ADDITIONS

The optimized capacity additions highlight the transition of the power system to an increased penetration of variable renewable energy, backed by fast acting firm capacity resources (Battery and Combustion Turbine) as the system adjusts to changing environmental policy targets and available resources/conditions as demonstrated by the sensitivity scenarios. Fuel conversions and primary fuel switching (coal-to-gas and coal-to-oil) serves as low-cost sources of firm capacity that operate at low-capacity factors; these resources ensure supply reliability during periods of peak demand and/or resource unavailability.

The results demonstrate a high degree of alignment with the following common observations:

Wind & Solar

- There is a similar wind buildout for all scenarios between 2025 and 2030. For all scenarios modeled, a significant buildout of approximately 1500MW of new wind capacity (beyond the 600MW in service today) is added to the system by 2030. 200MW of new solar is also selected by 2030.
- The bi-directional Atlantic Loop scenario is intended to study the potential for an import/export commercial arrangement with Hydro Quebec (HQ), where renewable generation is exported to HQ and firm renewable imports are imported to Nova Scotia. This scenario adds additional wind to enable the export component of the bi-directional scenario import/export transaction.
- When comparing the No Atlantic Loop reference scenario (CE1-E1-R2) to the With Atlantic Loop reference scenario (CE1-E1-R1), an earlier expansion of wind is observed for the No Atlantic Loop scenario. This is common across the other comparable With and No Atlantic Loop sensitivity scenarios.

Coal Phase Out

- Coal generation is phased out by 2030. As new resources are added to the system, coal unit output reduces. Coal units are retained for firm capacity as late as the model allows with retirements and/or fuel switching occurring later in the 2020s.
- The operation of Lingan units 1, 3 and 4 on heavy fuel oil (HFO) only is chosen economically in all scenarios due to the low cost (as the units already operate on oil) and the reliability benefits provided when operated during times of peak load on the system. As a result, these units operate as capacity assets with very limited energy production.
- The coal to gas (C2G) conversion for Point Tupper is chosen economically in most scenarios.

Fast Acting Generation

- All scenarios add new fast acting generation resources in the range of generally 300MW to 900MW by 2030. Installed capacity is influenced by the range in assumptions of firm peak load growth across scenarios.

- Most of the No Atlantic Loop scenarios show an addition of 450MW of new fast acting generation resources by 2030, relative to the With Atlantic Loop scenarios, to meet system firm capacity requirements.
- These units operate flexibly, with frequent unit starts and low capacity factors, in order to integrate increased variable renewable generation and serve periods of peak demand.

Battery Storage

- Battery storage is added to all scenarios with additions beginning as soon as 2025 in many scenarios.
- At least 100MW of 4-hour battery storage is added by 2030 in the majority of scenarios.
- Increased additions of battery storage are observed in the No Atlantic Loop scenarios relative to the With Atlantic Loop scenarios.
- Battery storage in the model is observed to provide energy arbitrage, curtailment reduction, firm capacity and operating reserve, and wind integration services. Additional services such as voltage and frequency support are not captured in the IRP model.

Nuclear (Small Modular Reactors)

- Capacity additions of Small Modular Reactors (SMRs) are selected at the end of the planning horizon (2048) for the No Atlantic Loop (CE1-E1-R2) scenarios (including the hybrid peak and accelerated electrification – CE1-E2-R2 and CE1-E3-R2, respectively).
- This is interpreted as a reflection of the system's need for firm, dispatchable, non-emitting resources and current assumptions on commercial availability and cost.

Integration Assets

- The reliability tie[1] is required in all scenarios to support the integration of variable renewable generation (wind and solar) and to serve as the first leg of the Atlantic Loop (the latter in the with Atlantic Loop scenarios only).
- The Reliability Tie was selected in all No Atlantic Loop scenarios with varying timeframes between 2029 and 2034; in the With Atlantic Loop scenarios, it was required to be added by 2030 (or 2035 in the Alternate Atlantic Loop timing scenario CE1-E1-R1-AAT)
- By 2030, an average of 80MVA of synchronous condensers are added to the system to support wind integration. As the economic selection of synchronous condensers is guided by the wind integration requirements, other planning considerations may require additional synchronous condenser support and will be confirmed by future study work.

Figures 1 – 3 demonstrate the cumulative new installed capacity for years 2030, 2035 and 2050 for select scenarios.

[1] The Reliability Tie is a second 345 kV AC transmission line between Onslow NS and Salisbury NB. While it allows for the integration of additional variable renewable generation on the system, the Reliability Tie alone does not provide incremental access to firm capacity or energy.

