BUILDING A WORLD OF DIFFERENCE

September 2013

NATURAL GAS INFRASTRUCTURE AND ELECTRIC GENERATION: PROPOSED SOLUTIONS FOR NEW ENGLAND

High and Low Demand Scenarios

Prepared for NESCOE

BLACK & VEATCH
Building a world of difference.

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Presentation Outline

- Executive Summary – High and Low Demand Scenarios
- High Demand Scenario Assumptions and No Incremental Infrastructure Results
- High Demand – Long-term and Short-term Infrastructure Solution Sensitivities
- High Demand – Design Day Weather Sensitivity
- Low Demand - Long-term and Short-term Infrastructure Solution Sensitivities
- Low Demand – Negative Demand Growth Sensitivity

Executive Summary – High Natural Gas Demand Scenario

- In a high demand Scenario, policy incentives will spur demand growth in the residential, commercial and power sectors:
  - Residential and commercial demand growth is 2.4 % CAGR over the analysis period, assuming all the states adopting policies to encourage use of natural gas in the residential and commercial sectors, similar to Connecticut's Comprehensive Energy Plan.
  - Higher net electric load growth, lower renewable attainment percentage and earlier deactivation of nuclear facilities drives natural gas demand for power generation growth of 1.03% CAGR between 2014 and 2029.
  - Total demand in New England grows by 800 MMcf/d between 2014 and 2029.
- Reverse flows on Maritimes & Northeast Pipeline ("MN&P") to meet demand in Canada is allowed on an economic basis in the High Demand Scenario.

Executive Summary – High Natural Gas Demand Scenario No Incremental Infrastructure

- In the high demand scenario, almost all sub-regions face constraints for nearly 100 days without AIM; even with AIM, most sub-regions are expected to experience constraints for more than 50 days.
- New England natural gas basis in the High Demand Scenario, as in the Base Case, is projected to moderate relative to the extremes experienced in the winter of 2012-2013. However, average monthly projected basis in the High Demand Scenario exceeds the Base Case forecast by $2-$4/MMBtu during peak winter months in 2014-2016.
- Beginning in 2023, however, peak winter monthly basis in the High Demand Scenario is expected to greatly exceed Base Case projections, achieving levels near $8.00/MMBtu.
- Pipelines serving the New England market from the West are mostly full throughout the analysis period and no reverse flows are expected to occur on MN&P to reach Canada.

Executive Summary – High Demand Scenario Solution Sensitivities

- All three solutions examined under the High Demand Scenario provide greater benefits to New England consumers than observed in the Base Case.
- The cross-regional pipeline provides the higher net economic benefits, especially towards the end of the analysis period, when the assumed expedited deactivation of New England Nuclear units occurs.
- The LNG options provides significant net economic benefits to New England consumers in the short-term.

Net Benefits for Infrastructure Solutions (in Millions of Dollars)																	
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total	Average
Cross-Region Pipeline	$ -	$ -	$ -	$ (82)	$ (63)	$ (49)	$ (54)	$ (97)	$ 1	$ 231	$ 511	$ 543	$ 564	$ 874	$ 920	$1,124	$ 4,424	$ 340
LNG Imports	$ 121	$ 175	$ 75	$(115)	$(115)	$ -	$ -	$ -	$ -	$ 115	$ 392	$ 430	$ 482	$ 645	$ 630	$ 666	$ 3,093	$ 236
Firm Contract Based Canadian Energy Imports	$ -	$ -	$ -	$ -	$(125)	$(119)	$ (56)	$ (93)	$ (4)	$ 232	$ 374	$ 234	$ 168	$ 392	$ 224	$ 245	$ 1,471	$ 123

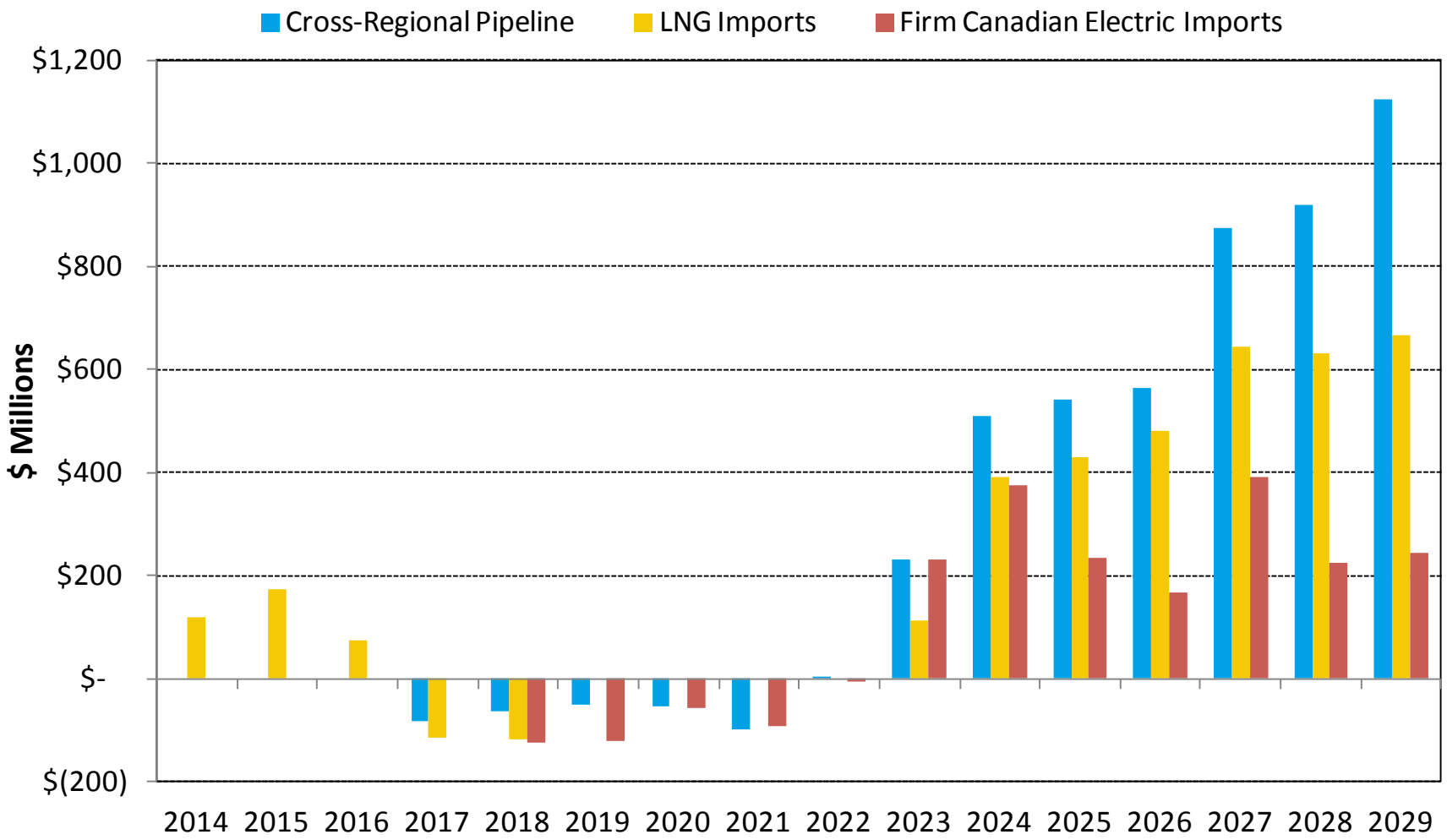
Executive Summary – High Demand Scenario Solution Sensitivities

Total Benefits for Infrastructure Solutions (in Millions of Dollars)																	
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total	Average
Cross-Region Pipeline	$ -	$ -	$ -	$ 94	$ 113	$ 127	$ 122	$ 79	$ 177	$ 407	$ 687	$ 719	$ 740	$1,050	$1,096	$1,300	$ 6,712	$ 516
LNG Imports	$ 301	$ 349	$ 250	$ 67	$ 69	$ 59	$ 69	$ 121	$ 103	$ 310	$ 589	$ 630	$ 683	$ 849	$ 837	$ 875	$ 6,159	$ 433
Firm Contract Based Canadian Energy Imports	$ -	$ -	$ -	$ -	$ 264	$ 270	$ 333	$ 296	$ 385	$ 621	$ 763	$ 623	$ 557	$ 781	$ 613	$ 634	$ 6,139	$ 512

Total Costs for Infrastructure Solutions (in Millions of Dollars)																		
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total	Average
Cross-Region Pipeline	$ -	$ -	$ -	$ 176	$ 176	$ 176	$ 176	$ 176	$ 176	$ 176	$ 176	$ 176	$ 176	$ 176	$ 176	$ 176	$ 2,288	$ 176
LNG Imports	$ 180	$ 174	$ 175	$ 182	$ 184	$ 186	$ 189	$ 191	$ 193	$ 195	$ 197	$ 199	$ 202	$ 204	$ 206	$ 209	$ 3,066	$ 196
Firm Contract Based Canadian Energy Imports	$ -	$ -	$ -	$ -	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 4,668	$ 389

Net Benefits for Infrastructure Solutions (in Millions of Dollars)																		
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total	Average
Cross-Region Pipeline	$ -	$ -	$ -	$ (82)	$ (63)	$ (49)	$ (54)	$ (97)	$ 1	$ 231	$ 511	$ 543	$ 564	$ 874	$ 920	$1,124	$ 4,424	$ 340
LNG Imports	$ 121	$ 175	$ 75	$(115)	$(115)	$ -	$ -	$ -	$ -	$ 115	$ 392	$ 430	$ 482	$ 645	$ 630	$ 666	$ 3,093	$ 236
Firm Contract Based Canadian Energy Imports	$ -	$ -	$ -	$ -	$(125)	$(119)	$ (56)	$ (93)	$ (4)	$ 232	$ 374	$ 234	$ 168	$ 392	$ 224	$ 245	$ 1,471	$ 123

Executive Summary – Costs and Benefits Summary for Solutions under the High Demand Scenario



Executive Summary – High Demand with Design-Day Conditions

- Black & Veatch identified a 7-day period in January 2004 as the worst cold stretch in the past 20 years; it was assumed as a proxy for extreme cold (design-day) conditions in New England.
- Our analysis of the relationship between weather and residential and commercial consumption indicates that design-day like weather will increase average residential and commercial needs in January by 522 MMcf/d from the High Demand Scenario.
- Under design-day conditions, basis in January will exceed the levels experienced in the winter of 2012-2013 throughout the analysis period; total demand will exceed the 75% threshold by more than 500 MMcf/d.
- Under design-day conditions, New England natural gas end customers and electric customers will pay on average $21 million more per day relative to normal weather conditions under the High Demand Scenario in January and $24 million more per day under the Base Case.

Total Costs (in Millions of Dollars/Per Day)																		
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total	Average
Design Day over High Demand Scenario	$ (26)	$ (28)	$ (35)	$ (19)	$ (23)	$ (25)	$ (22)	$ (28)	$ (30)	$ (23)	$ (17)	$ (14)	$ (11)	$ (9)	$ (10)	$ (11)	$ (333)	$ (21)
Design Day over Base Case Scenario	$ (27)	$ (29)	$ (36)	$ (19)	$ (23)	$ (25)	$ (22)	$ (28)	$ (30)	$ (25)	$ (22)	$ (20)	$ (18)	$ (20)	$ (20)	$ (22)	$ (386)	$ (24)

Executive Summary – Low Natural Gas Demand Scenario

- In a Low Demand Scenario, residential, commercial and industrial demand is kept constant at 2013 levels.
  - Reduction in usage per customer offsets the growth in number of customers due to continuously improved energy efficiency.
  - Successful implementation of distributed renewable thermal resources could serve customers who would otherwise need natural gas and also limit existing customers' usage.
- Efficiency gain and demand response in the electric sector totally offset load growth.
- Total demand in New England is essentially flat between 2014 and 2029.
- Only five sub-regions experience limited constraint days after AIM is placed into service in 2016.
- Monthly natural gas basis in New England is expected to decline from $2.00/MMBtu in 2014 to $1.00/MMBtu in 2016 during the peak winter months and remains below $1.00/MMBtu through 2029.
- Pipelines serving New England from the West are relatively full, but capacity on AIM is not fully utilized.

Executive Summary – Low Demand Scenario Solution Sensitivities

- After considering the costs associated with each infrastructure solution, no tested solution yielded a positive net benefit under Low Demand Scenario.
- Existing natural gas infrastructure in New England is sufficient to support both the natural gas and electric demand after AIM is placed into service and no further solutions are economically necessary.

Executive Summary – Low Natural Gas Demand Scenario Solution Sensitivities

Total Benefits for Infrastructure Solutions (in Millions of Dollars)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total	Average
LNG Peak Shaving	$ -	$ -	$ -	$ 1	$ 0	$ 2	$ 10	$ 12	$ 6	$ 3	$ 10	$ 14	$ 12	$ 17	$ 13	$ 9	$ 108	$ 8
Dual Fuel & Demand Response	$ 135	$ 130	$ 78	$ 43	$ 43	$ 35	$ 53	$ 58	$ 46	$ 44	$ 61	$ 63	$ 57	$ 75	$ 27	$ 65	$ 1,013	$ 52
Firm Contract Based Canadian Energy Imports	$ -	$ -	$ -	$ -	$ 197	$ 219	$ 284	$ 193	$ 241	$ 268	$ 238	$ 268	$ 199	$ 200	$ 204	$ 249	$ 2,760	$ 230

Total Costs for Infrastructure Solutions (in Millions of Dollars)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total	Average
LNG Peak Shaving	$ -	$ -	$ -	$ 31	$ 31	$ 31	$ 31	$ 31	$ 31	$ 31	$ 31	$ 31	$ 31	$ 31	$ 31	$ 31	$ 403	$ 31
Dual Fuel & Demand Response	$ 254	$ 267	$ 278	$ 269	$ 270	$ 269	$ 280	$ 270	$ 273	$ 274	$ 282	$ 277	$ 283	$ 288	$ 304	$ 296	$ 4,434	$ 280
Firm Contract Based Canadian Energy Imports	$ -	$ -	$ -	$ -	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 389	$ 4,668	$ 389

Net Benefits for Infrastructure Solutions (in Millions of Dollars)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total	Average
LNG Peak Shaving	$ -	$ -	$ -	$ (30)	$ (31)	$ (29)	$ (21)	$ (19)	$ (25)	$ (28)	$ (21)	$ (17)	$ (19)	$ (14)	$ (18)	$ (22)	$ (295)	$ (23)
Dual Fuel & Demand Response	$(119)	$(137)	$(200)	$(226)	$(227)	$(234)	$(226)	$(212)	$(227)	$(230)	$(221)	$(214)	$(227)	$(213)	$(277)	$(231)	$(3,421)	$ (228)
Firm Contract Based Canadian Energy Imports	$ -	$ -	$ -	$ -	$(192)	$(170)	$(105)	$(196)	$(148)	$(121)	$(151)	$(121)	$(190)	$(189)	$(185)	$(140)	$(1,908)	$ (159)

Executive Summary – Negative Demand Growth Sensitivity

- Negative Demand Growth sensitivity assumes 1% decline in natural gas demand by 2020 and a 2% decline by 2030, and that efficiency gains would to reduce net electric loads by 1% in 2020 and 2% by 2030.
  - The demand and net load decline can be contributed to greater penetration of electric and gas energy efficiency and demand-side management programs, thermal heating applications, non-natural gas-powered distributed electric generation and increased renewable policy goals.
- This sensitivity does not cause significant impact in the New England natural gas market due to limited demand reduction, but does result in lower electricity prices towards the end of the analysis period.
- On average, under the Negative Demand Growth Case, New England customers will save $90 million per year than under the Low Demand Scenario and almost $500 million per year than under the Base Case.

Total Benefits for Infrastructure Solutions (in Millions of Dollars)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total	Average
Negative Demand Growth over Low Demand Scenario	$ 68	$ 58	$ 55	$ 42	$ 59	$ 77	$ 101	$ 47	$ 82	$ 124	$ 132	$ 132	$ 75	$ 112	$ 88	$ 179	$ 1,433	$ 90
Negative Demand Growth over Base Case Scenario	$ 401	$ 380	$ 386	$ 226	$ 246	$ 274	$ 336	$ 381	$ 391	$ 565	$ 664	$ 654	$ 714	$ 757	$ 778	$ 808	$ 7,959	$ 497

Conclusions and Recommendations – High and Low Demand Scenarios

- Short-term and long-term solutions are needed to relieve the natural gas market constraints in New England under the High Demand Scenario.
- Under the High Demand Scenario, Black & Veatch recommends the construction of a Cross-Regional Natural Gas Pipeline as a long-term solution because it provides the highest net benefits to New England customers.
- No Long-term Infrastructure Solutions are needed under the Low Demand Scenario.

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- **Executive Summary – High and Low Demand Scenarios**
- **High Demand Scenario Results**
  - **High Demand – No Incremental Infrastructure**
  - High Demand – Long-term and Short-term Infrastructure Solution Sensitivities
  - High Demand – Design Day Weather Sensitivity
- **Low Demand Scenario Assumptions and Results**
  - Low Demand – No Incremental Infrastructure
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High Demand Case Assumptions

Power

1. Lower energy efficiency achievement increases net load growth
2. New England states are expected to meet 75% of their RPS targets, rather than the 100% assumed in the Base Case.
3. Expedited nuclear power plant deactivations increase natural gas demand, due to assumed energy replacement from gas-fired power generators.

