NORTHERN MAINE RENEWABLE ENERGY DEVELOPMENT PROGRAM: MAINE RATEPAYER BENEFITS

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PREPARED FOR
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LIST OF ACRONYMS

BTM PV  behind the meter photovoltaic
C&I   commercial & industrial
CME   Central Maine zone
CO₂   carbon dioxide
COD   commercial operation date
DSM   demand-side management
EE    energy efficiency
ISO-NE New England Independent System Operator
KWh   Kilowatt-hour
LMP   locational marginal price
MW    megawatt
MPD   Maine Public District
NECEC New England Clean Energy Connect
NMISA Northern Maine Independent System Administrator
NMM   Northeast Market Model
NPV   net present value
PPA   power purchase agreement
PUC   Public Utilities Commission
REC   renewable energy credit
RFP   request for proposal
RGGI Regional Greenhouse Gas Initiative
RPS   renewable portfolio standard
RSP   Regional System Plan
TA    transmission agreement
DISCLAIMER

The analyses supporting the results presented here involve the use of assumptions and projections with respect to conditions that may exist or events that may occur in the future. Although Daymark Energy Advisors has applied assumptions and projections that are believed to be reasonable, they are subjective and may differ from those that might be used by other economic or industry experts to perform similar analysis. In addition, actual future outcomes are dependent upon future events that are outside Daymark Energy Advisors' control. Daymark Energy Advisors cannot, and does not, accept liability under any theory for losses suffered, whether direct or consequential, arising from any reliance on this presentation, and cannot be held responsible if any conclusions drawn from this presentation should prove to be inaccurate.
I. EXECUTIVE SUMMARY

The proposed 1,000 MW King Pine Wind project, developed by King Pine Wind Maine, LLC (King Pine), and the Aroostook Renewable Gateway transmission project, developed by LS Power Grid Maine (LSPGM together, the Project) will provide a broad range of economic benefits to Maine ratepayers. Using assumed natural gas and Regional Greenhouse Gas Initiative (RGGI) pricing based on recent historical data and forecasting future New England energy prices, the analysis shows that the Project provides direct contract benefits (the value of the energy provided is greater than the combined contract cost of energy and transmission). Additionally, the Project offers significant additional indirect market benefits.

The output of the wind project will be purchased via a long-term power purchase agreement (PPA), and the transmission line will be funded by means of a transmission agreement (TA), with access to the line being governed by the ISO-NE tariff. King Pine and LSPGM retained Daymark Energy Advisors (Daymark) to perform an independent analysis to quantify certain benefits that the Project will deliver to Maine ratepayers. Using a variety of models and analytical techniques, Daymark has evaluated the Project and quantified the benefits over the expected 25-year contract term of the TA¹, including the 20-year delivery term of the PPA plus 5 additional years with only a contract for transmission.

The benefits include:

- **Direct Contract Impact**, derived by comparing the cost of the contracts (PPA and TA) to the market value of the energy.
- **Wholesale Market Impact**, driven by the additional energy price benefits related to the reduction in market energy prices caused by the addition of the Project.
- **REC Market Impact**, derived by the reduction in the cost of renewable energy certificates (RECs) needed for compliance with the Maine Renewable Portfolio Standard (RPS).

Daymark quantified these benefits to Maine ratepayers within the ISO-NE system. Maine benefits grow to $887 million on a net present value (NPV) basis over the contract periods for energy delivery under the PPA and TA.

¹ While the contract term is over a 30-year period, this includes 5 years of development. Payments to the Project will commence at COD and extend for approximately 25 years.
Figure 1. Cumulative net present value of total ratepayer benefits

These benefits will flow through directly to Maine retail customer bills. While the actual impact will vary by customer consumption and power supply arrangement, Daymark has estimated the long-term bill impact for representative customers. The results are presented in Table 1 below.