Figure 1: New Resources (Installed Capacity) by 2030

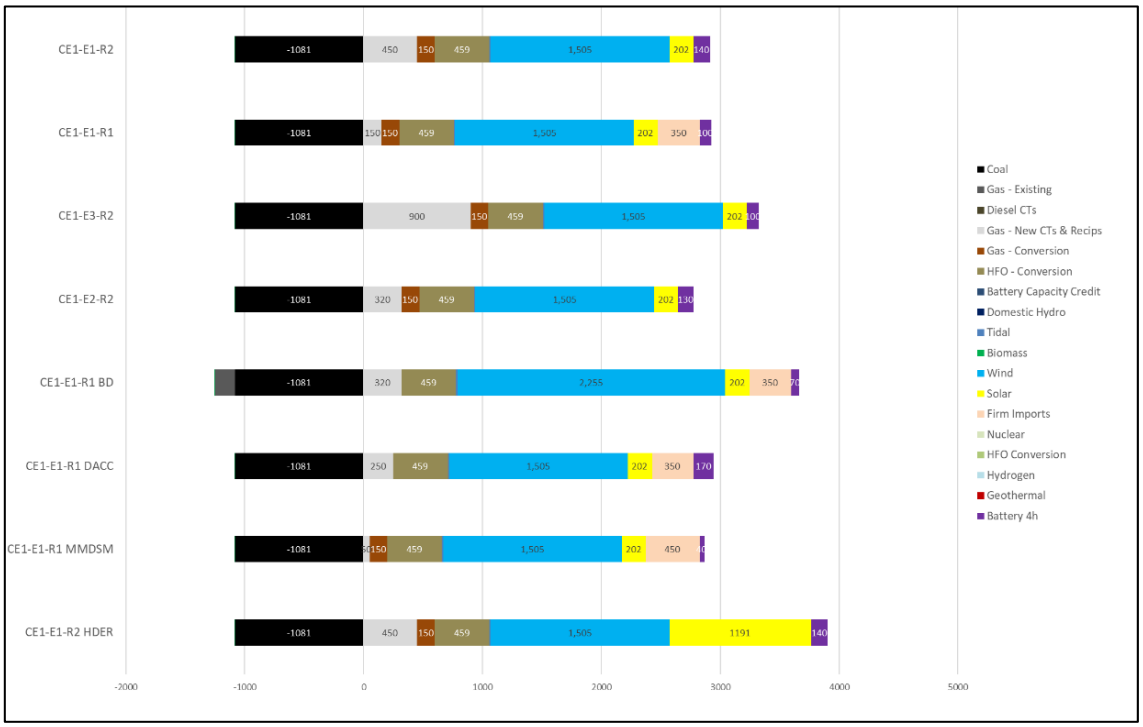


Figure 2: New Resources (Installed Capacity) by 2035

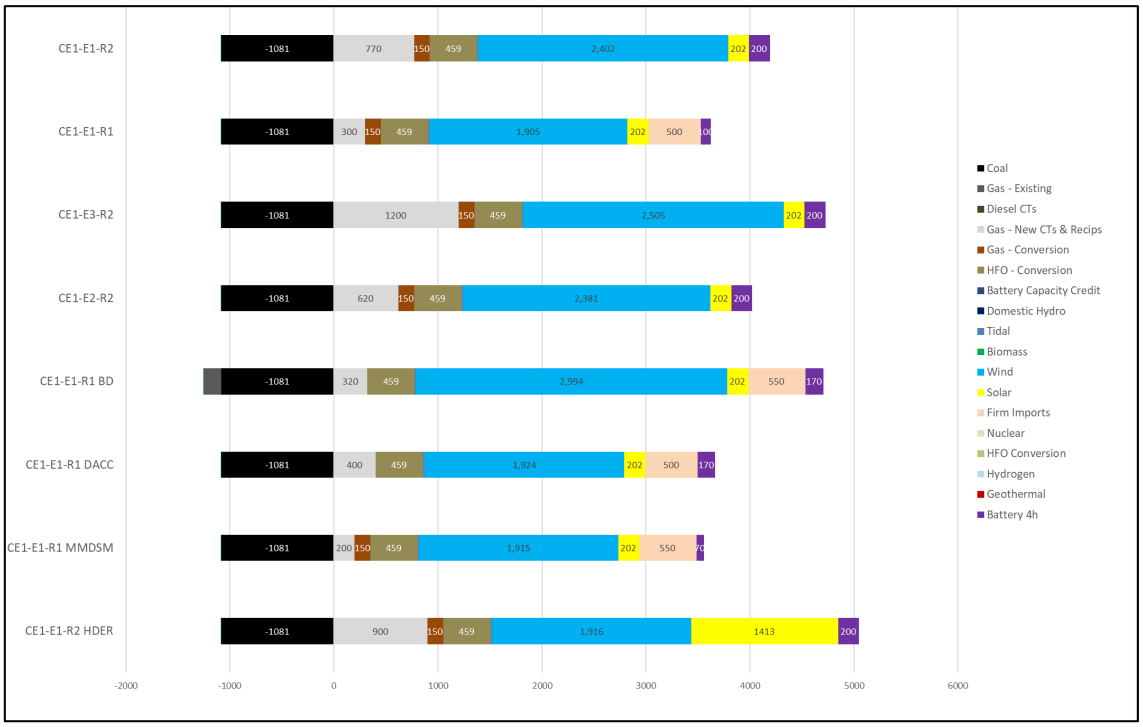
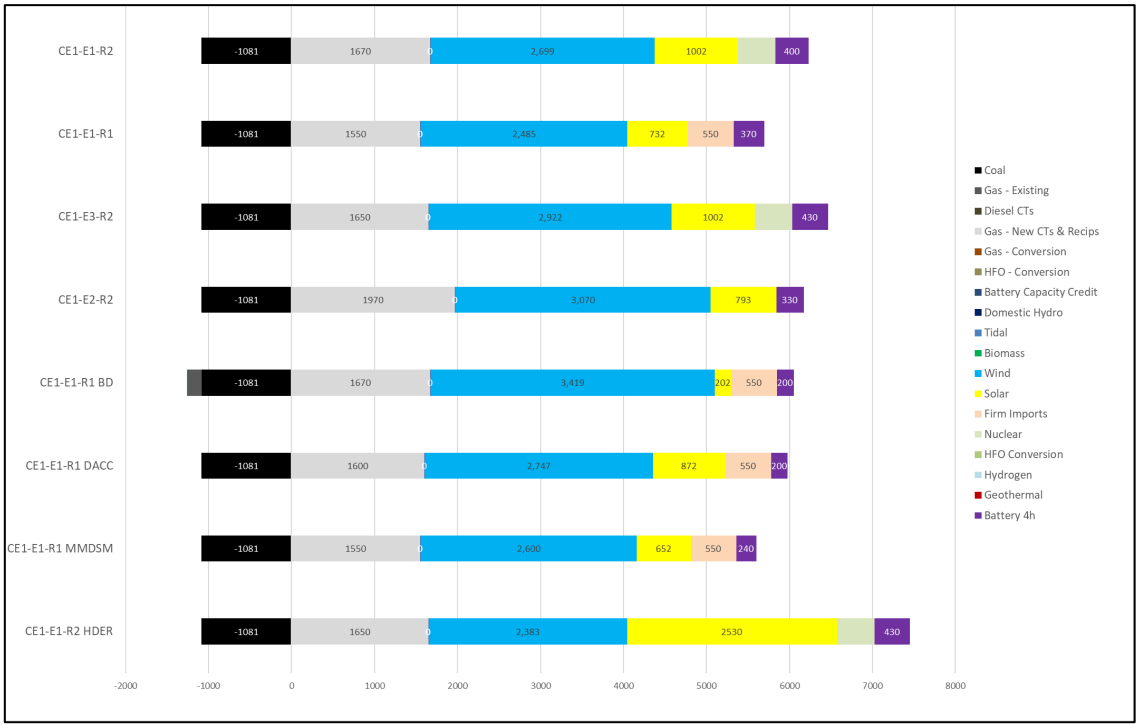