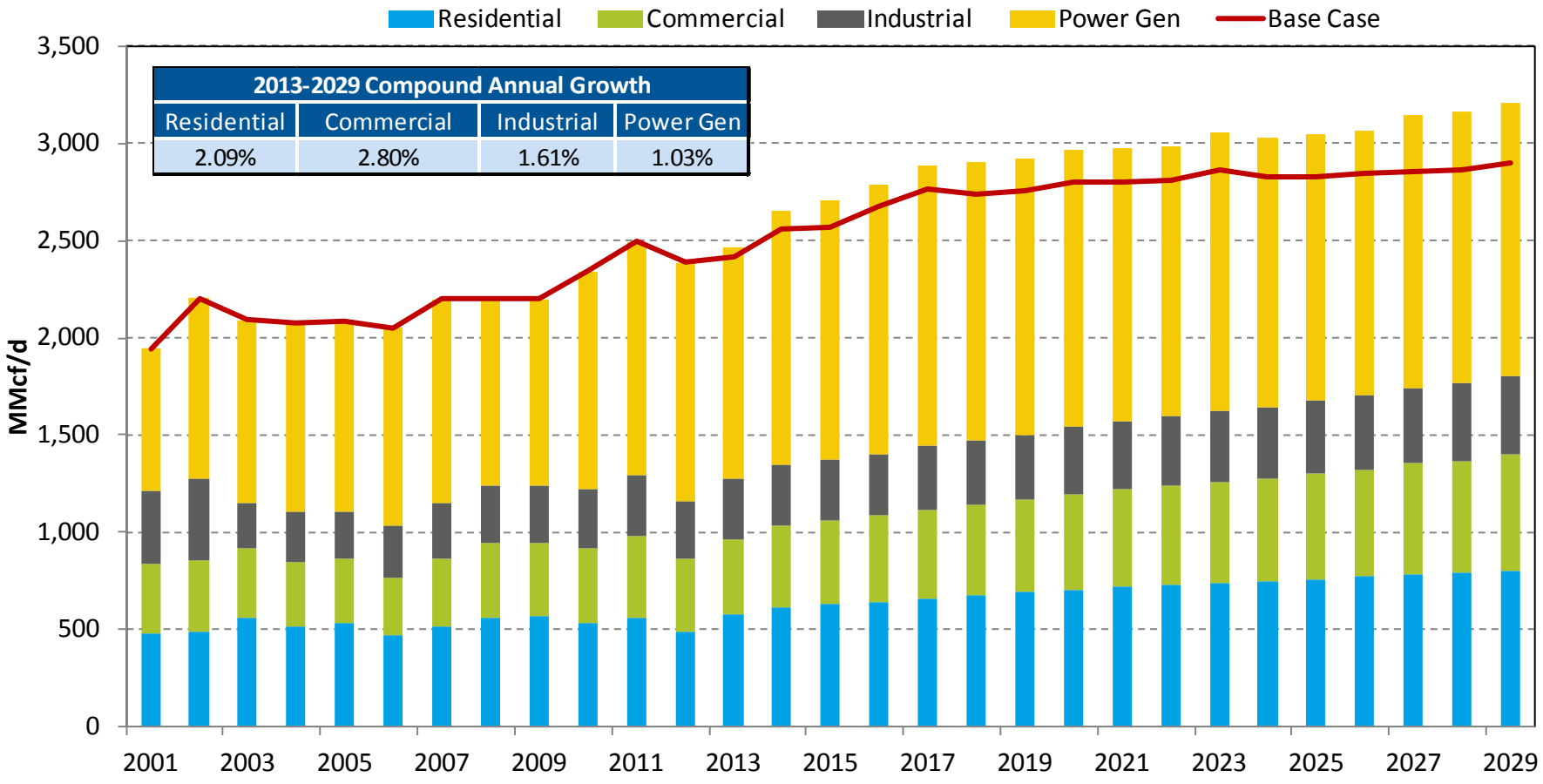
Natural Gas

1. All New England states implement incentives to encourage increased residential and commercial usage of gas similar to Connecticut's Comprehensive Energy Strategy.
2. An additional 4 Bcf/d of LNG (relative to the Base Case) is assumed to be exported from the Gulf Coast and West Coast between 2017 and 2020
3. No regulation on hydraulic fracturing
4. No stricter control on usage and treatment for water used in hydraulic fracturing
5. No collapse in natural gas liquids price
6. Economic based MN&P pipeline reversal

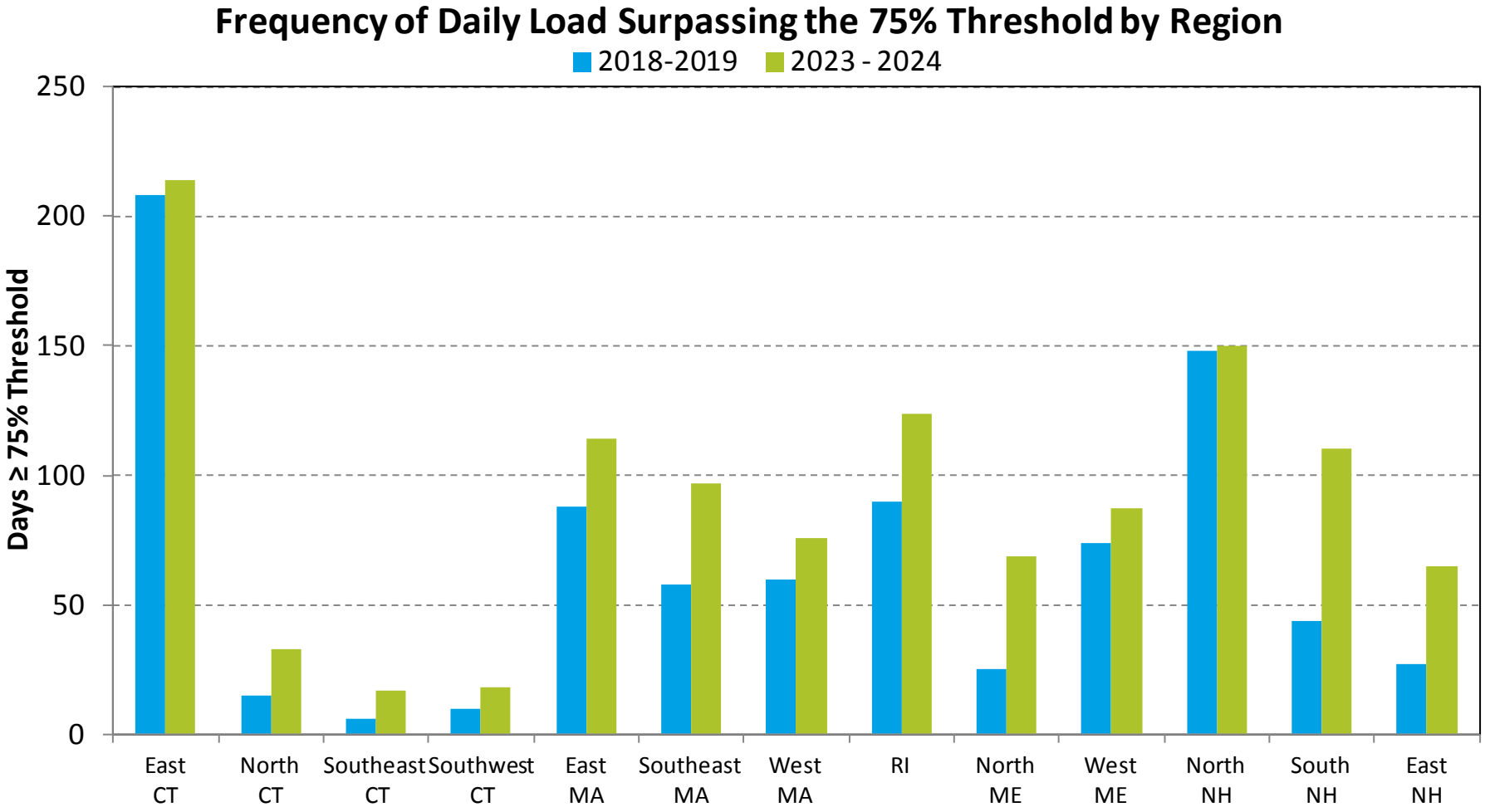
Model Runs under the High Demand Scenario

	BASE CASE	HIGH DEMAND SCENARIO
Long-Term Solutions	Cross-Regional Natural Gas Pipeline	Cross-Regional Natural Gas Pipeline
	Firm-Based Energy Imports (firm-contracted electricity from eastern Canada)	Firm-Based Energy Imports
	Economic-Based Energy Imports (market-driven electricity from eastern Canada)	
Short-Term Solutions	LNG Imports	LNG Imports
	Dual-Fuel Generation and Demand Response	
Additional Sensitivities		Design Day

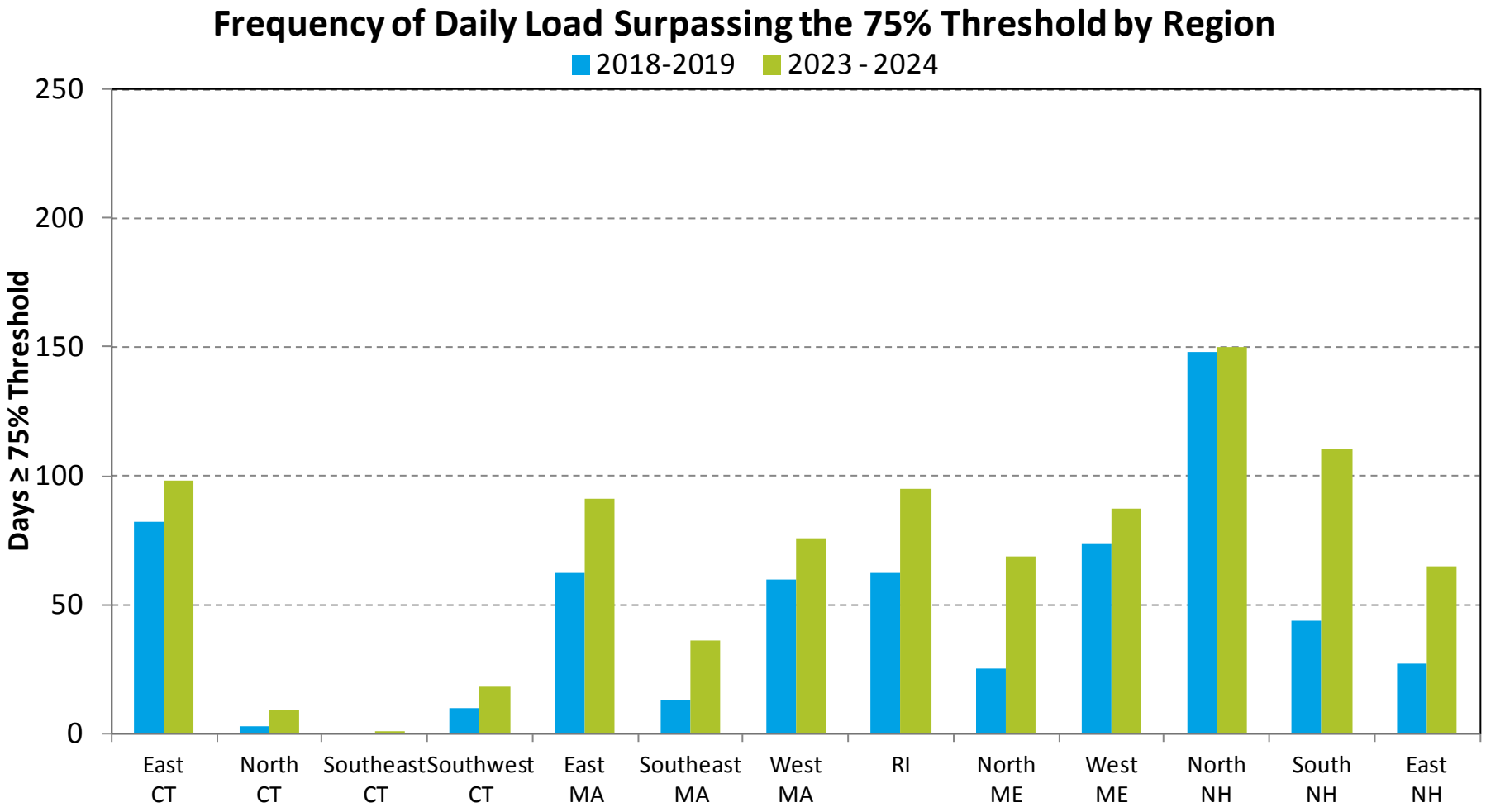
New England Historical and Projected Natural Gas Demand – High Demand Scenario



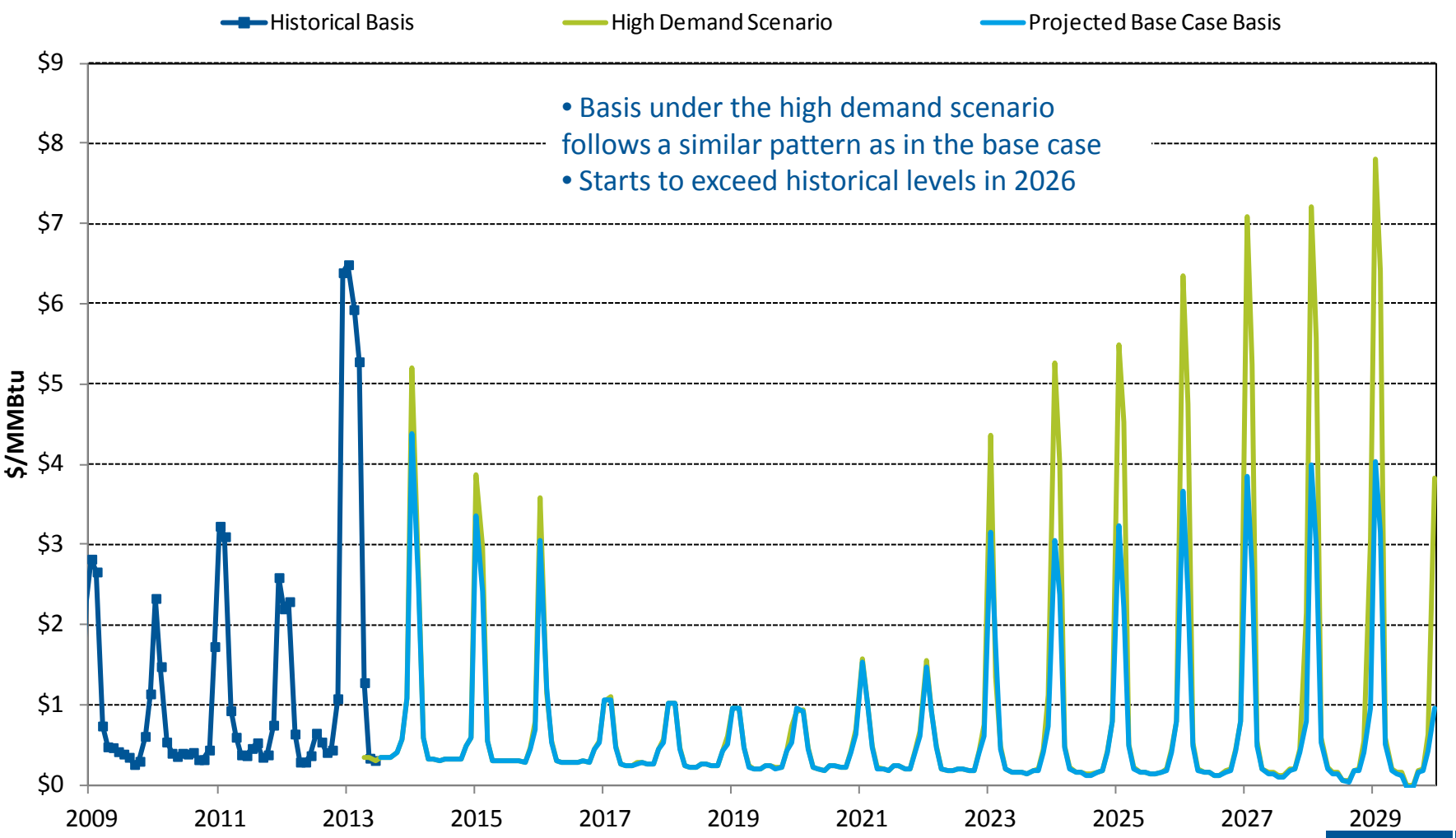
Under a High Demand Scenario, without Spectra's AIM project, days with pipeline constraints could exceed 200 days