<table>
<thead>
<tr>
<th>CUSTOMER</th>
<th>MONTHLY USAGE (KWH)</th>
<th>AVERAGE MONTHLY BILL SAVINGS (2023$)</th>
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<tr>
<td>Small Commercial</td>
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<tr>
<td>Medium Commercial</td>
<td>5,000</td>
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<td>Large Commercial/Industrial</td>
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</tbody>
</table>

Table 1. Summary of 25-year rate impact

The Project will bring additional benefits by reducing Locational Marginal Prices (LMPs) in Maine by 5% on average.

Not all the benefits of the Project were included in this analysis. Additional benefits not quantified include environmental benefits, price hedging benefits, fuel diversity, incremental transmission capacity, and regional economic benefits.
The Project will also bring additional benefits to the Northern Maine Independent System Administrator (NMISA) territory in northeastern Maine of approximately $1.70 per month, based on 500 kWh average consumption. NMISA is not connected to ISO-NE, except through New Brunswick, but their supply rates to consumers are indexed to southern Maine rates and closely follow Versant rates in and around Bangor.

II. BACKGROUND

Maine has taken aggressive action to address climate change and is a nationwide leader in pursuing a target of net-zero economy-wide emissions. The state has taken many steps to integrate renewable resources in the state to supply customers with clean energy.

In 2019, Governor Janet Mills signed legislation to increase Maine’s renewable portfolio standard (RPS) standards for energy consumption:2

1. By January 1, 2030, 80% of retail sales electricity in the State will come from renewable resources;
2. By January 1, 2050, 100% of retail sales electricity in the State will come from renewable resources.

In December 2020, the Maine Climate Council published the Maine Won’t Wait report, a four-year climate action plan. The plan targets reductions in greenhouse gas emissions in Maine by 45% by 2030 and 80% by 2050, with a major component of the plan consisting of incremental clean energy supply.3

In 2021, Maine enacted the Northern Maine Renewable Energy Development Program (hereinafter “the Act”),4 requiring the Maine Public Utilities Commission (Maine PUC or the Commission) to conduct a 2022 Request for Proposals (RFP) for Renewable Energy Generation and Transmission Projects.

On November 1, 2022, the Maine PUC announced that it selected the King Pine Wind project and the Aroostook Renewable Gateway transmission project under the RFP. Furthermore, on February 3, 2023, the Maine PUC announced that Massachusetts had agreed to collaborate on the Project, purchasing 40 percent of the energy and fund 40% of the transmission line associated with the Project. The PUC determined that the

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2  Sec. 1 35-A MRSA §3210
4  Sec. 1 35-A MRSA §3210-I
allocation of 60 percent of the Project costs to Maine is in the public interest. The Maine PUC will direct one or more Maine distribution utilities to enter a PPA with King Pine for the wind energy, and a TA with LSPGM.

By selecting the Project, the Maine PUC took another significant step towards reaching the goals set forth by the Maine RPS and the *Maine Won’t Wait* report, in addition to the goals of the Act.

### III. SCOPE OF WORK

Daymark’s scope of work for this study includes the quantification of a selection of key benefits of the Project, and a calculation of the ratepayer impact of the costs and benefits of the PPA and TA. Using the modeling and analytical methodology described in Section V below, we analyzed the economic benefits of adding the 1,000 MW King Pine Wind project and the Aroostook Renewable Gateway project to the grid, and the benefits of the contract between the developers of the Project and Maine distribution utilities for 60 percent of the Project.

The benefits of the Project most directly accrue to the Maine customers in the ISO-NE region of Maine. However, estimates show there are likely to be additional benefits to the portion of Aroostook County served under the NMISA. These benefits are due to the reduction in regional energy prices which drive supply prices in northern Maine.

Daymark’s analysis provides an important assessment of multiple potential benefits, but it does not quantify *all* the benefits of the Project. Additional benefits not quantified include:

- **Environmental benefits.** By offsetting the need for generation from fossil fuel-fired resources, the Project will produce significant benefits related to reduced emissions of greenhouse gases and other pollutants.