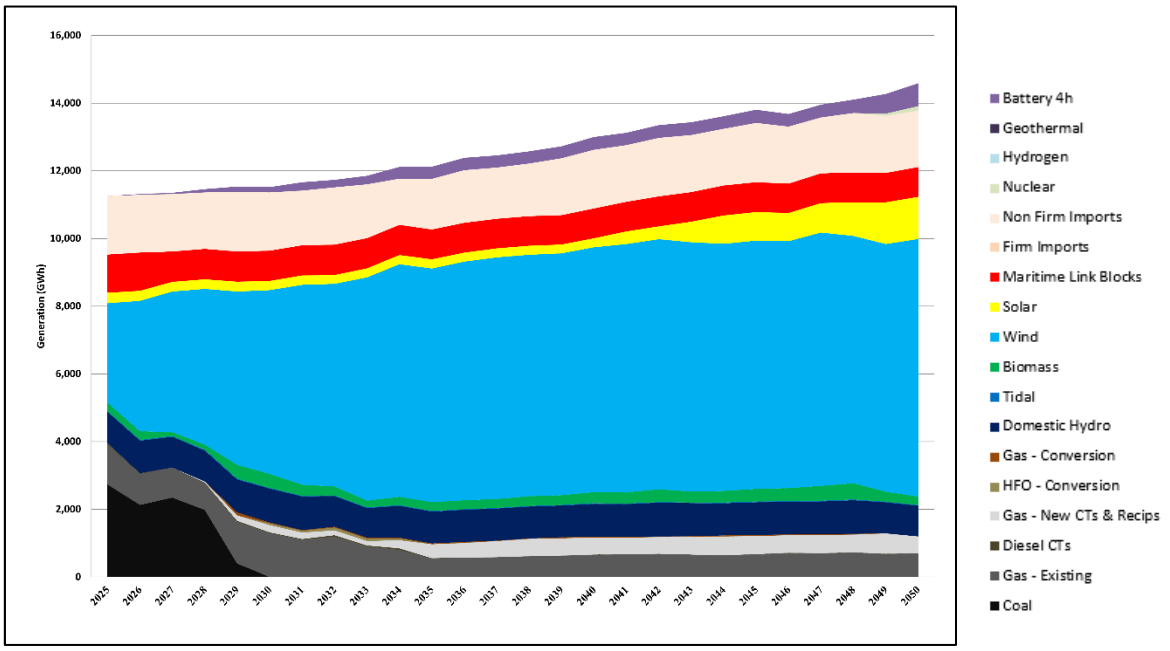
Figure 3: New Resources (Installed Capacity) by 2050