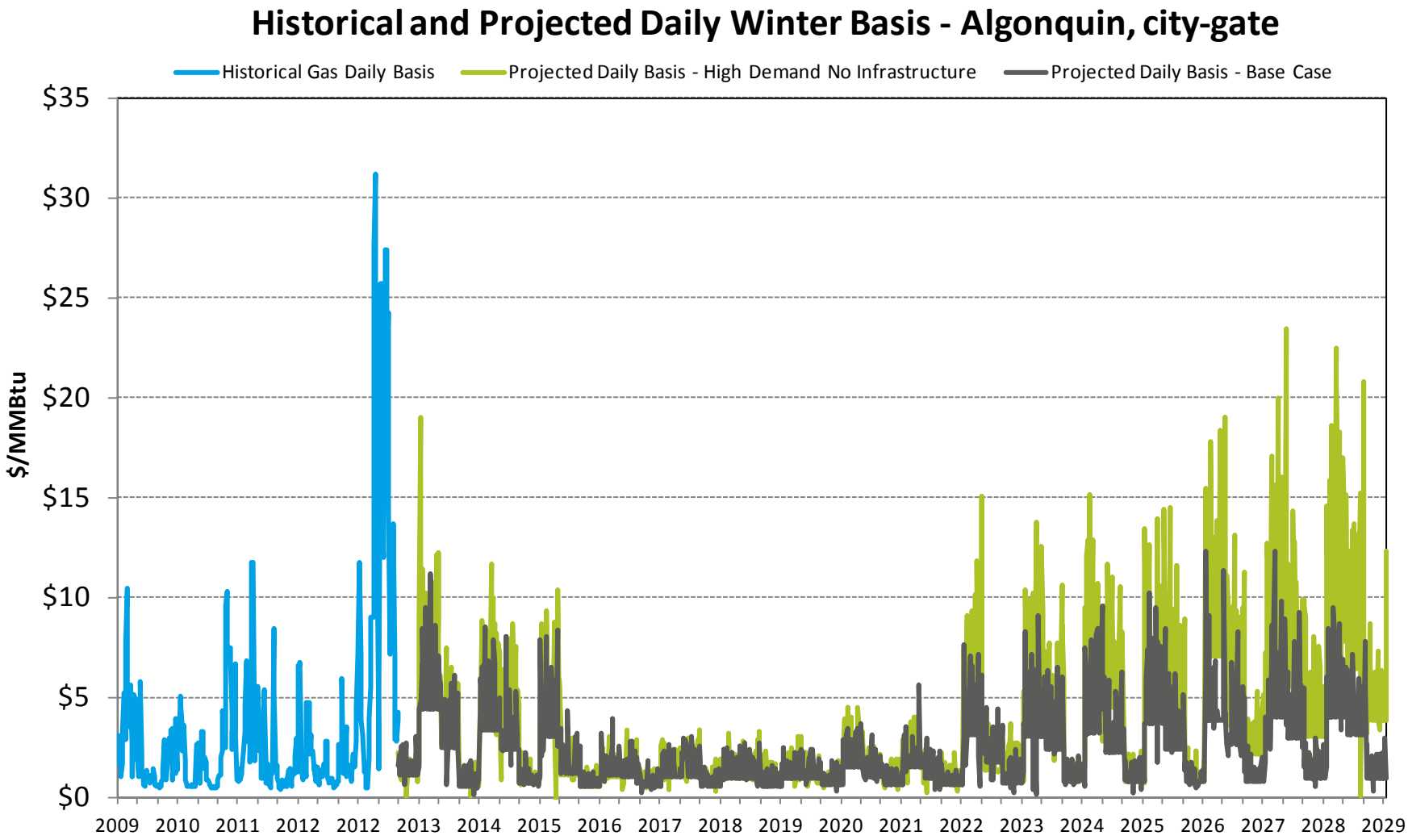
With Spectra's AIM Project, days with pipeline constraints are reduced for Connecticut, Massachusetts and Rhode Island



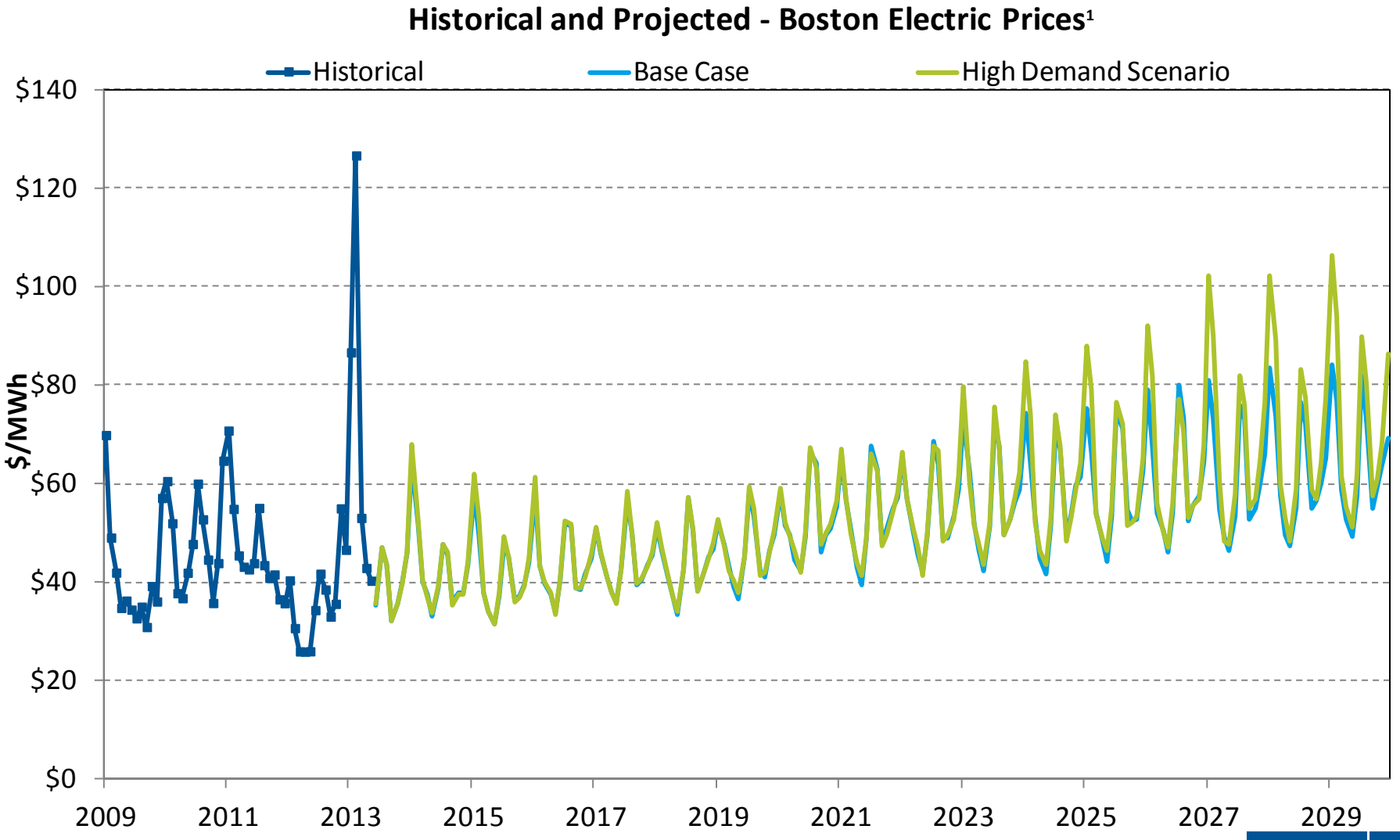
Historical and Projected Natural Gas Basis in New England – High Demand No Incremental Infrastructure



New England basis spikes experienced in early 2013 are very likely to return under the High Demand Scenario



Historical and Projected Electricity Price in New England – High Demand No Incremental Infrastructure



[1] For the graphic presentation of the electricity price impacts of different solutions in this analysis, Black & Veatch chose Boston as a corresponding electricity price location to Algonquin City-Gates. Black & Veatch selectively graphed the price impacts at other New England electricity zones to confirm that they are similar to Boston's.

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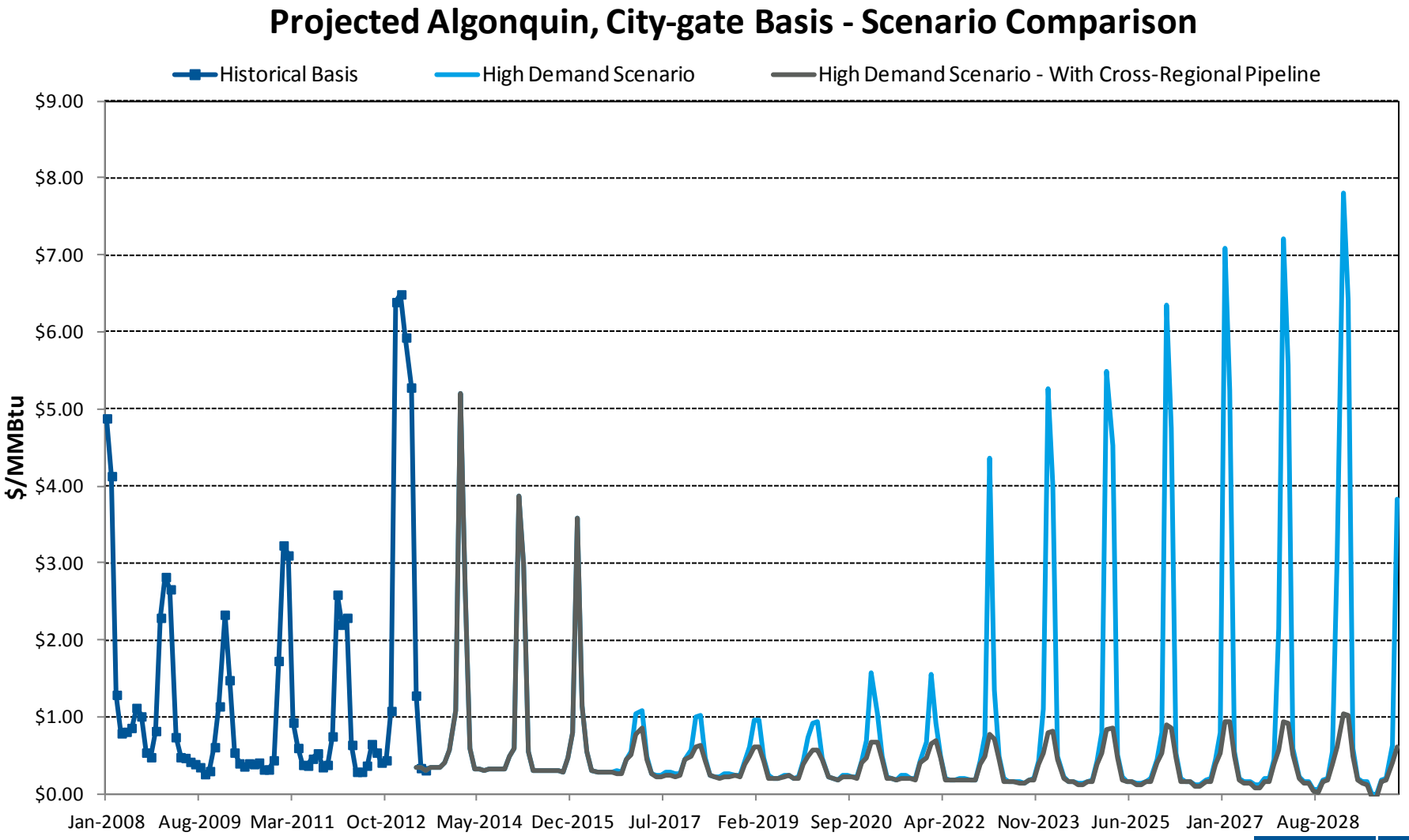
  - Low Demand – Negative Demand Growth Sensitivity

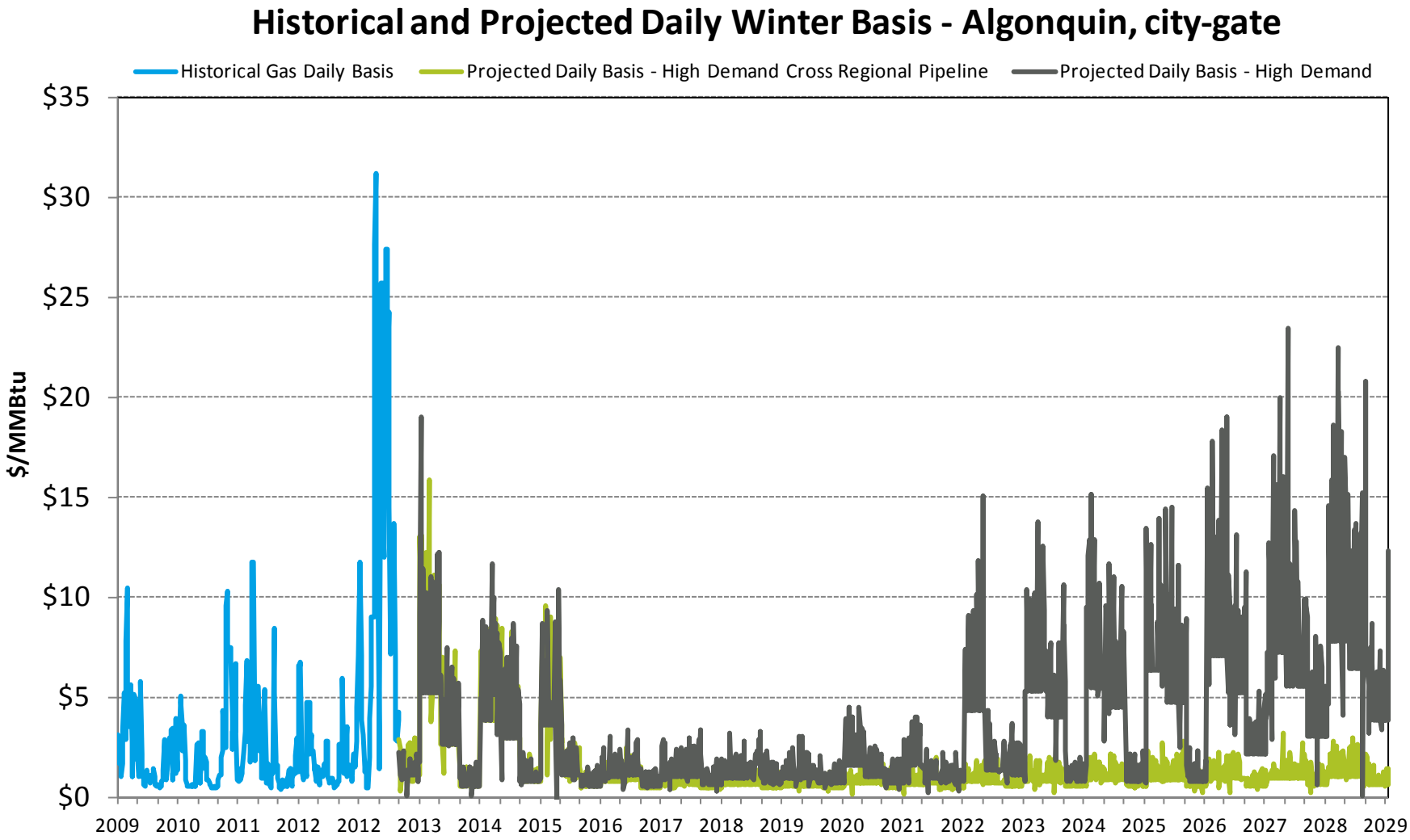
High Demand Scenario Solutions – Long Term

- Black & Veatch tested the same long-term solutions under the high demand scenario as it proposed for the base case:
  - Cross-Regional Natural Gas Pipeline
  - Firm-based Energy Imports
- The configurations, capacities, and costs associated with these solutions are identical to those used in the Base Case.

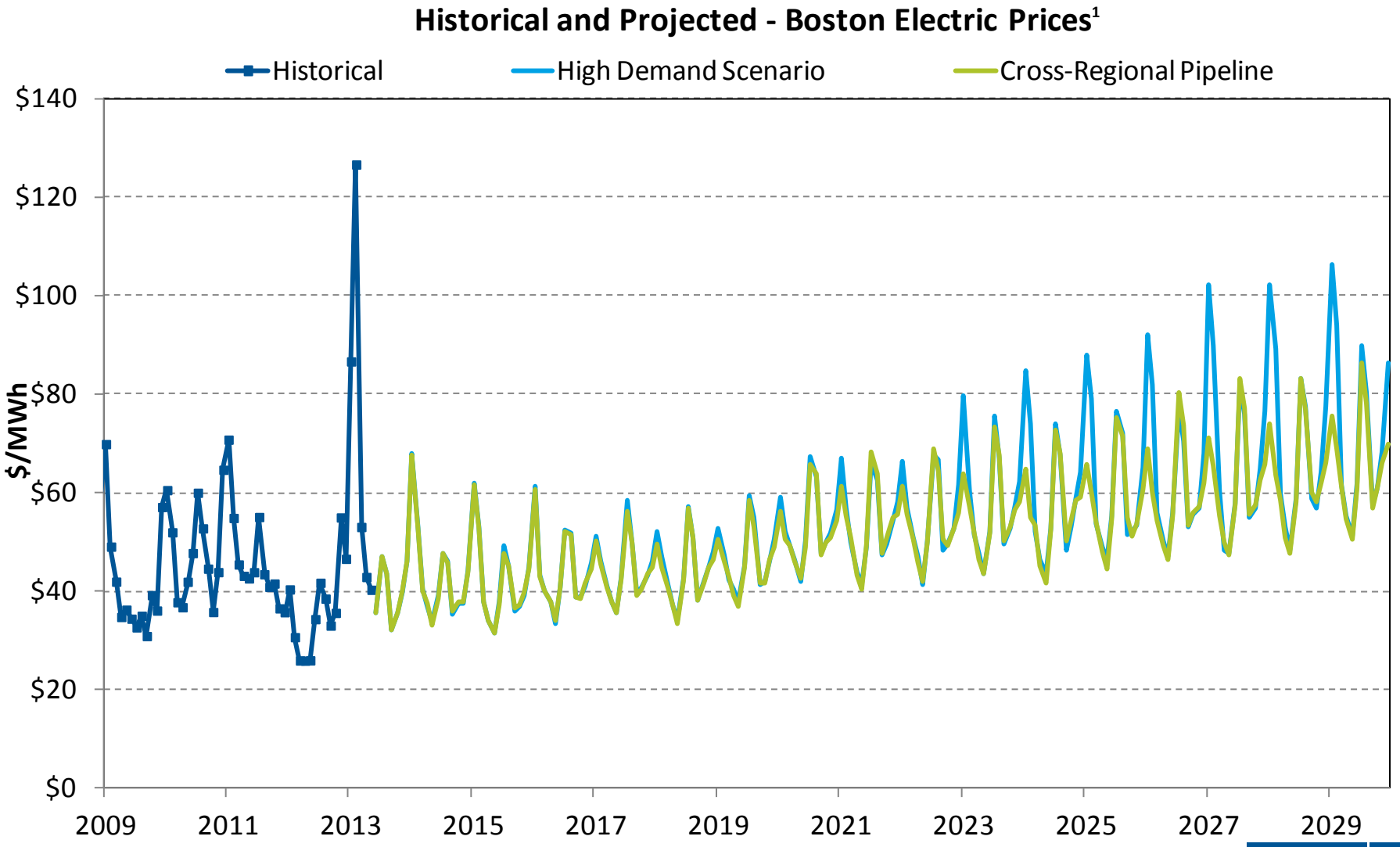
Historical and Projected Natural Gas Basis in New England – High Demand Scenario with Cross-Regional Pipeline