- **Price hedging benefit.** Securing long-term energy supply at a fixed price provides a significant risk-mitigation benefit. By hedging power market prices, Maine customers will be protected from unexpected price spikes for the portion of their load covered by the PPA. This price certainty provides significant benefit in times of volatility, such as the region has experienced over the 2021-2023 period during natural gas market price volatility, geopolitical impacts, high inflation, and other macroeconomic factors.
• **Fuel Diversity.** By reducing Maine’s reliance on natural gas, the Project diversifies the State’s electricity supply, and reduces exposure to natural gas shortages during winter peak periods.

• **Incremental transmission capacity.** The Aroostook Renewable Gateway project has a full capacity to deliver 1,200 MW of incremental renewable generation, but only 1,000 MW is utilized by King Pine. To the extent the addition of the transmission upgrade enables additional renewable development in Aroostook County, this could increase the benefits identified in this report significantly.

• **Regional economic benefits.** The Wholesale Market Benefits discussed in Section VI.B below quantify the benefits created by the impact of the addition of 1,000 MW of clean inframarginal energy on wholesale prices. While this report quantifies these benefits for Maine ratepayers, customers throughout the region will also benefit from the reduction in wholesale prices.

In addition to these, Daymark’s study scope did not include analysis of economic development benefits from jobs and capital expenditures, or grid reliability benefits. All additional benefits mentioned above will be detailed and quantified in a forthcoming study already commissioned by LS Power.

**IV. PROJECT DETAILS**

The King Pine Wind project is a new 1,000 MW wind project located entirely in Aroostook County. This wind project will interconnect to the ISO-NE grid using the Aroostook Renewable Gateway transmission project, which has a 1,200 MW capacity and will be used to deliver a significant amount of new renewable energy from the region. The Aroostook Renewable Gateway project will consist of a new double-circuit 345 kV transmission line interconnecting with the ISO-NE grid near Pittsfield, Maine, and other single-circuit downstream upgrades.

The Aroostook Renewable Gateway is expected to be in service in 2029 and the King Pine Wind project is expected to deliver energy in phases from 2029 through 2031. The energy delivery term of the PPA will be 20 years from commercial operation date (COD) of the King Pine Wind project. The TA has a term of 30 years which includes the development and construction period. Ratepayers are assumed to pay for actual energy delivered over the 20-year PPA and to pay for transmission for the 25-year period 2029 through 2053.
V. METHODOLOGY AND KEY ASSUMPTIONS

Daymark’s evaluation methodology, including the selection of tools and the analytical approach, quantified a selection of benefits to Maine ratepayers. We have used this methodology to conduct many similar analyses for prior renewable energy and/or transmission projects in Maine, as in competitive resource procurements for renewable capacity and transmission in other states. This section provides a description of the methodology used to evaluate the benefits of the Project, as well as a description of the tools and key assumptions used.

A. Daymark expertise and experience

Daymark is a leading provider of integrated policy, planning, and strategic decision support services to the North American electricity and natural gas industries. Our firm serves a mix of clients across North America, including utilities, infrastructure developers, energy suppliers, energy consumers, and regulators. We have provided our clients with the highest quality actionable analysis and advice to support efficient and sustainable decisions under uncertainty for over 40 years.

We offer specialized knowledge and understanding of the design, operation, and performance of organized wholesale electricity markets and power systems and expertise in the evaluation of the economics of generation and transmission infrastructure under current and future market and policy conditions. To provide analytical support of these services, we have a range of in-house market modeling capabilities, including both commercially licensed models (PLEXOS) and custom proprietary models that we use regularly to forecast market prices, generation production and emissions, generator entry and exit, and other market performance metrics. Our experts advise clients on matters including cost-benefit analysis, economic modeling and forecasting, resource planning, project due diligence, and energy procurement.

B. Analytical methodology overview

Daymark has evaluated the economic, market, and emissions benefits of multiple infrastructure projects, including both renewable capacity and transmission, in multiple states. Over the course of these evaluations, Daymark has developed a comprehensive methodology to isolate and quantify a range of unique Project benefits. We have applied this methodology to assess the various benefits of the Project to Maine ratepayers, adapting it to the specific development circumstance of the Project.
We used a “with and without” approach, in which we analyze a future world without the Project (the “Base Case”) and a future world with the Project in service (the “Project Case”). The comparison of these cases allows us to quantify the impact of the Project on a variety of metrics.