GENERATION MIX

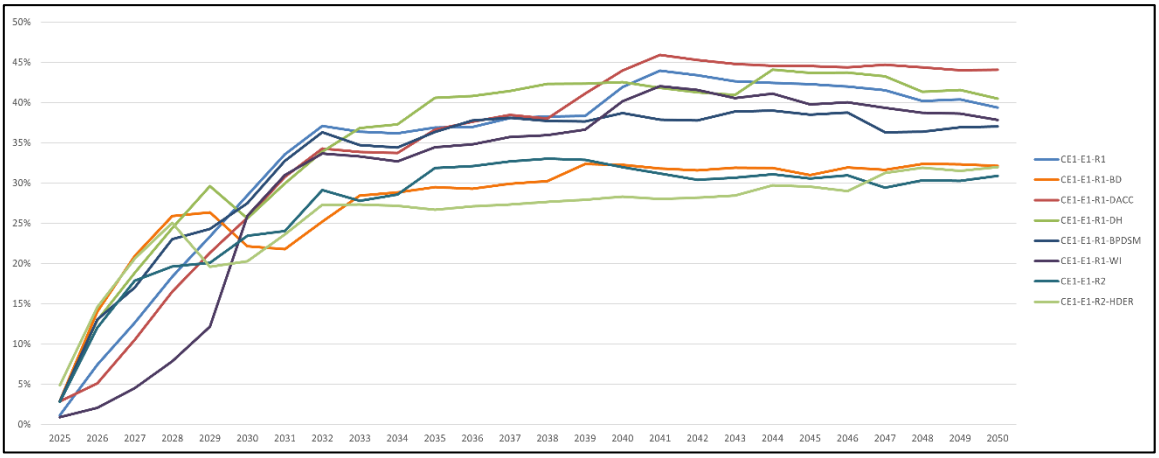
The evergreen IRP modeling results demonstrate that annual generation profiles are increasingly decarbonized through the planning horizon in line with environmental policy changes in 2030 and 2035 (please refer to Figure 4). As coal generation is phased out and the 2030 environmental policy requirements are met, wind generation and grid scale battery support increases with generation from new combustion turbines operating in a peaking capacity (used only during peak load periods). This trend is observed in 2035 and beyond to meet environmental policies and increasing system load.

Figure 4: Generation Mix for evergreen IRP Scenario CE1-E1-R2



Across all scenarios, wind generation plays an important role in meeting annual energy requirements. Significant generation from wind resources is observed in all scenarios and an increase in this contribution is observed for all No Atlantic Loop scenarios as compared to the With Atlantic Loop scenarios. With this increase in wind generation, the modeling demonstrates curtailment in the range of 10 – 45% across all scenarios (average curtailment of 30%). Figure 5 shows the curtailment trends for select and representative scenarios.

Figure 5: Wind and Solar Curtailment



The curtailment factor represents the percentage of potential generation from wind and solar that is curtailed or restricted due to a combination of wind integration constraints, transmission limitations, and/or load and generation balance (i.e. wind and solar are greater than the load served in some hours).

For gas resources, the model demonstrates the use of emitting resources in a peaking capacity (with most units operating at 15% capacity factor or less), with a higher utilization in the No Atlantic Loop scenarios as compared to the With Atlantic Loop scenarios. Figures 6 and 7 show the emission profile for certain With Atlantic Loop and the No Atlantic Loop scenarios, respectively.