Historical and Projected Winter Daily Basis – High Demand with Cross-Regional Pipeline



Historical and Projected Electricity Price in New England – High Demand No Incremental Infrastructure



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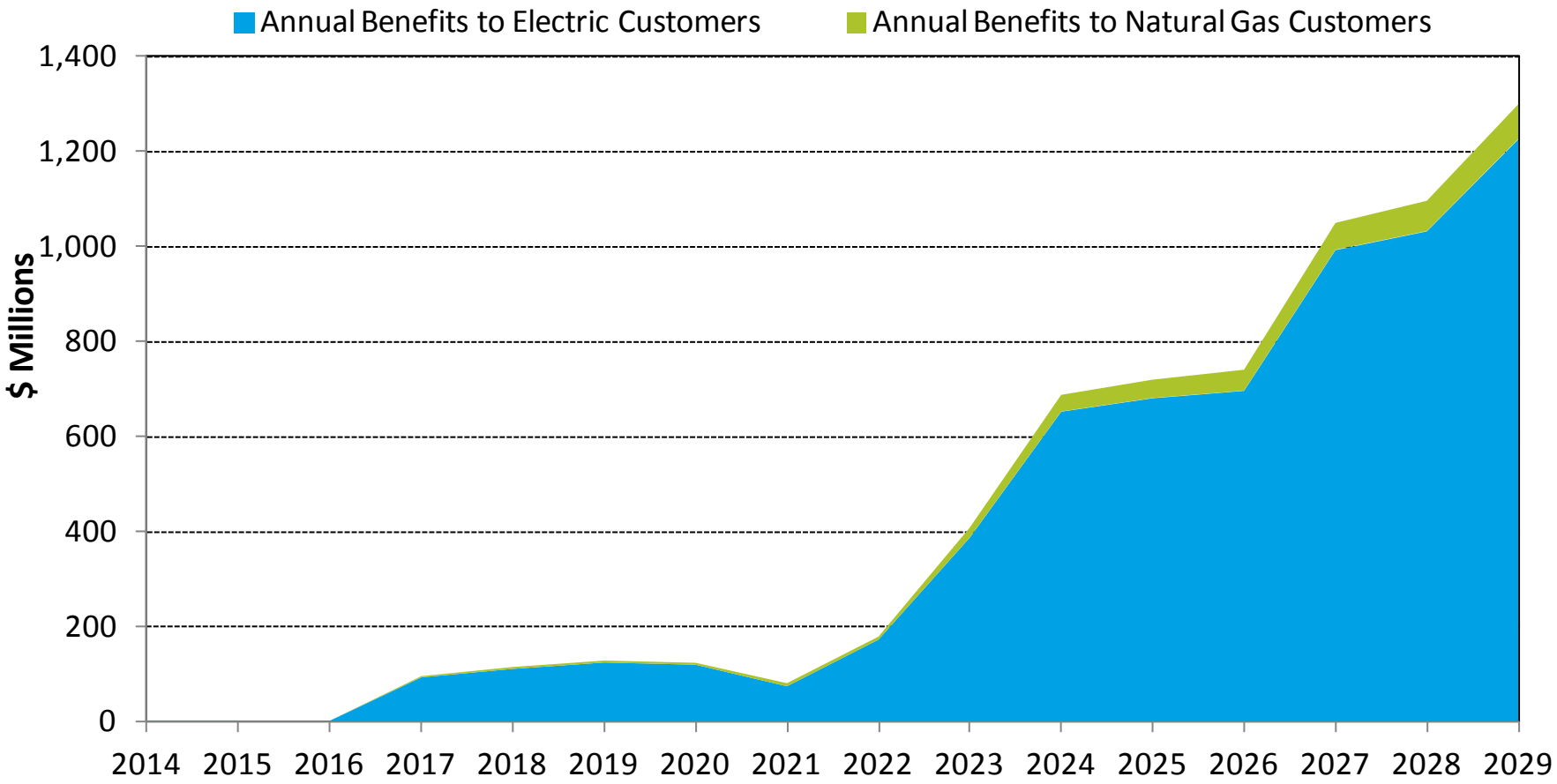
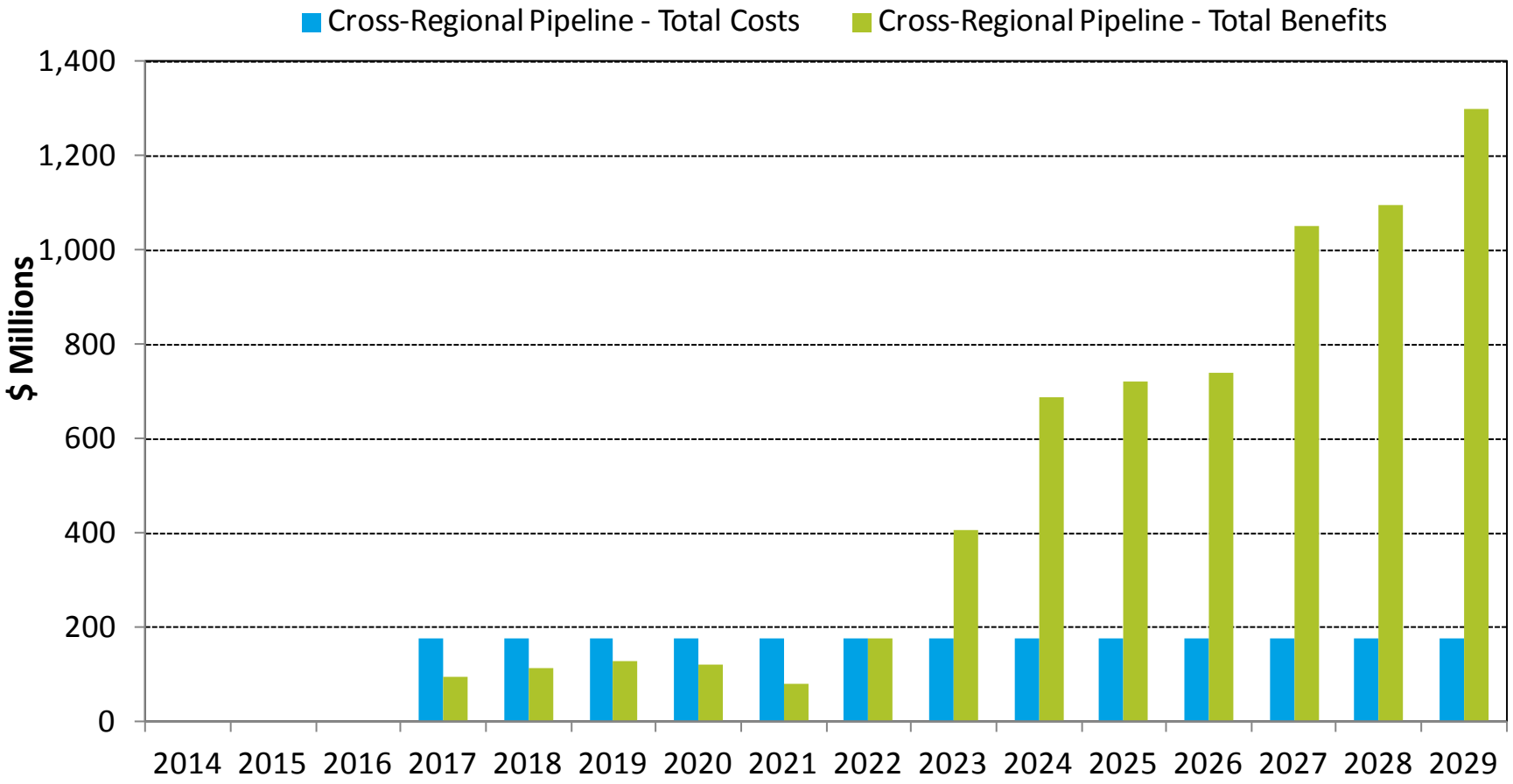
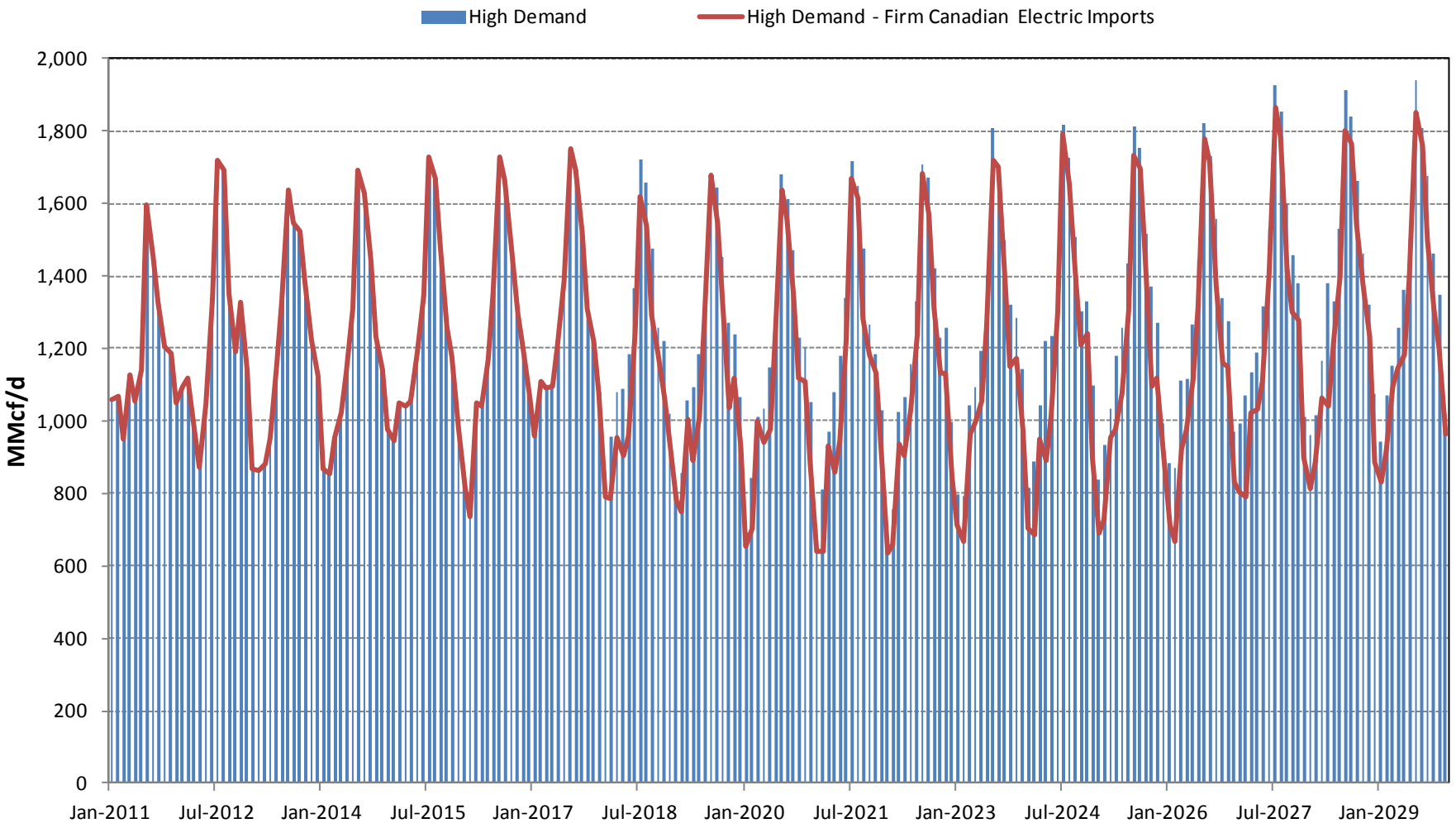
Electric and Natural Gas Customer Benefits – High Demand with Cross-Regional Pipeline



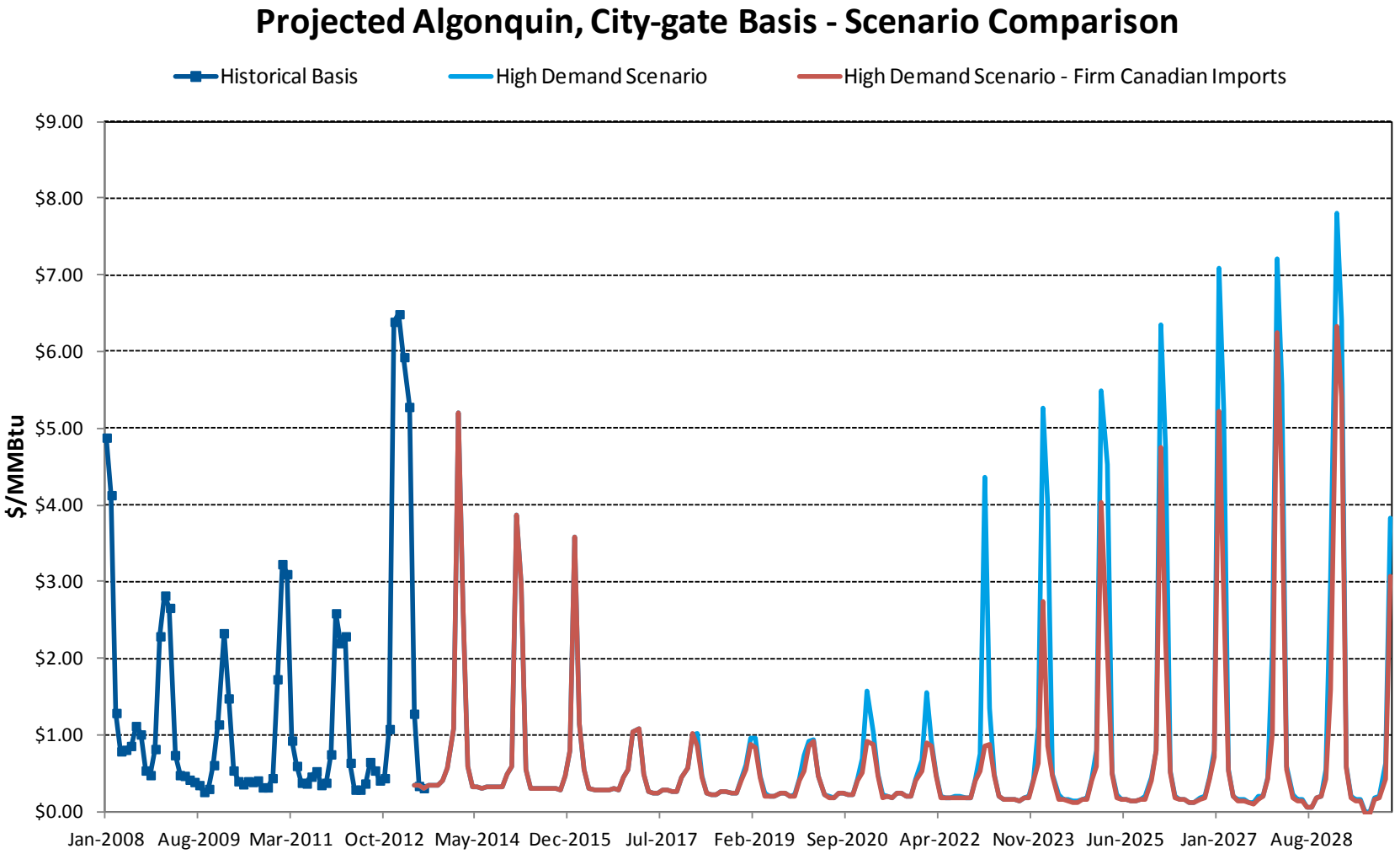
Projected Cost and Benefits – High Demand with Cross-Regional Pipeline