C. Models and tools

Daymark’s methodology relies on a variety of analytical models and tools. The primary model is Daymark’s Northeast Market Model (NMM), which is based on the commercially licensed PLEXOS production cost model, described below. In addition to this model, Daymark developed custom spreadsheet tools to quantify the various benefits.

Northeast Market Model

Production cost modeling analysis was performed using the NMM. The Daymark NMM uses an hourly chronologic electric energy market simulation model based on the PLEXOS software platform licensed through Energy Exemplar. The model provides a zonal representation of the electrical system of New England, with market-based simulation of interchange opportunities with surrounding control areas.

The underlying technology, PLEXOS, is a well-established, industry-standard simulation model that uses and captures the effects of multi-area, transmission-constrained dispatch logic to simulate real market conditions. The PLEXOS model captures the dynamics and economics of electricity markets. PLEXOS realistically approximates the formation of hourly energy market clearing prices on a zonal basis using all key market drivers, including fuel and emissions prices, loads, demand-side management (DSM) impacts, generation unit operating characteristics, unit additions and retirements, and transmission congestion and losses over the interfaces between zones.

The NMM uses a detailed New England database including representations of power generation units, zonal electrical demand, and transmission interface configurations. Several key assumptions that are most pertinent to this analysis are provided in subsection D below.

REC market model

Maine Class I and IA RECs are assumed to be highly fungible with most other New England states’ Class I (or “New”) RECs for new renewable resources. Daymark forecasts New England Class I REC prices with a view that long-term contracts such as those resulting from the 2022 RFP for renewable energy generation and transmission projects
(and recent offshore wind RFPs in southern New England) will drive most of the new renewable supply through the study period. The Daymark REC market model is based on the levelized premium a developer would require to bring a project to market each year through a long-term contract or similar procurement. We developed a forecast of the levelized cost of energy (LCOE) for likely renewable resources to be developed in response to renewable procurements in New England netted against the market value of the energy and capacity from these resources.

D. Key assumptions

The NMM relies on a multitude of input assumptions to provide realistic market simulations. This section highlights specific notes on key assumptions used in the analysis.

Topology

The NMM is a zonal model where each defined zone represents a “bubble” of load and generation. Transmission is represented as single composite links between zones (i.e., interfaces) with constraints on certain combinations of links to realistically represent the interfaces. Key attributes that can be defined for each individual link are wheeling costs, transfer losses, and transfer capability (in MW). The topology of ISO New England and contiguous areas within the NMM are shown in Figure 2, below.

The Aroostook Renewable Gateway project will interconnect to the ISO-NE transmission system south of the Orrington South interface, so the King Pine Wind project is interconnected to the Central Maine (CME) zone.

Daymark’s analysis assumes that the New England Clean Energy Connection (NECEC) project is constructed prior to the beginning of the study period. The NECEC has been subject to multiple legal challenges. On April 20, 2023, a jury determined that sufficient work had been completed on the project in good faith prior to the 2021 referendum that paused construction. As a result, the project developer had established vested rights, and the provisions of the referendum will not apply to the NECEC.

There remains some uncertainty related to the future of the NECEC, so Daymark conducted a sensitivity analysis to assess the benefits of the Project if the NECEC is not built. The results of that sensitivity confirmed that the Project produces significant benefits to Maine ratepayers regardless of the outcome of the NECEC.
Load

The load forecast used in the NMM for New England is based on the ISO New England load forecast for the 2022 CELT report. Since the zones modeled in the NMM align with the Regional System Plan (RSP) zones, we used the forecast values by RSP zone directly from the CELT report.

For the forecast years through 2030, the 2022 CELT report forecasts gross peak and energy load, as well as peak and energy load net of energy efficiency (EE) and behind-

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the-meter solar photovoltaic (BTM PV) generation. For years after 2031, Daymark escalated net load using the compound annual growth rate, while escalating peak demand at a consistent load factor.