Figure 6: CO_2 Emissions - With Atlantic Loop Scenarios

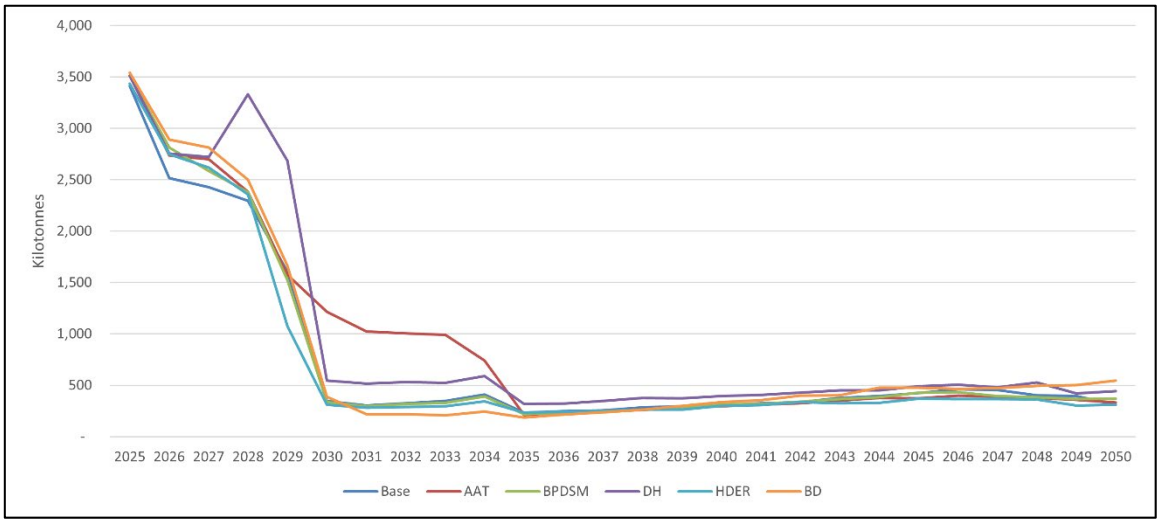
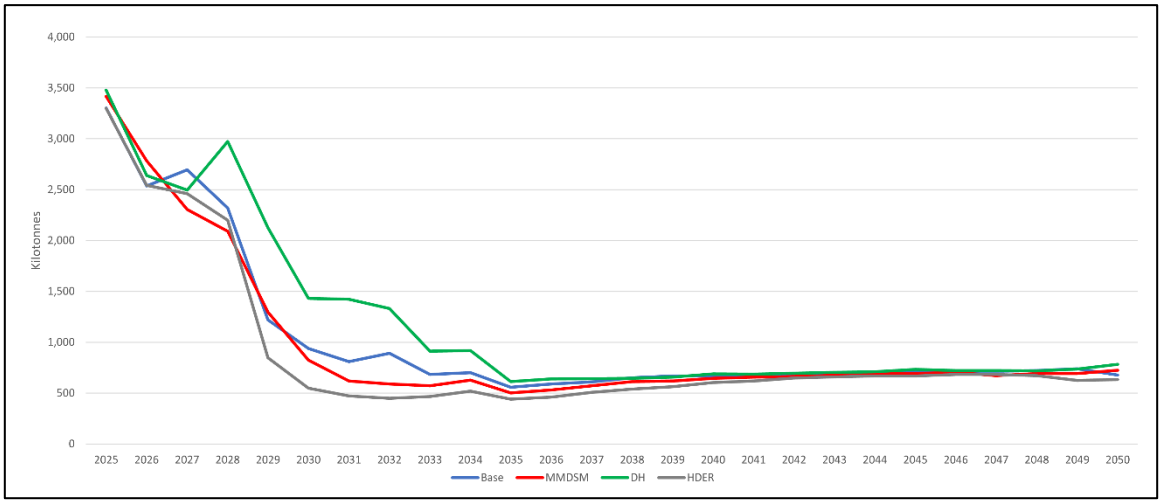


Figure 7: CO_2 Emissions - No Atlantic Loop Scenarios

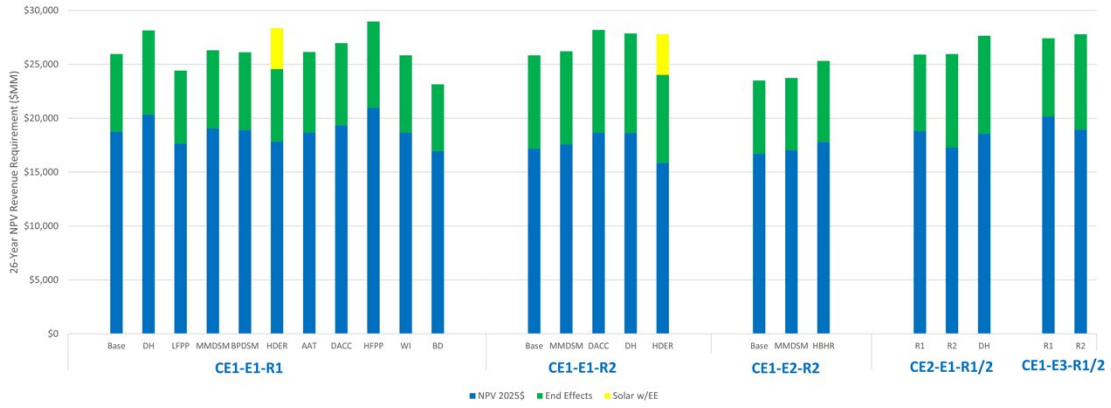


While No Atlantic Loop scenarios demonstrate a higher ultimate emissions profile by the end of the modeling horizon, emissions are reduced by over 90% from 2005 levels in all scenarios.

LOAD AND ENERGY EFFICIENCY

Figure 8 highlights the 26-year (NPVRR) with end effects by scenario and provides a comparison between scenarios to assess the impacts of the various load and energy efficiency assumptions modeled.

Figure 8: Resource Plan Cost Summary



The results demonstrate the following:

- The Hybrid Peak[2] scenarios (E2) show cost savings relative to the base load (E1) scenarios. This indicates that pursuing a hybrid peak solution could have value to customers via avoidance of new firm capacity costs. As NS Power does not have cost estimates for incentives/programs that would be required to enable a Hybrid Peak program in Nova Scotia, costs for this program are not included in the NPVRR values shown in Figure 8.
- The Base Plus and Modified Mid Demand Side Management (DSM) scenarios have higher NPVs across all three NPV time horizons than the equivalent Base DSM scenarios for all sets of comparable scenarios.
- NS Power has added two "Accelerated Electrification" scenarios in the Final Modeling Results. These achieve the same peak and energy requirements by 2050 but at an accelerated pace. The capacity expansion profiles select similar resources to the E1 load scenarios but with accelerated additions of new firm capacity resources to maintain the system Planning Reserve Margin.