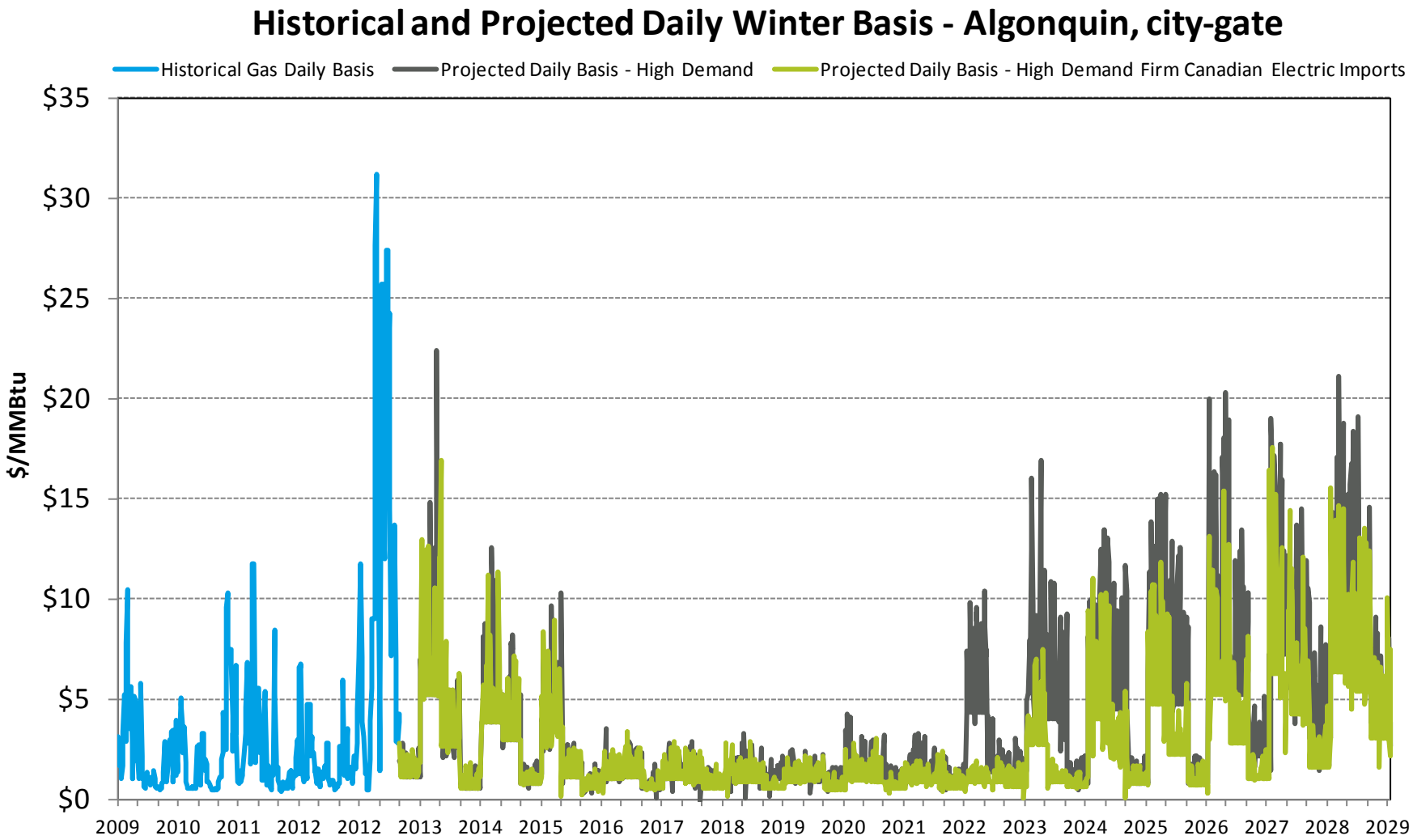
Natural Gas Power Demand in New England – High Demand Scenario vs. High Demand with Firm Energy Imports



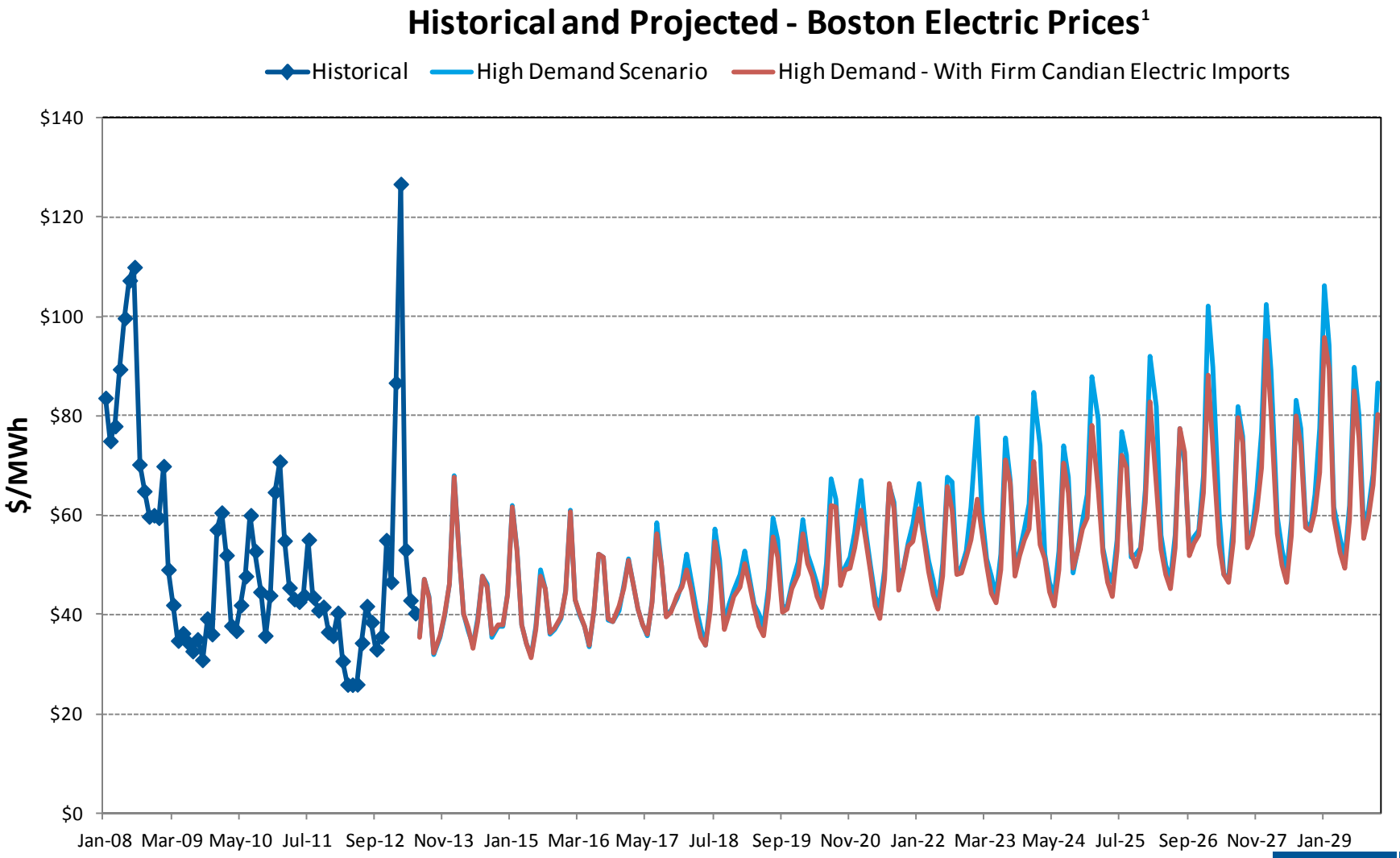
Historical and Projected Natural Gas Basis in New England – High Demand Scenario with Firm-Based Energy Imports



Projected Winter Daily Basis – High Demand with Firm-Based Energy Imports



Historical and Projected Electricity Price in New England – High Demand No Incremental Infrastructure



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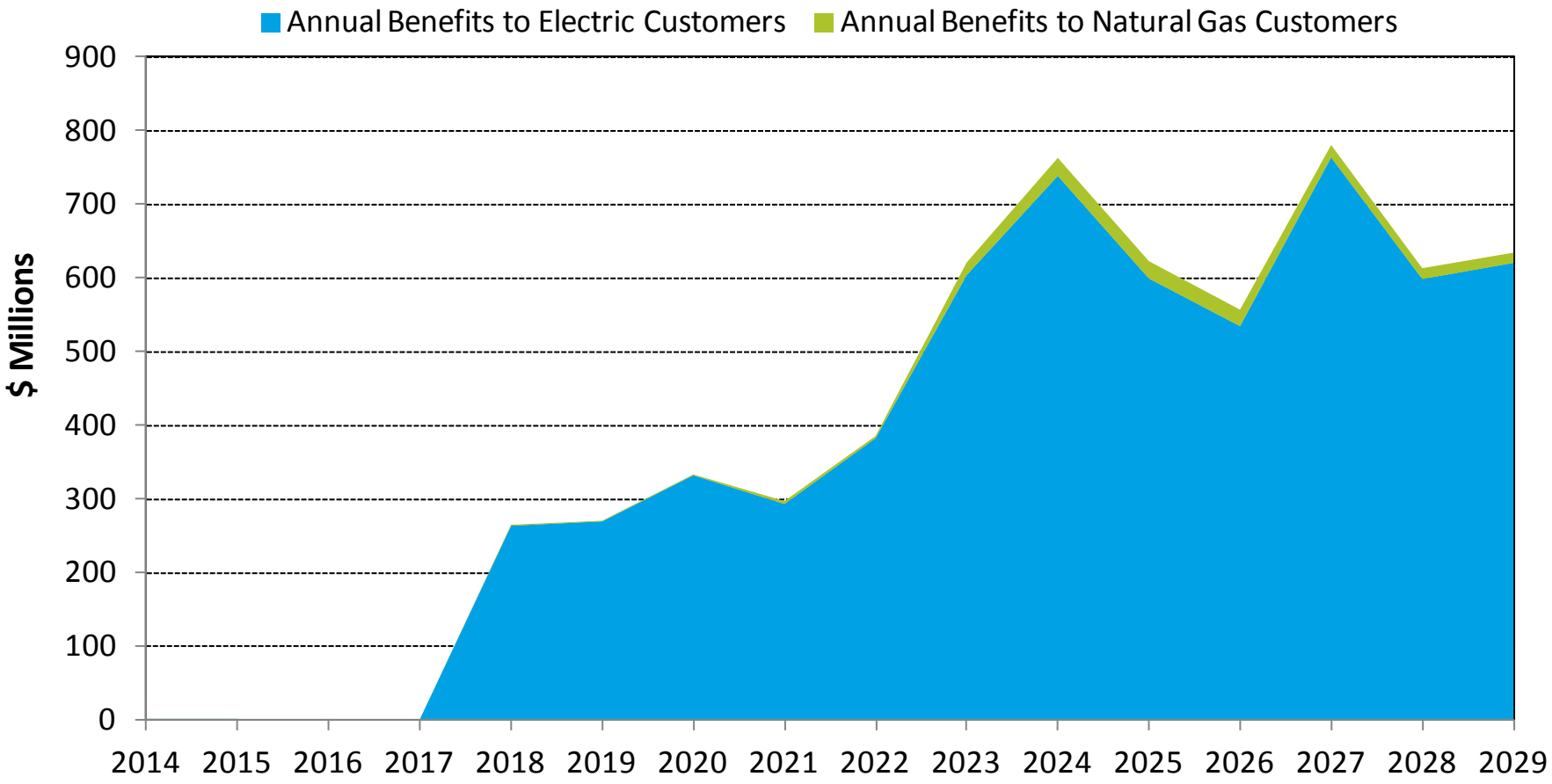
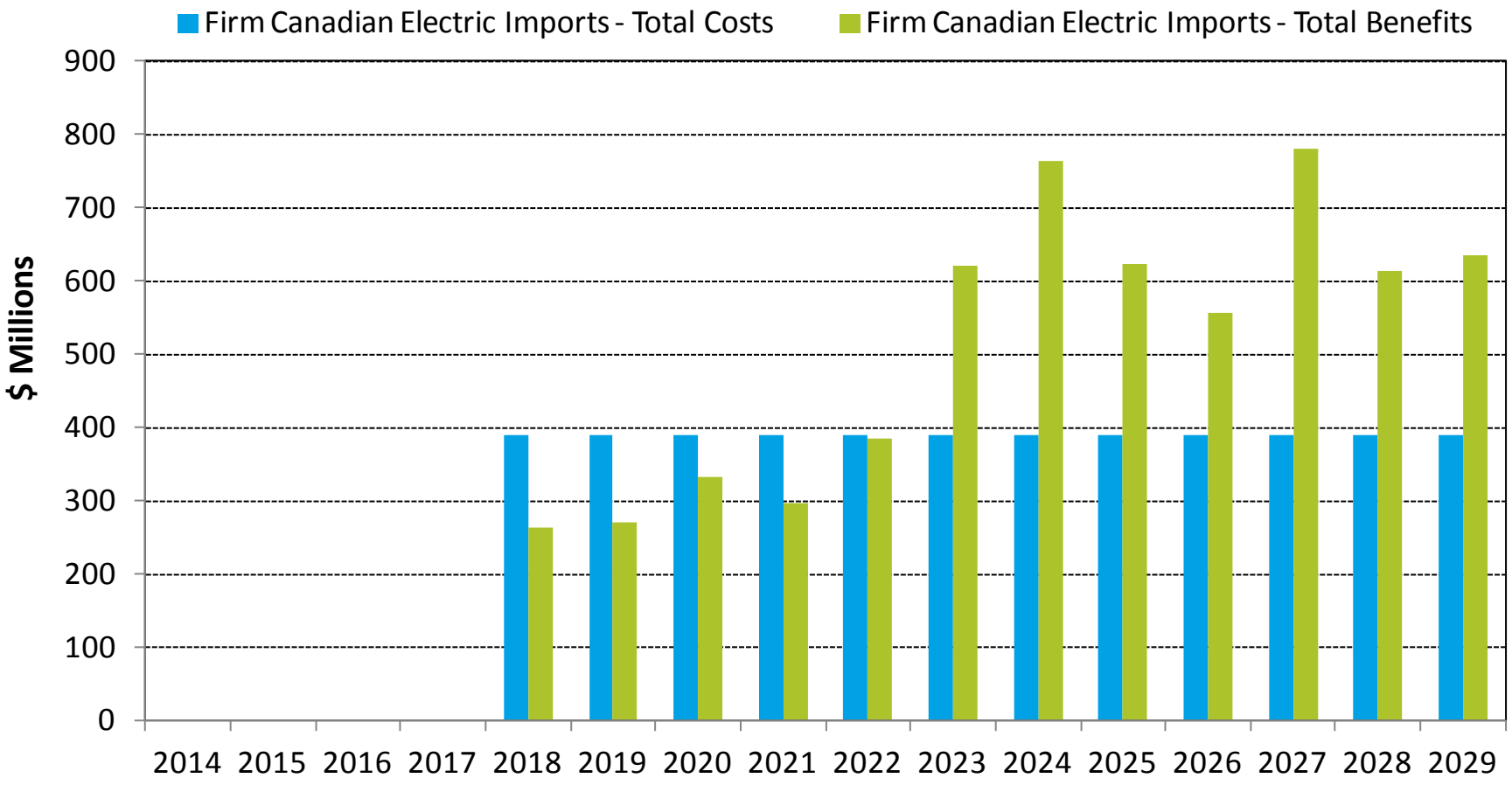
Electric and Natural Gas Customer Benefits – High Demand with Firm-Based Imports



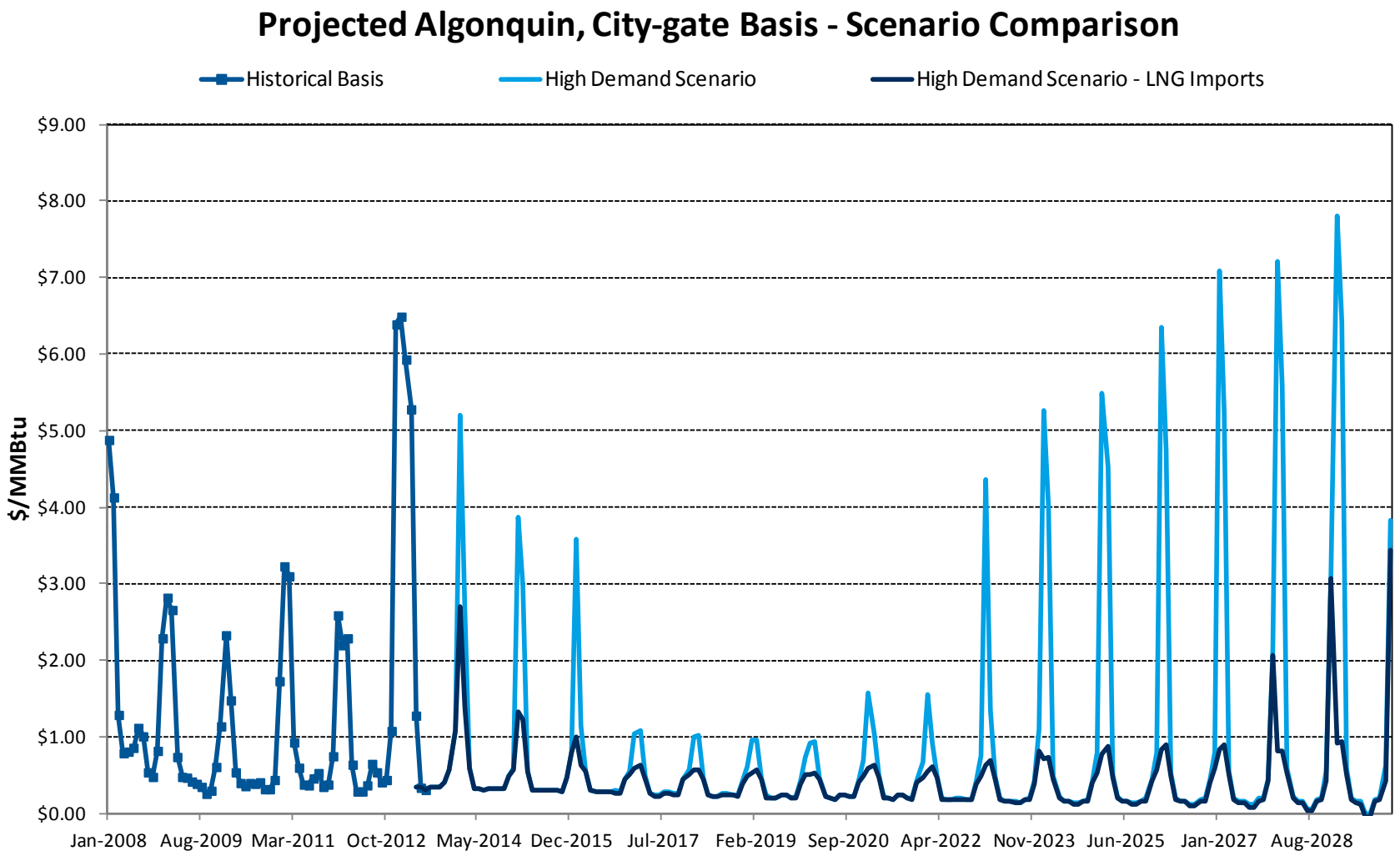
Projected Cost and Benefits – Firm-Based Energy Imports