**Generation**

Changes to the regional generation portfolio are critical inputs that impact the model simulations for long-term studies such as this. Daymark develops its generation assumptions considering known near-term resource changes (retirements and new resource additions), and develops long-term assumptions based on announced state policies and independent economic modeling impacting resource economics.

The most relevant state policies include renewable portfolio standards and resource-specific statutory procurement targets. For example, we build out sufficient renewable resources to ensure that each state’s RPS is met, including the addition of specific resource types (such as offshore wind) that are the subject of specific state legislation.

For conventional capacity resource additions and retirements, Daymark conducts capacity market modeling to estimate the timing of economic resource retirements and additions, subject to regional resource adequacy constraints.

**Fuel prices**

Fuel price projections are key assumptions for the NMM and are subject to a large amount of uncertainty. As a key component of dispatch cost, fuel prices drive price formation and regional market dynamics. In the NMM production cost model, each generator is assigned a fuel price based on the type of fuel, unit type, and plant location.

The New England market is currently dominated by natural gas generation and that will likely remain the case for many years, particularly for the purposes of setting marginal energy prices. Therefore, the natural gas price assumptions are a critical driver to our modeling and results.

Daymark uses a combination of short- and long-term forecasts developed by the U.S. Energy Information Administration, as well as market-based forward prices from NYMEX. The Henry Hub and Algonquin CG price forecasts used in this analysis are depicted in Figure 3 below.
Natural gas price markets have been subject to significant and rapid change in the past 18 months. Alternative long-term pricing scenarios were not evaluated in this study, but in general higher natural gas prices increase the net benefits of inframarginal resources such as the Project.

**Greenhouse gas emissions**

The NMM incorporates emission prices into the production cost, commitment, and dispatch of units.

Our New England Base Case incorporates a forecast based on near-term forecast RGGI allowance prices, transitioning to a moderate federal carbon dioxide (CO₂) price policy beginning in 2027.

The CO₂ price assumptions are summarized in Figure 4.
VI. RATEPAYER IMPACT ANALYSIS

Daymark’s analysis demonstrates that the King Pine Wind project and Aroostook Renewable Gateway project will provide significant net economic benefits to Maine ratepayers. The benefit/cost analysis is composed of three elements: the Direct Contract Impact, the Wholesale Market Impact, and the REC Market Impact. Each of these elements is described below, followed by a quantification of total Project impact on Maine ratepayers.

A. Direct Contract Impact

The first significant category of Project impact is the direct cost/benefit resulting from the comparison of the cost of the Project to the market value of the energy generated and delivered by the Project. As directed by the PUC, one or more distribution utilities will execute the PPA and TA contracts. They will purchase the energy at the PPA price and pay for the transmission at the TA rates. Since Maine distribution utilities are not power suppliers, the utilities will then sell the energy back into the ISO-NE market at the wholesale LMP price. If the value of the energy at the LMP price is above the combined cost of the PPA and TA, this will yield a net benefit. If the value at the LMP price is below the combined cost of the PPA and TA, this will yield a net cost. This net cost or benefit
will be passed on to ratepayers through their distribution rates. This is the same settlement/accounting method used for other long-term PPAs that have been directed by the PUC.

To quantify this benefit, Daymark compared the PPA and TA rates provided by King Pine and LSPGM, respectively, to the LMP price at the delivery point for the Project over the contract period (as simulated by the NMM model). When the Project price (PPA plus TA) is less expensive than the LMP price, ratepayers yield a net benefit.

**B. Wholesale Market Impact**

The interconnection of the King Pine Wind project and its clean, inframarginal energy per year will reduce LMPs throughout the region and will deliver benefits to Maine ratepayers through reduced costs of wholesale energy. In ISO-NE, the market prices are set by the marginal generation unit online, which is typically the least efficient and most expensive unit needed to meet load in a given hour. As new resources with low marginal costs are added to the grid, these more expensive units are needed less often, lowering the LMP prices throughout the region, creating a customer benefit in addition to the contract benefit described in the prior section.