[2] The hybrid peak solution assesses the value of potential programming to reduce system peak requirements by enabling customers to retain their back up heating sources (oil, wood, etc.) and use these sources when temperatures drop to a point where heat pumps are less efficient.

IRP ACTION PLAN

ITEM 1: REGIONAL INTEGRATION STRATEGY

Develop a Regional Integration Strategy to provide access to firm capacity and low-carbon energy while increasing the reliability of Nova Scotia's interconnection with North America. With virtually no new hydro power potential in the region and the phase out of coal generation, regional integration provides access to markets that have firm dispatchable renewable generation. The reliability tie is required independent of the Atlantic Loop to support wind integration and system reliability.

Item 1a: Reliability Tie

Continue to develop the Reliability Tie via an appropriate regulatory process with target in-service date of 2028.

Item 1b: Regional Integration

Continue working with neighboring jurisdictions in support of the Atlantic Loop and other opportunities for regional integration, conducting detailed engineering and economic studies for firm import options requiring new transmission investment and strengthened regional interconnections[3]. These assessments should include evaluations of availability and security of supply, emission intensity, and dispatch flexibility.

ITEM 2: ELECTRIFICATION

Electrification is a key variable in this IRP as increased electric vehicle (EV) adoption and heating electrification play a significant role in increasing load requirements through the planning horizon. The evergreen IRP load forecast incorporates firm peak growth of approximately 200MW by 2030.

Item 2a: Electrification Strategy

Publish Electrification Strategy report, developed as part of the IRP Action Plan, in 2023 with opportunity for stakeholder review and comment.

Item 2b: Data Collection

Continue to collect detailed data, including data on the quantity, flexibility and hourly load shape of incremental electrification demand, to assist with further system planning work.

[3] This is also in alignment with the outcomes of the Atlantic Clean Power Roadmap final report (please see pgs. 91 and 92 of the 2022 IRP Action Plan Update: IRP Action Plan Update Jan 2022 - March Update (nspower.ca))

Item 2c: Electrification Impacts – Transmission and Distribution System

Address electrification impacts on the Transmission & Distribution system as additional experience and data become available. This will include an analysis of available and projected T&D capacity at varying levels of electrification as well as identification of potential mitigation options and cost estimates. This analysis will leverage data from NS Power's AMI implementation as it becomes available.

ITEM 3: THERMAL RETIREMENT PLAN

Progress the Thermal Plant Retirement, Redevelopment and Replacement Plan.

Item 3a: Thermal Plant Retirement

Proceed with Trenton 5 retirement plan based on the updated evergreen IRP projections (2027/2028). NS Power will manage operating restrictions of the thermal fleet to meet firm capacity requirements are met but minimize utilization to reduce sustaining capital investment. Continue to develop coal retirement plan for remaining units including consideration of cold reserve operating modes to enable the integration of new resources and reduced utilization over time.

Item 3b: Thermal Plant Depreciation Study

As per the General Rate Application Settlement Plan[4] Nova Scotia Utility and Review Board (NSUARB) decision, NS Power will conduct a depreciation study and file prior to the next General Rate Application.

Item 3c: Fast Acting Generating Capacity

Initiate development of new fast-acting generating capacity resources to address growing demand, balance variable renewable generation, and maintain the reliability of the Nova Scotia system. Scope will include the addition of fast acting generation of approximately 300MW by 2027 and an additional 300 - 600MW by 2030. Fuel flexibility is a component of this work, including consideration for low/zero carbon alternative fuels such as hydrogen. Existing combustion turbines will continue to be sustained through the planning horizon (please see Roadmap Item 2).

Item 3d: Procurement Strategy for Variable Renewable Resources

Develop a procurement plan for incremental variable renewable resources, targeting approximately 1000MW[5] by 2030. Anticipated renewable procurements and programs, such as the Green Choice Program, Community Solar Program, and Renewable to Retail, will contribute to meeting the total system requirement for variable renewable resources. A series of regular procurements, balancing

[4] General Rate Application Decision, February 2, 2023, Issue #: M10431
[5] This value excludes the Rate Base Procurement program of 372MW of wind resources

resource additions and the associated requirements for engineering, construction, and commissioning resources to 2030, is preferred.

Complete additional study work to identify opportunities to reduce curtailment of variable renewable generation on the system.

Item 3e: Thermal Plant Conversions and Fuel Transitions

Progress plans for the following thermal plant conversion and fuel transition projects; these projects will support system capacity requirements with limited energy output.

- Complete coal to gas conversion on 1 thermal unit by 2028.
- Progress coal to heavy fuel oil (HFO) transition for 3 thermal units, targeting 2029.

Item 3f: Battery Storage Capacity

Develop 4-hour battery storage additions to the system targeting at least 100MW in-service by 2030, with battery storage additions beginning by 2025. Continue to explore the potential benefits of additional energy storage quantities beyond this target as part of the transition to 2030.

Item 3g: Synchronous Condensers

Complete generator site-specific system impact studies for new variable renewable generation to assess the need for synchronous condenser support. Progress the development of 100 - 200MVA of synchronous condensers by 2030 to support system reliability and strength with the increase in variable renewable generation on the system.