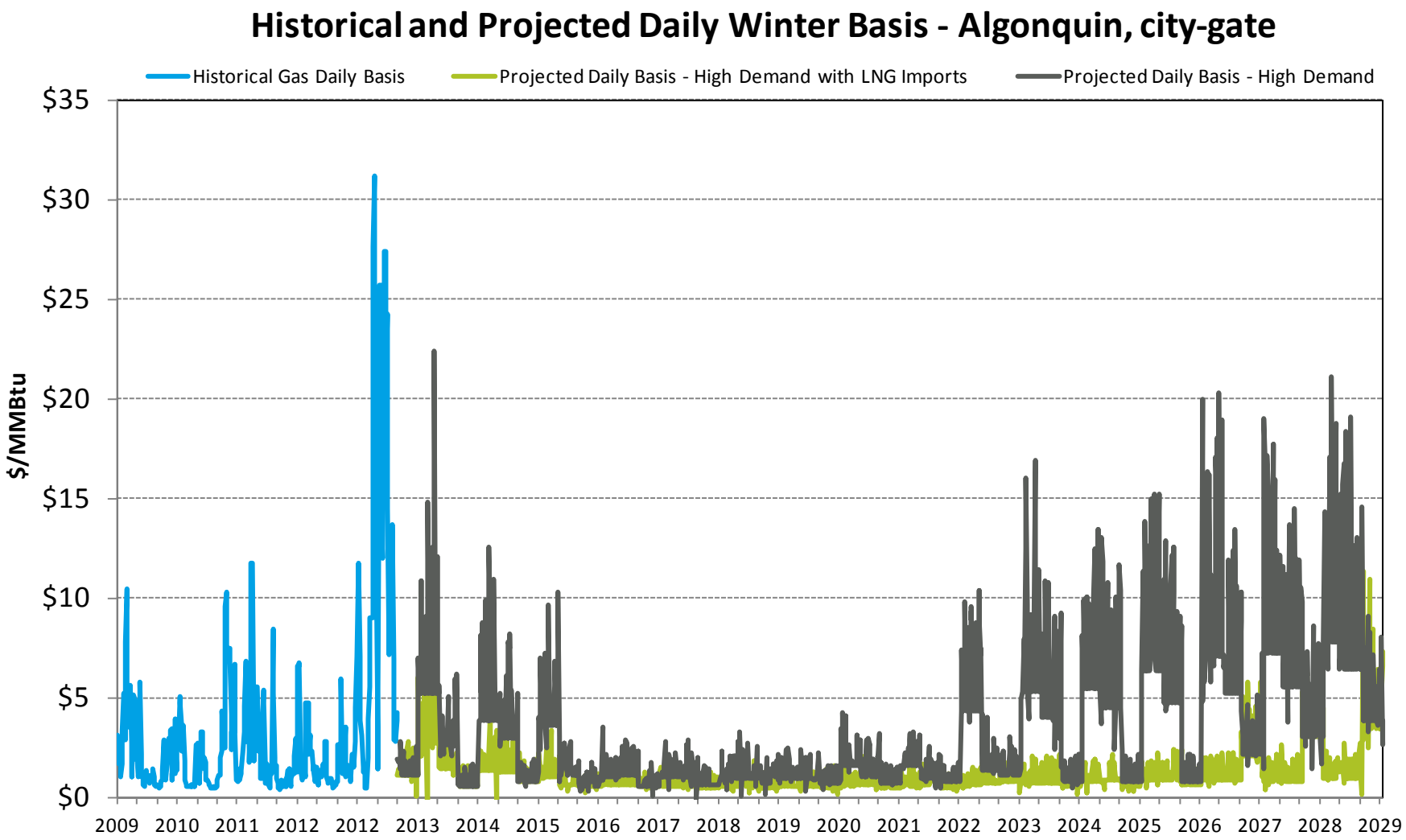
High Demand Scenario Solutions – Short Term

- Black & Veatch tested the LNG imports solution under the High Demand Scenario.
- The volume, price and dispatch time assumption of the LNG imports solution are identical to those used in the Base Case.

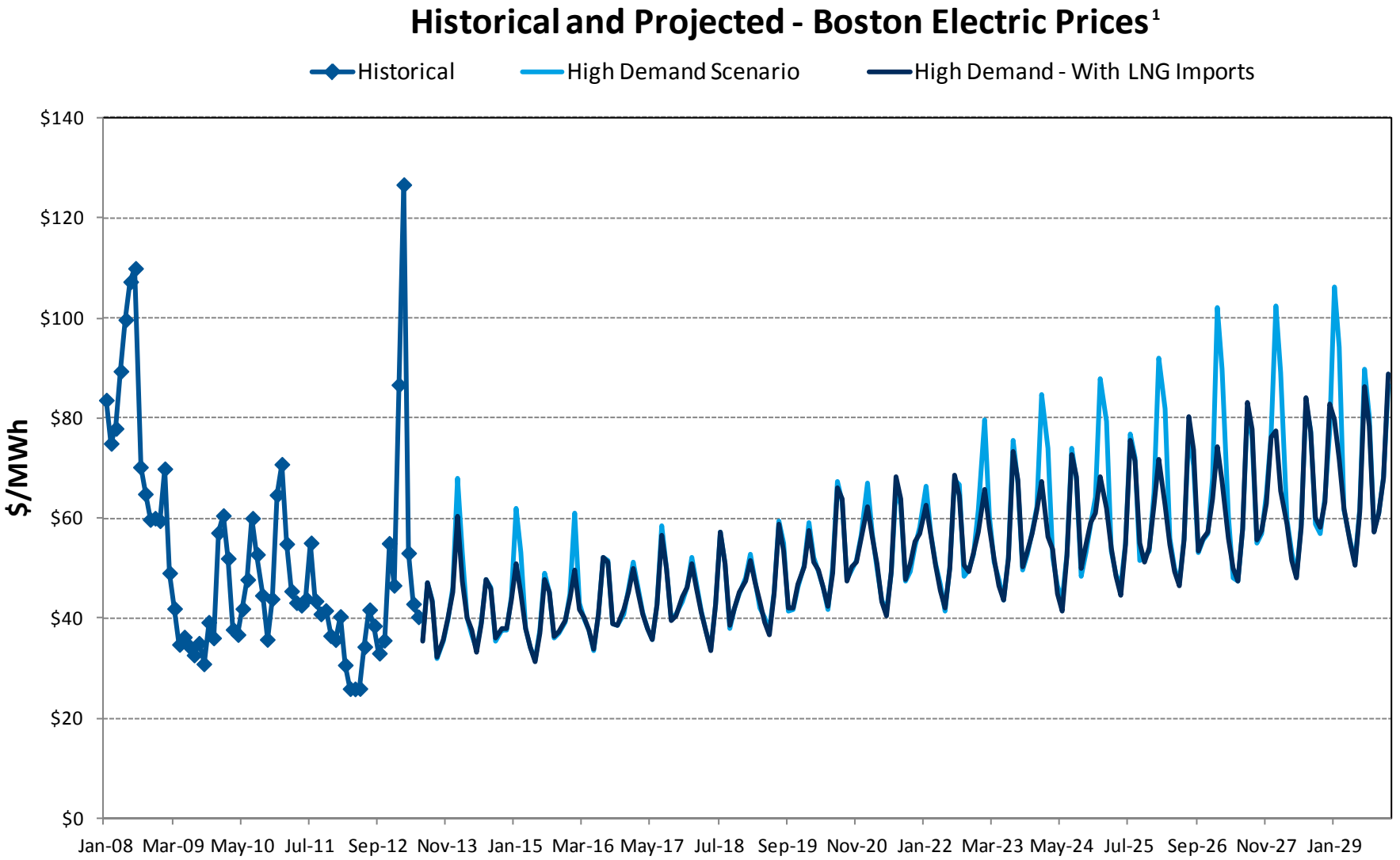
Historical and Projected Natural Gas Basis in New England – High Demand Scenario with Short-term LNG Imports



Historical and Projected Winter Daily Basis – High Demand with Short-term LNG Imports



Historical and Projected Electricity Price in New England – High Demand with Short-term LNG Imports



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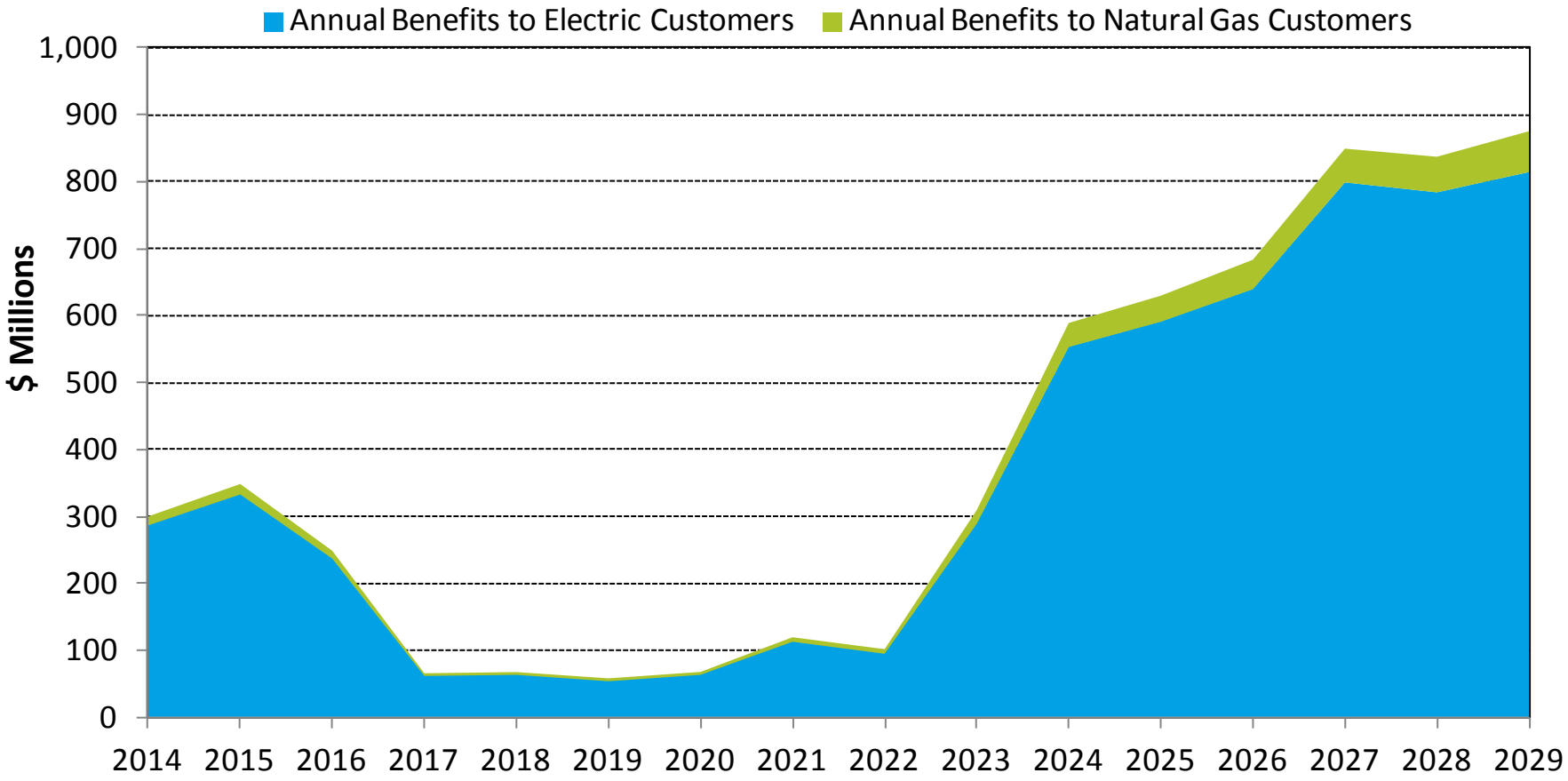
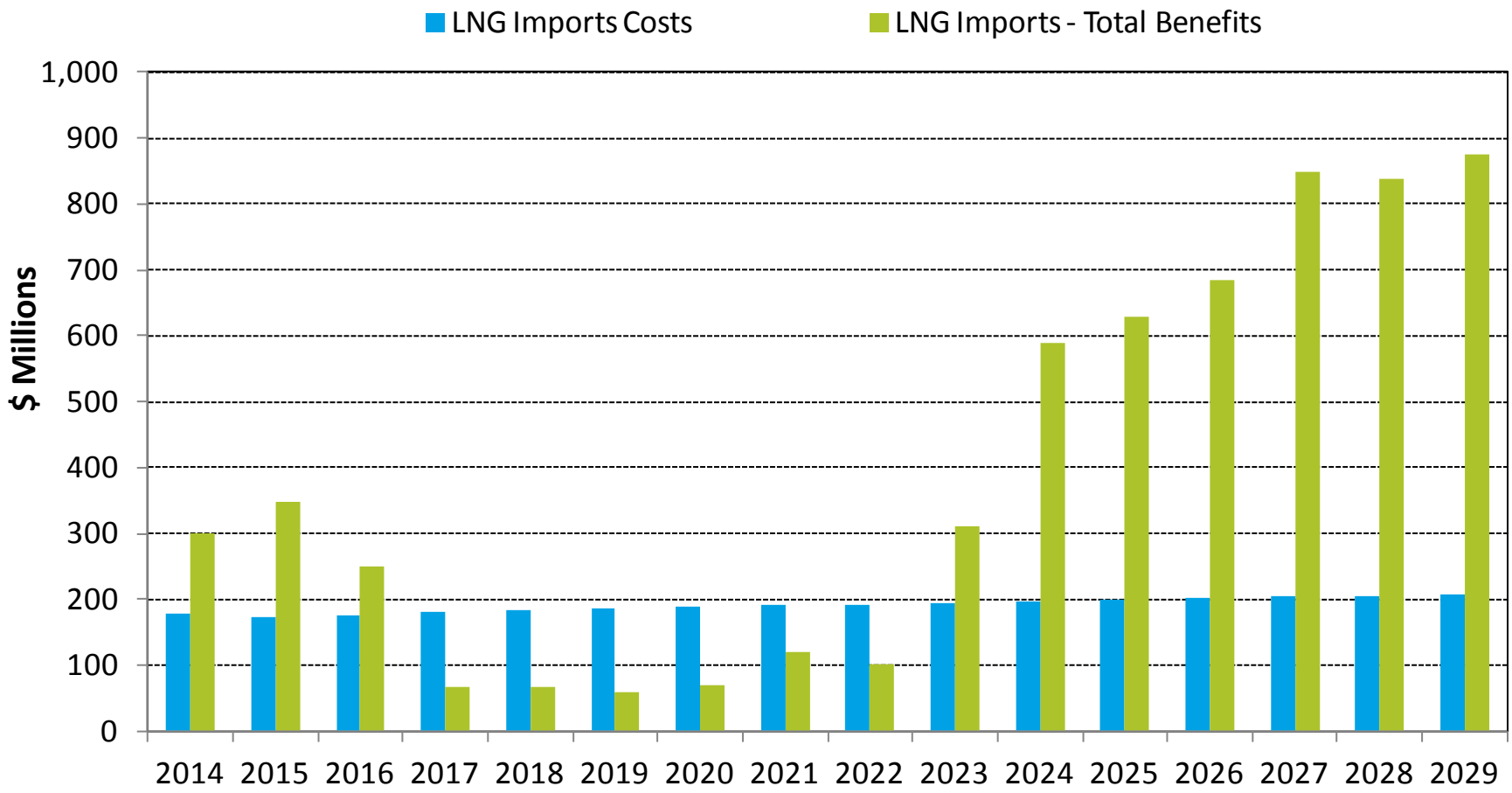
Projected Electric and Natural Gas Benefits – High Demand with Short-term LNG Imports