This benefit applies to all market-priced energy purchased to serve Maine ratepayer load. Daymark’s modeling analysis produced hourly zonal energy prices for both the Base Case and Project Case. By comparing the results of the two runs, we quantified the benefits to ratepayers over the 25-year study period. The model results indicate that the addition of the clean inframarginal energy will lower Maine LMPs by an average of five percent on an annual basis.

By multiplying the forecasted change in load-weighted LMPs by the annual Maine load purchased at market prices, Daymark calculated the total wholesale load cost benefit resulting from the addition of the Project. This quantifies the market-based energy cost savings for Maine ratepayers.

**C. REC Market Impact**

The final ratepayer impact quantified in this study is the effect of the Project on REC market prices. While the King Pine Wind PPA contract in Maine is for energy only, and does not include RECs, the addition of the large quantity of certificates that will be generated by the Project will help reduce REC market prices. Since Maine has an escalating RPS requirement, a reduction in REC market prices produces ratepayer savings as the cost of purchasing RECs are passed on to ratepayers from the load-serving entity.
Daymark’s REC market model forecasts Class I REC prices as the difference between LCOE for marginal renewable technologies in New England and the levelized wholesale energy and capacity revenue (as modeled in the NMM) for the assumed technologies each year. By adding substantial supply of Class I REC supply to regional supply, the Project is assumed to shift the supply curve, lowering the cost (and “required” REC price) of the marginal supply resource (lower LCOE) for up to five years. Because the Eastern U.S. region has escalating RPS requirements and a significant volume of future procurements planned, we assume this effect is transitory, with marginal resource assumptions converging within five years. While the Project will continue to produce RECs, we conservatively assume that price suppression effects are limited in duration.

Maine Competitive Electricity Providers comply with renewable portfolio standards through the acquisition and retirement of RECs (or alternative compliance payments, if RECs are unavailable or too costly). By 2030, a total of 50% of Maine sales must be accounted for with energy associated with Class I or Class IA RECs. Reducing REC prices will reduce the cost of procuring Class I and Class IA supply, except supply already procured under long-term contract with bundled RECs.

By multiplying the forecast change in Class I/IA REC prices by the percentage of Maine load required to be met with Class I/IA resources (net of pre-existing long-term contract REC supply), we calculated the total market-based REC cost savings for Maine ratepayers.

D. Total ratepayer impact

Daymark’s analysis concludes that the addition of the King Pine Wind project and the Aroostook Renewable Gateway project will deliver significant benefits to Maine ratepayers. Across the three categories of benefits described above, the Project is forecasted to deliver $887 million of benefits on an NPV basis over the 25-year study period. Benefits were discounted back to a 2023 dollar-value using a 7% nominal discount rate. Figure 6 below depicts the accumulation of these benefits.

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<th>GROSS VALUE (2029-2053)</th>
<th>NET PRESENT VALUE (2023$)</th>
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<td>Direct Contract Impact</td>
<td>$1,066 million</td>
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<tr>
<td>Wholesale Market Impact</td>
<td>$2,188 million</td>
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<tr>
<td>REC Market Impact</td>
<td>$38 million</td>
<td>$22 million</td>
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<td>Total Ratepayer Impact</td>
<td>$3,293 million</td>
<td>$887 million</td>
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Table 2. Gross and net present value of benefits by type
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<th>Year</th>
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<th>WHOLESALE MARKET (COST)/BENEFIT</th>
<th>REC MARKET (COST)/BENEFIT</th>
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<td>2051</td>
<td>($53.1)</td>
<td>$152.3</td>
<td>-</td>
<td>$99.2</td>
</tr>
<tr>
<td>Total (2030-2051)</td>
<td>$1,365.8</td>
<td>$1,851.2</td>
<td>$38.4</td>
<td>$3,255.5</td>
</tr>
<tr>
<td>Total (2029-2053)</td>
<td>$1,066.4</td>
<td>$2,187.8</td>
<td>$38.4</td>
<td>$3,292.6</td>
</tr>
</tbody>
</table>