ITEM 4: DEMAND RESPONSE

Demand response (DR) programming and initiatives continue to demonstrate value to the system through a reduction in peak system requirements. The DR Action Plan item supports the continued progression of the demand response strategy and assessment of other DR opportunities.

Item 4a: Pilot Programming

Continue to progress the Demand Response Strategy via the existing pilot programming, targeting the expansion of the programming to 75MW of nameplate capacity, for deployment by 2025.

Item 4b: Hybrid Peak Electrification Scenario

Further assess the value of the hybrid peak building electrification scenario based on the outcomes of the evergreen IRP. This will include development of program cost estimates and validation of savings potential. Where possible, NS Power will incorporate learnings from other North American utilities that have implemented similar programs.

ITEM 5: AVOIDED COSTS OF DSM

NS Power will update avoided costs of DSM based on the evergreen IRP in collaboration with the DSMAG, targeting completion before the end of 2023.

IRP ROADMAP

The following roadmap items were identified to monitor for changes in the planning environment and support progress on the path to 2030 and beyond. NS Power will monitor the roadmap items in parallel with execution of the Action Plan.

ITEM 1: WIND INTEGRATION STUDIES

Publish the results of the ongoing wind integration studies in 2023. Provide guidance on integration asset requirements as an outcome in alignment with the planned variable renewable capacity additions. Continue to monitor results for significant divergence from wind integration assumptions modeled in the evergreen IRP and trigger an update as needed.

ITEM 2: SUSTAINING CAPITAL

Pursue economic reinvestment in existing hydro and combustion turbines with individual capital applications as applicable; economic justification as part of a capital application will be required to confirm a decision to pursue Mersey hydro redevelopment. Continue sustaining capital investment in thermal units, aligned with their projected utilization and retirement date.

Monitor required levels of sustaining capital investment for significant changes from IRP assumptions and, if observed, trigger a unit-specific analysis of alternatives. Monitor unit reliability for significant changes from IRP assumptions and, if observed, trigger an Effective Load Carrying Capability (ELCC) calculation and/or Planning Reserve Margin (PRM) study as required.

ITEM 3: MONITOR ALTERNATIVE FUEL SOURCES

Continue to monitor the development of low/zero carbon fuels that could replace natural gas in powering generating units to provide firm, in-province capacity. Specifically, NS Power will monitor the price and availability of domestic hydrogen fuel as the hydrogen production industry develops in Nova Scotia.

ITEM 4: INSTALLED COSTS OF WIND, SOLAR AND ENERGY STORAGE

Continue to track the installed costs of wind, solar, and energy storage to look for significant variations from the trajectories analyzed in the evergreen IRP. If observed, update capacity mix as required.

ITEM 5: FEDERAL CLEAN ELECTRICITY REGULATIONS (CER)

Track the ongoing development of the Federal Clean Electricity Regulations (CER). In particular, monitor for changes to carbon pricing policy or limitations on use of gas and oil-fired generating facilities beyond those already considered in the evergreen IRP.

ITEM 6: ELECTRIFICATION & LOAD GROWTH

Continue to monitor electrification and load growth in Nova Scotia relative to the 2022 and 2023 Load Forecast reports which incorporate electrification impacts. Also, monitor for the addition of large industrial customers which may impact the identified resource requirements.

ITEM 7: EVERGREEN IRP

Refine the Action Plan and Roadmap items via an evergreen IRP process. This process should facilitate annual updates as conditions change and technology or market options develop, and as Action Plan items are completed or significantly advanced. NS Power will include a summary of updates as part of IRP Action Plan reporting and will incorporate the opportunity for stakeholder comment and feedback as part of the update process.

ITEM 8: EMERGING TECHNOLOGIES

Monitor developments in technology/enabling policy for emerging resources including, but not limited to, SMRs, geothermal, hydrogen combustion turbines, and long duration storage. Significant changes in cost or availability from IRP assumptions may trigger a specific analysis as needed.

ITEM 9: OFFSHORE WIND

Support the provincial plan for Offshore Wind with planning analyses as appropriate; monitor technology, cost, and policy development.

ITEM 10: FIRM IMPORTS

Continue to monitor opportunities for near-term firm imports over existing transmission infrastructure.