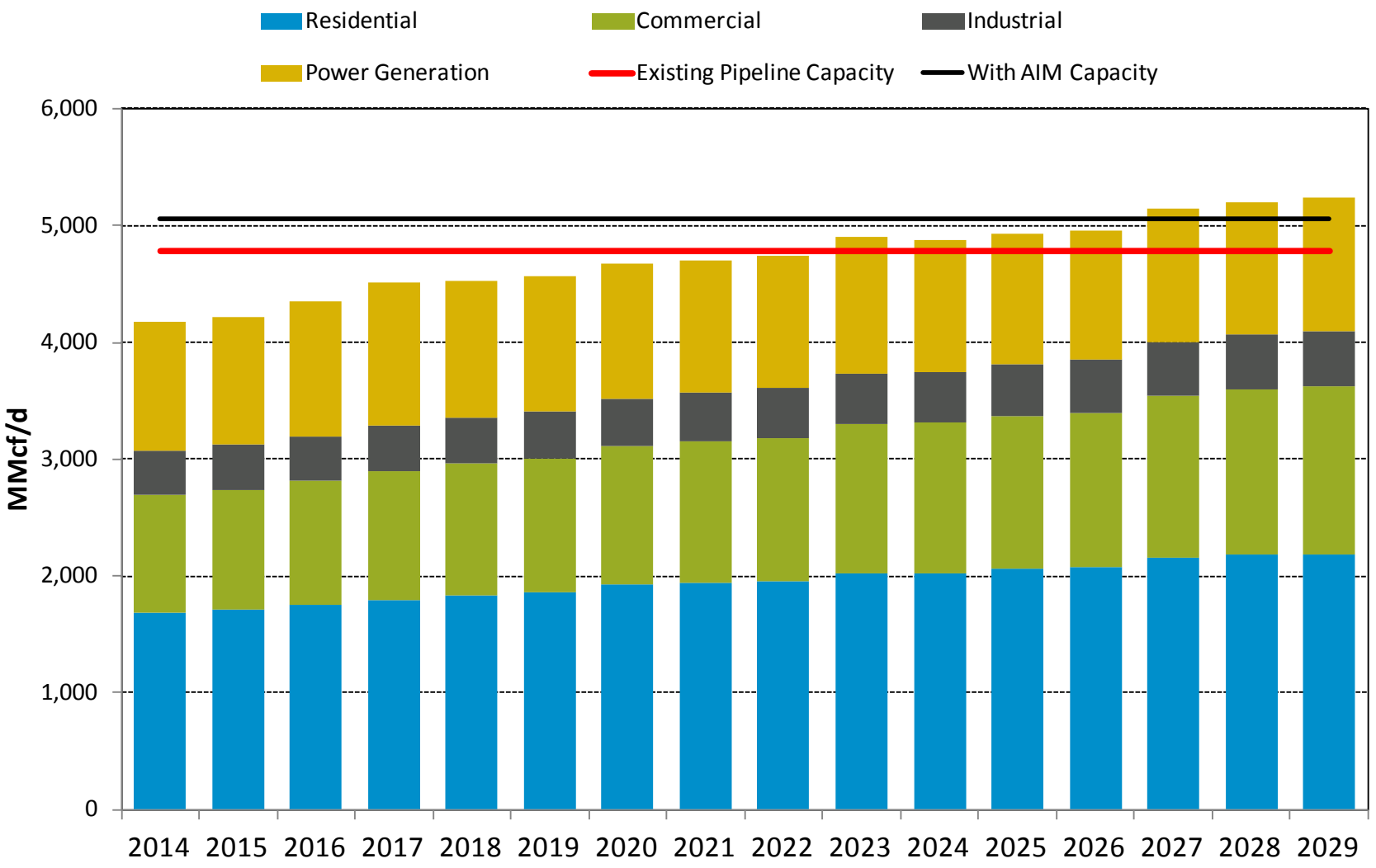
Projected Cost and Benefits – High Demand with Short-term LNG Imports



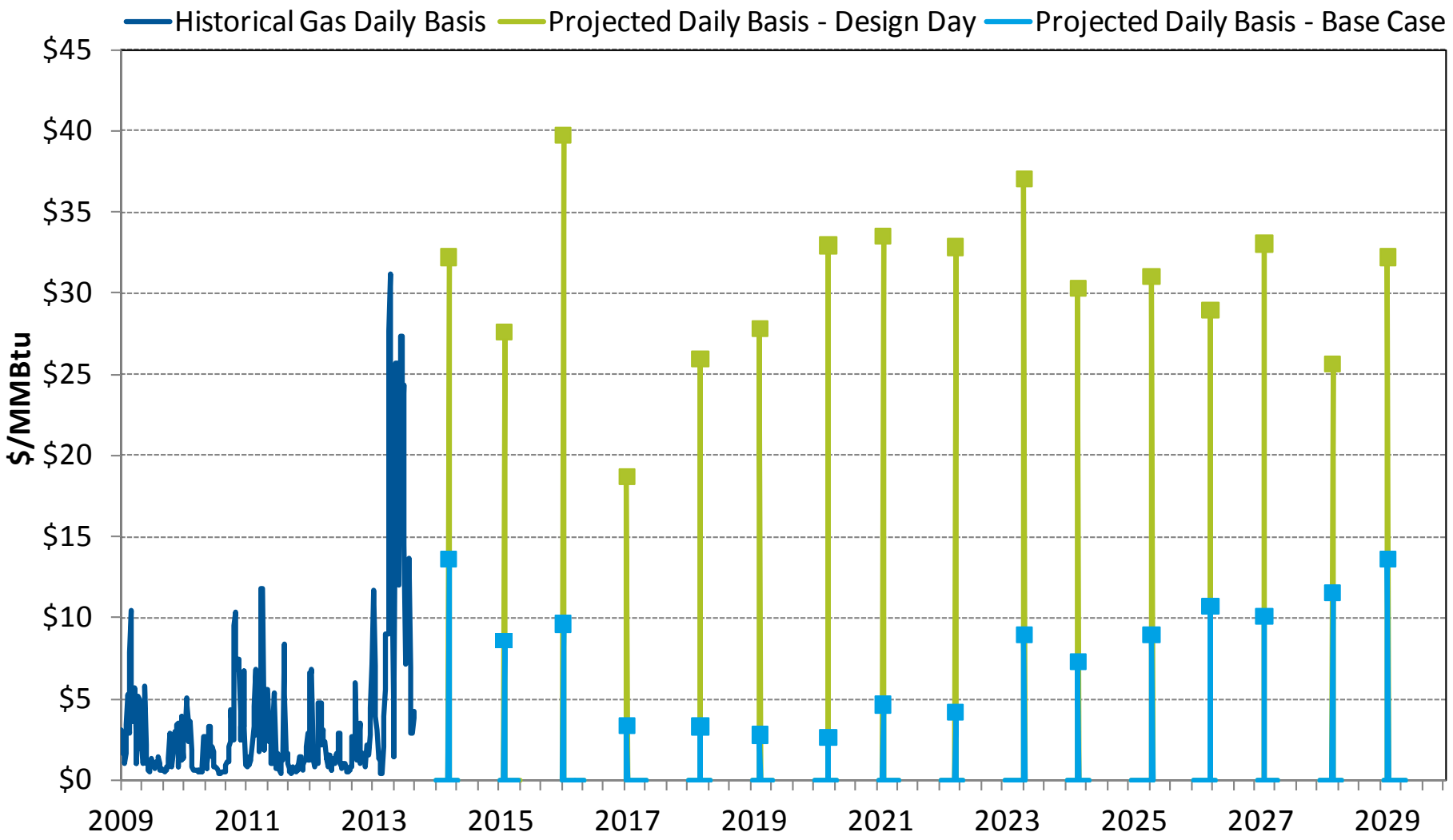
High Demand Scenario Sensitivity – Design Day

- Black & Veatch analyzed historical weather data for the period of 1983 through 2013.
- Monthly residential and commercial demand was analyzed from 1989, the first year for which historical monthly residential and commercial data are publically available from the Energy Information Agency ("EIA").
- The correlation between winter weather and residential and commercial demand changes over time.
    - Used the relationship estimated from winter 2008 through 2013 when the correlation is the strongest.
- The demand adjustment was based on the calculation that had January 2004 been as cold as its coldest seven days, New England residential and commercial consumption for this month would have been 2.56 times the 2004 annual average. Thus, the 2.56 multiplier was applied to the baseline High Demand Scenario forecast to construct January residential and commercial demand with design-day weather conditions for every year through the analysis period.

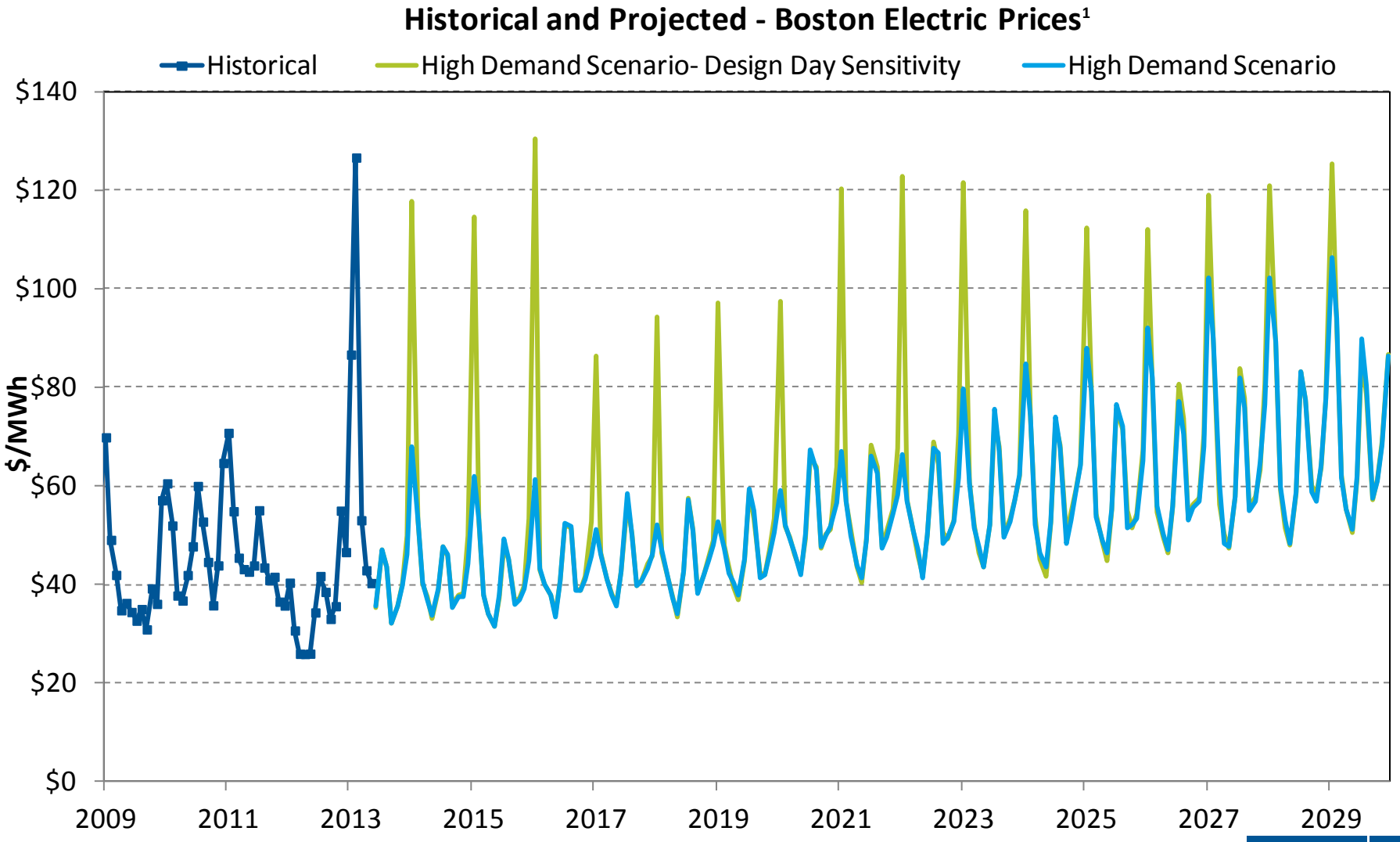
Projected Design Day Demand in New England



Design day conditions cause New England basis spikes throughout the analysis period



Design day conditions cause electricity price spikes in New England



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Presentation Outline

- **Executive Summary – High and Low Demand Scenarios**
- **High Demand Scenario Assumptions and Results**
  - High Demand – No Incremental Infrastructure
  - High Demand – Long-term and Short-term Infrastructure Solution Sensitivities
  - High Demand – Design Day Weather Sensitivity
- **Low Demand Scenario Assumptions and Results**
  - Low Demand – No Incremental Infrastructure
  - Low Demand - Long-term and Short-term Infrastructure Solution Sensitivities
  - Low Demand – Negative Demand Growth Sensitivity

Low Demand Scenario Assumptions

Power

1. Flat net load growth – energy efficiency and demand response offset any growth in load

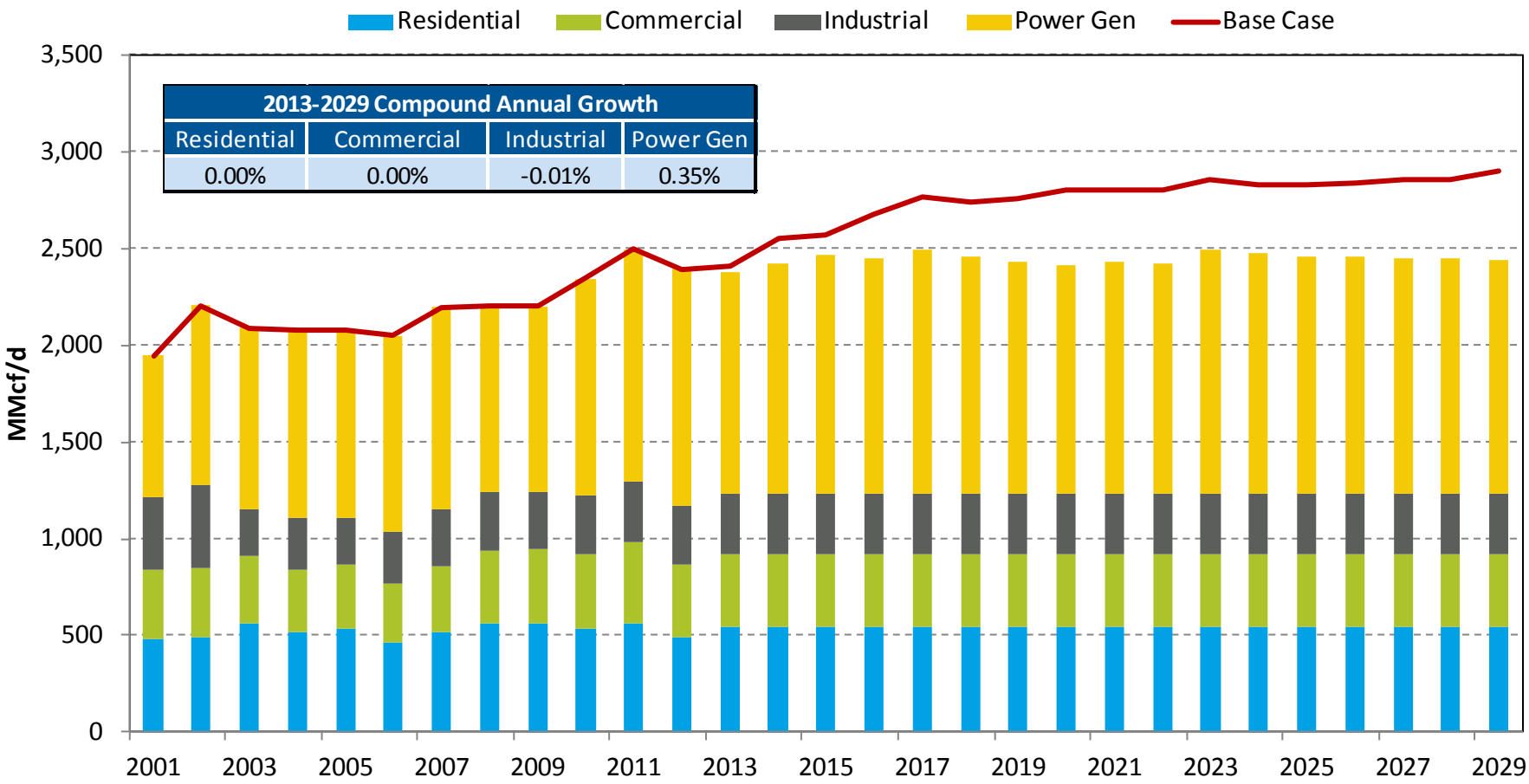
Natural Gas

1. No growth in residential, commercial and industrial demand due to continued decline in per-customer usage, reflective of energy efficiency that offsets increases in the number of customers and successful implementation of distributed renewable resources, such as solar thermal and geothermal

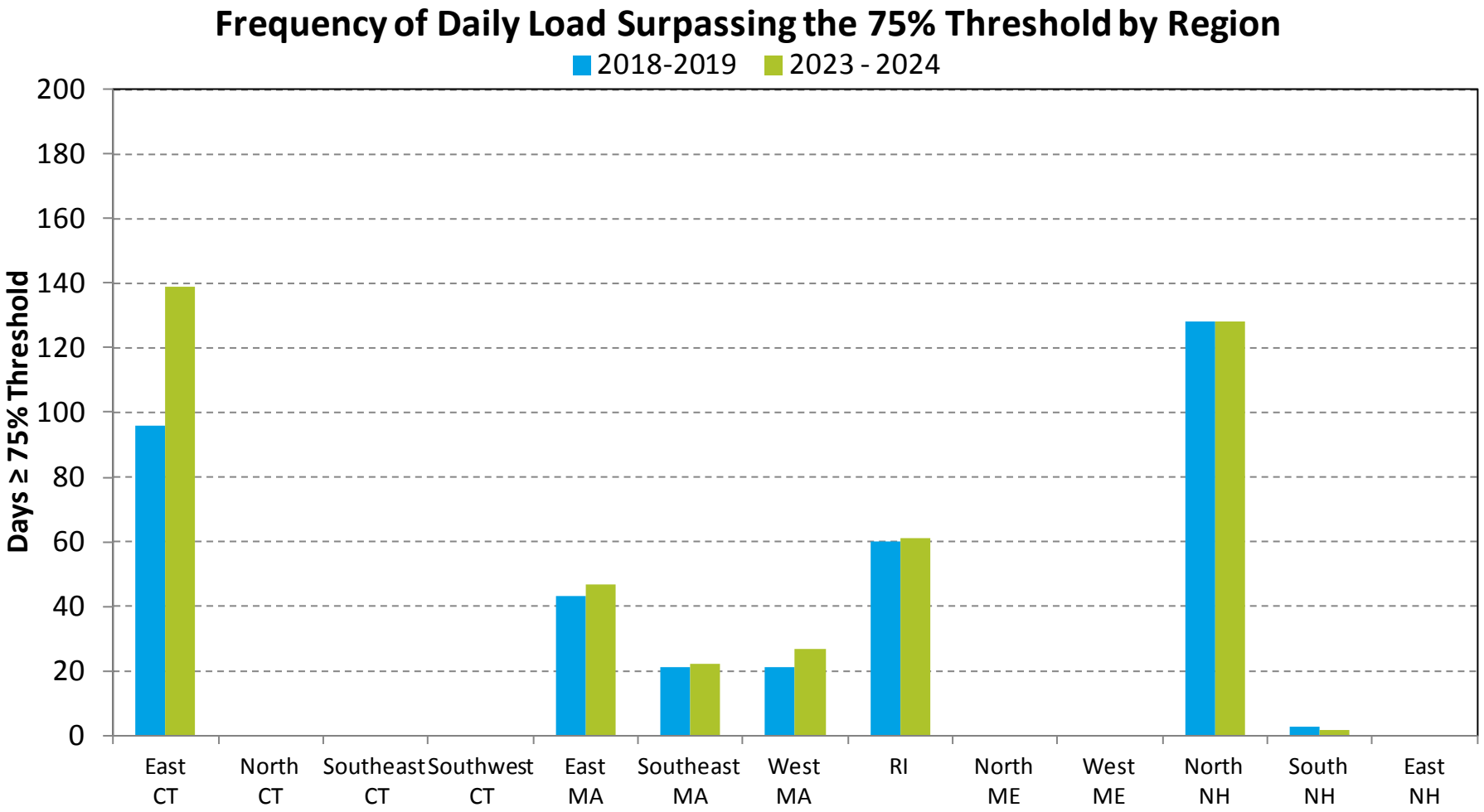
Model Runs under the Low Demand Scenario