**Table 3.** Annual gross savings by benefit type, millions (2030-2051)

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6 To protect pricing confidentiality, annual values are only provided for the energy delivery period (2030-2051). Gross totals are provided for the full contract term (2029-2053), and these totals tie to values provided in Table 2.
Figure 5. Annual gross savings by benefit type, 2030-2051

Figure 6. Cumulative present value of benefits of the Project
We have translated these results into a levelized ratepayer impact for four representative customers:

- Residential customer using 500 kWh per month;
- Small commercial customer using 1,000 kWh/month on a non-demand rate;
- Medium commercial customer with a peak demand of 25 kW and monthly usage of 5,000 kWh/month on a demand-billed rate; and
- Large commercial/industrial (C&I) customer with a peak demand of 2 MW and a 70% load factor (1,008,000 kWh/month), with 50% of consumption during on-peak hours and 50% in off-peak hours.

Our analysis assumes that the contracts are assigned to Central Maine Power and Versant on a pro-rata basis, such that the customer impacts are equivalent on a $/MWh basis. Table 4 below summarizes the average bill impact for these four customer types.

<table>
<thead>
<tr>
<th>CUSTOMER</th>
<th>MONTHLY USAGE (KWH)</th>
<th>AVERAGE MONTHLY BILL SAVINGS (2023$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>500</td>
<td>$2.33</td>
</tr>
<tr>
<td>Small Commercial</td>
<td>1,000</td>
<td>$4.66</td>
</tr>
<tr>
<td>Medium Commercial</td>
<td>5,000</td>
<td>$23.31</td>
</tr>
<tr>
<td>Large Commercial/Industrial</td>
<td>1,008,000</td>
<td>$4,699.35</td>
</tr>
</tbody>
</table>

Table 4. Summary of 25-year rate impact

VII. NORTHERN MAINE RATEPAYER IMPACT

The ratepayer impact presented in Section VI above pertains to Central Maine Power and the Versant Bangor Hydro District, and is based on the assumption that these are the contract counterparties. Northern Maine is directly connected with the New Brunswick grid and is not directly connected to ISO-NE, and the grid is instead managed by the NMISA. The primary distribution utility in this region is also Versant, and the region is commonly referred to as the Versant Maine Public District (MPD).

Despite the fact that NMISA customers are not directly interconnected with ISO-NE, estimates show there are still likely to be ratepayer benefits of the Project related to the reduction in wholesale market prices discussed in Section VI.B. In recent years, the
supply rates for NMISA have been closely tied to the supply rates for the areas of Maine connected to ISO-NE.\(^7\)

The NMISA region is not directly modeled in the NMM. However, by assuming continued close alignment of supply rates, Daymark estimated NMISA customer benefits using the impact of the Project on Maine LMPs. Due to the energy price reduction for the BHE zone, we estimate that the impact of the Project on an average NMISA residential customer’s monthly bill will be an average monthly savings of $1.70 per month (2023 dollars), assuming 500 kWh consumption. Depending on the final assignment of the PPA and TA to NMISA customers, this long-term customer benefit could increase.

The results indicate that the Project will deliver energy price benefits to customers in the NMISA region. The Aroostook Renewable Gateway project scope does not include a direct connection with the NMISA system, but by extending the ISO-NE system into Aroostook County, the construction of the Project increases the feasibility of a future appropriately sized direct connection between the NMISA System and ISO-NE. Such a future connection could provide additional reliability and economic benefits to the NMISA region, which have not been included in this study.

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\(^7\) From 2020-2022, the Versant-MPD standard offer supply rates were indexed to Southern Maine (see Maine PUC Docket No. 2019-00163, Order dated November 13, 2019). In the most recent Standard Offer proceeding the Versant-MPD rates were very close in price to the Versant-BHD rates, after excluded specific ISO-NE charges (see Maine PUC Docket No. 2022-00091, Order dated November 16, 2022).