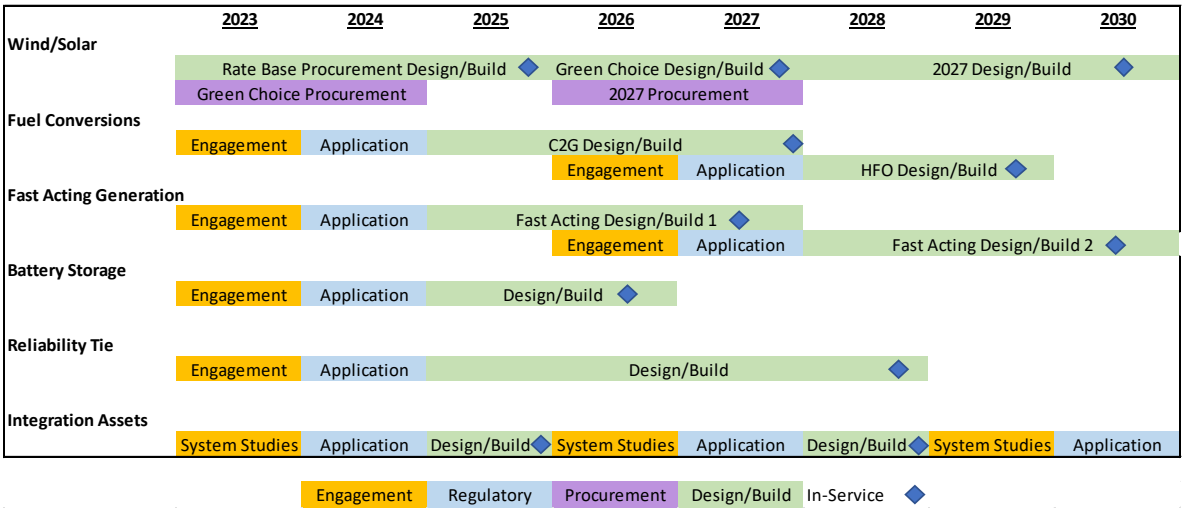
ITEM 11: HYDROGEN TARIFF IMPACTS

Monitor the development of the hydrogen industry in Nova Scotia, including tariff structures specific to hydrogen development. Assess the impacts as they relate to future modeling assumptions.

ENABLING THE ACTION PLAN

Although the evergreen IRP model provides a range of outcomes to 2050, the Action Plan reflects NS Power's near-term path forward and the progression of these identified resources and programs will be critical to meeting the 2030 decarbonization targets. Figure 9 demonstrates NS Power's resource development plan[6] to execute the updated Action Plan.

Figure 9: 2030 Resource Development Plan



The resource development plan outlines the high-level timing for the project life cycle (from initial development to in-service) for the required resources. In parallel, the Roadmap items will provide insight into future planning environment changes that may require additional action to support the path to 2030 and beyond.

[6] Please note: This plan is reflective of the overall electricity strategy, is subject to change and is intended to provide an visualization of how a resource plan reflective of the Action Plan may be carried out to meet the 2030 system requirements. Each project will have a specific project plan, the development of which will inform the timing for each phase of work.

CONCLUSION

The evergreen IRP Action Plan and Roadmap will play a key role in enabling NS Power to meet the challenges and opportunities of the ever-evolving electricity planning environment. This plan serves to enable the path to 2030 while preserving flexibility to assess and respond to changes in the future. The IRP Action Plan takes center stage in NS Power's path forward in achieving the 2030 targets, and the successful progression of these action items will be instrumental in realizing the company's sustainability goals and building a resilient energy future.

NS Power will continue to provide annual updates to stakeholders on the progress of the Action Plan, allowing NS Power to communicate progress and updates and to continue to receive stakeholder input and feedback. This will ensure that stakeholders are well-informed about NS Power's initiatives and our commitment to meeting our decarbonization goals.

The transformation of our electricity system, and of many parts of our daily lives via economy-wide electrification and decarbonization, can only be successful because of the actions of many partners and stakeholders. This is why the IRP continues to focus on the theme of *Powering a Green Nova Scotia, Together.* NS Power looks forward to supporting our partners as they work to achieve their own goals that will enable the energy transition, and thanks all stakeholders involved in the evergreen IRP process for their valuable insights and contributions.

It is important to acknowledge that although the evergreen IRP provides a long-term outlook to 2050, the planning environment will continue to change. Important factors such as accelerating rates of electrification and load growth, evolving climate policies, and advancements in renewable technology could introduce changes to assumptions and new opportunities. The updated Action Plan, designed to meet the 2030 targets, must remain adaptable to embrace additional changes to remain effective and relevant.

The updated IRP Action Plan and Roadmap provide the activities needed for NS Power to meet its 2030 decarbonization targets. By planning for, monitoring, and adapting to the evolving planning environment, NS Power will execute on a robust path to 2030 and beyond, navigating the challenges and opportunities that lie ahead.

GLOSSARY

The modeling scenarios and their descriptions can be accessed here. For additional definitions, please see the following glossary of terms.

- **Reliability Tie**: a second 345 kV AC transmission line between Onslow NS and Salisbury NB. While it allows for the integration of additional variable renewable generation on the system, the Reliability Tie alone does not provide incremental access to firm capacity or energy.
- **Atlantic Loop**: a proposed transmission line connection between Nova Scotia and Quebec to provide import/export opportunities between NS Power and Hydro Quebec.
- **Variable Renewable Energy**: generation from wind and solar resources.
- **Fast Acting Firm Capacity**: capacity from gas fueled combustion turbines to support coal phase out.
- **Synchronous Condensers**: a large rotating machine which is synchronized with the power system and able to provide voltage and frequency support traditionally provided by synchronous generators.
- **Small Modular Reactor (SMR)**: nuclear reactors of a power capacity less than 300MW.
- **Modified Mid DSM (MDSM)**: a modified version of the "Mid" demand side management (DSM) value plan (savings and program cost), which was modeled in the 2020 IRP. This version sits between the mid DSM plan and the high DSM plan and was provided by Efficiency One (E1) during the evergreen IRP stakeholder process.