	BASE CASE	LOW DEMAND SCENARIO
Long-Term Solutions	Cross-Regional Natural Gas Pipeline	LNG Peak Shaving Facilities
	Firm-Based Energy Imports (firm-contracted electricity from eastern Canada)	Firm-Based Energy Imports
	Economic-Based Energy Imports (market-driven electricity from eastern Canada)	
Short-Term Solutions	LNG Imports	
	Dual-Fuel Generation and Demand Response	Dual-Fuel Generation and Demand Response
Additional Sensitivities		Negative Demand Growth

New England Historical and Projected Natural Gas Demand – Low Demand Scenario

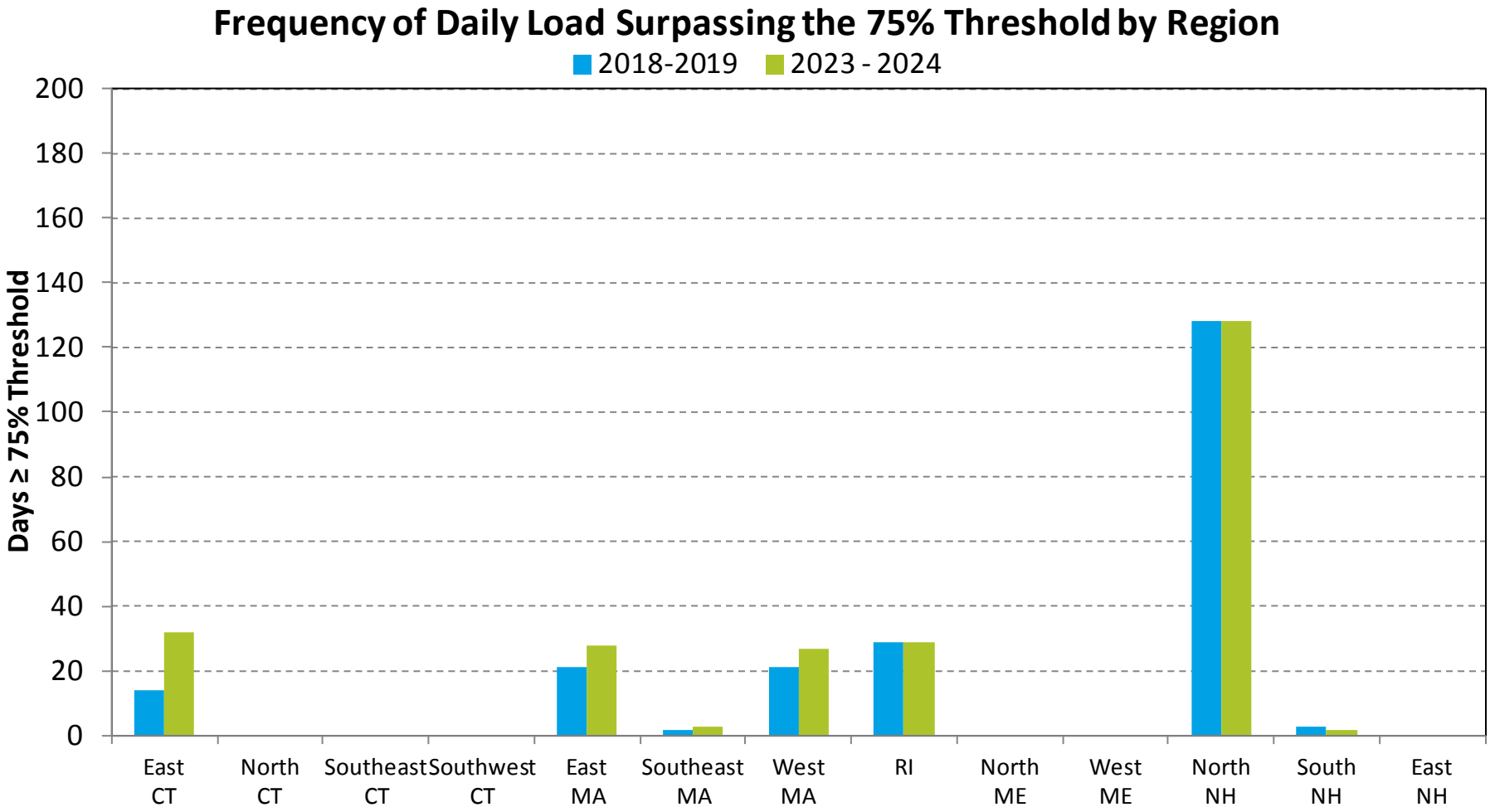


Under the Low Demand Scenario, without Spectra's AIM Project, pipeline constraints can be present for up to 140 in some sub-regions



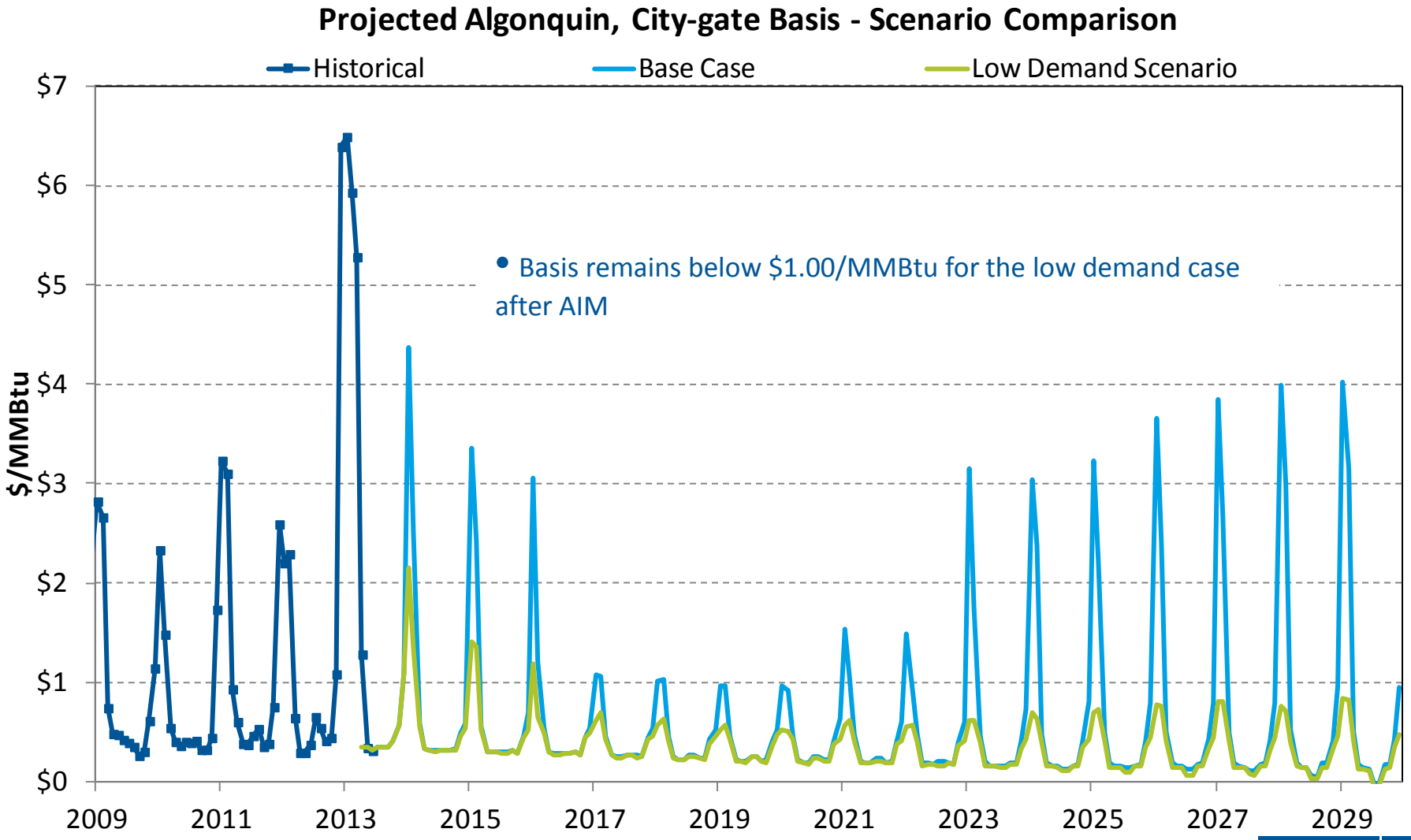
Source: Black & Veatch Analysis

With Spectra's AIM Project, days with pipeline constraints are reduced for Connecticut, Massachusetts and Rhode Island sub-regions

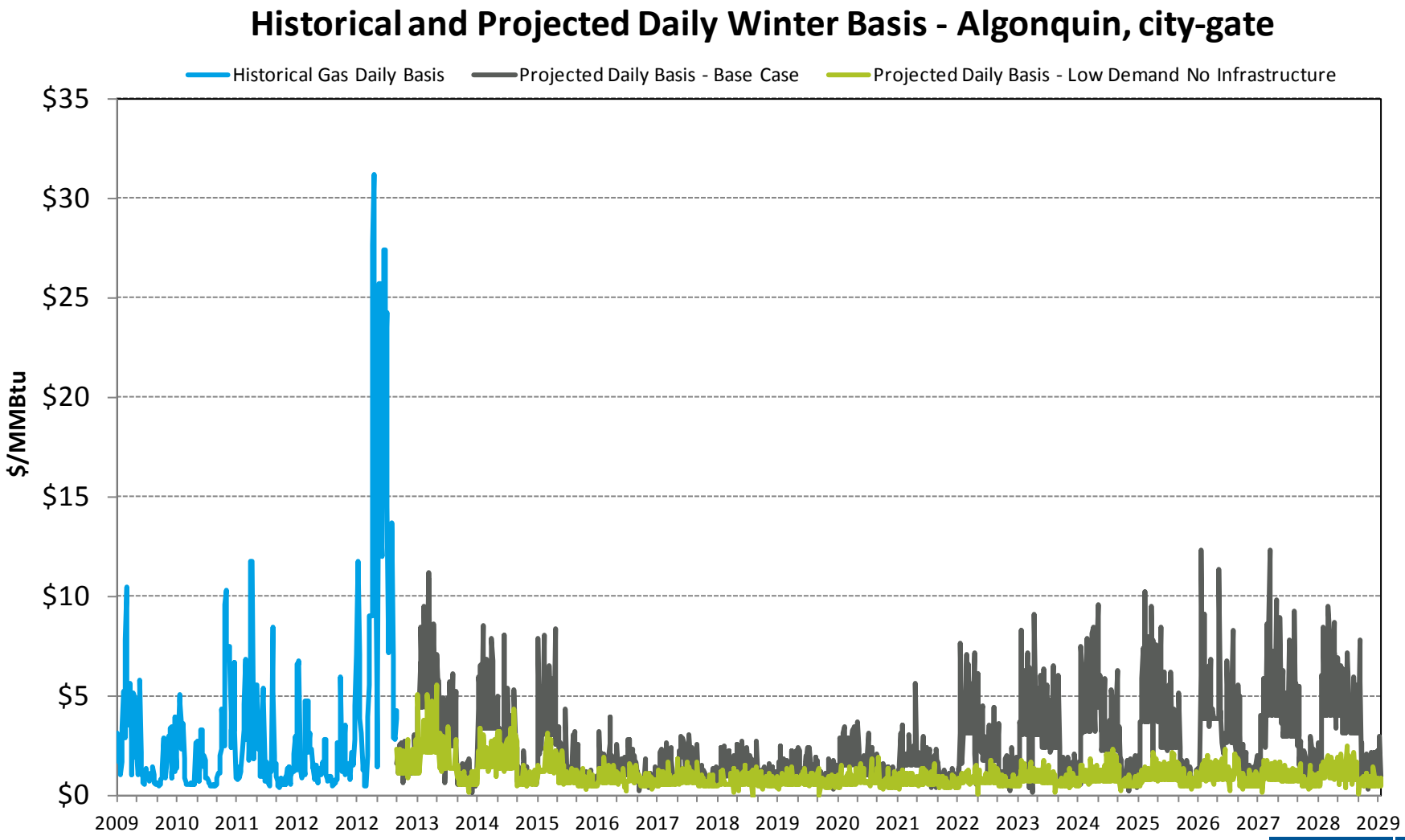


Source: Black & Veatch Analysis

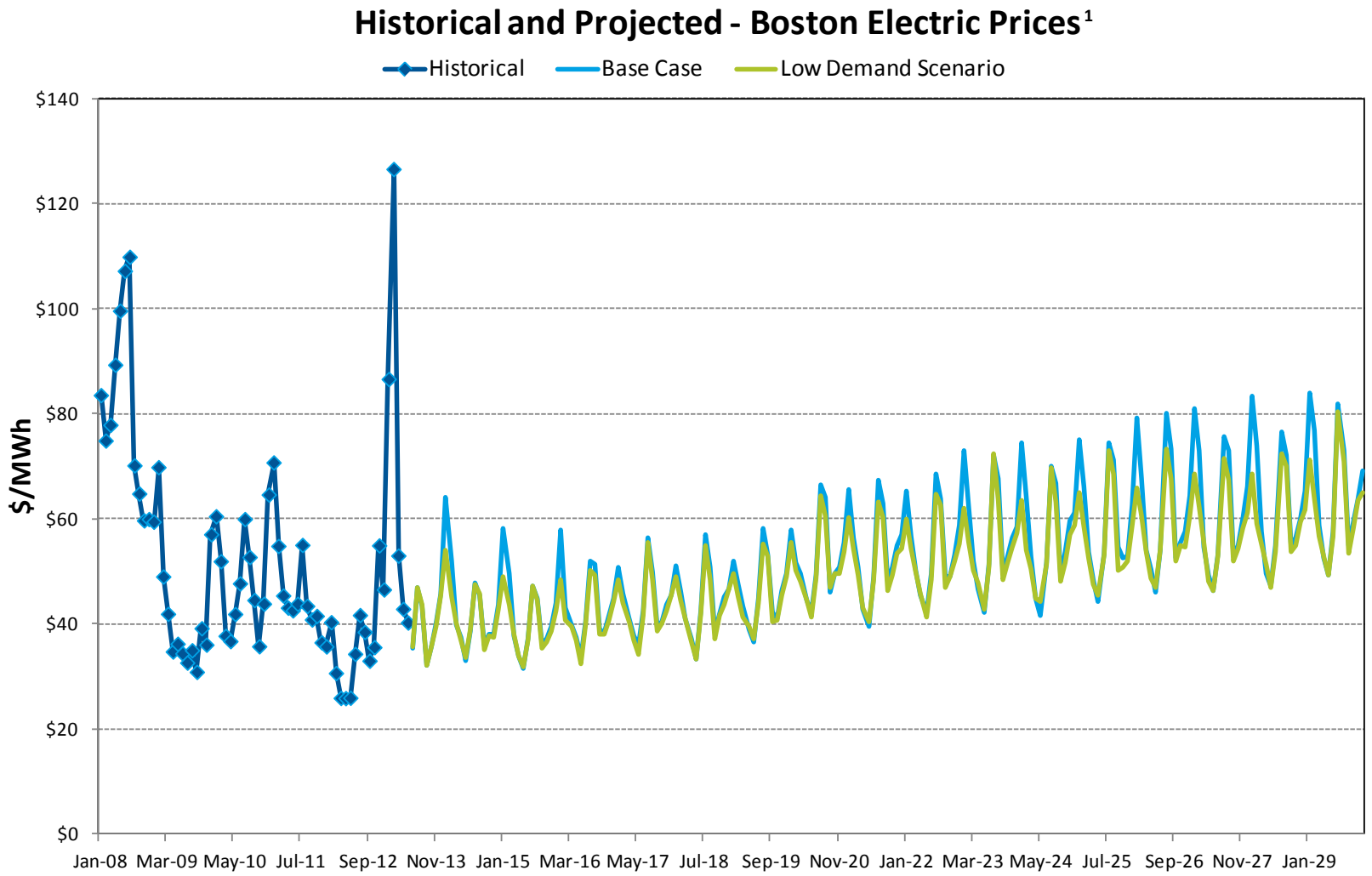
Historical and Projected Natural Gas Basis in New England – Low Demand No Incremental Infrastructure



Historical and Projected Winter Daily Basis – Base Case vs. Low Demand No Incremental Infrastructure



Historical and Projected Electricity Price in New England – Low Demand No Incremental Infrastructure



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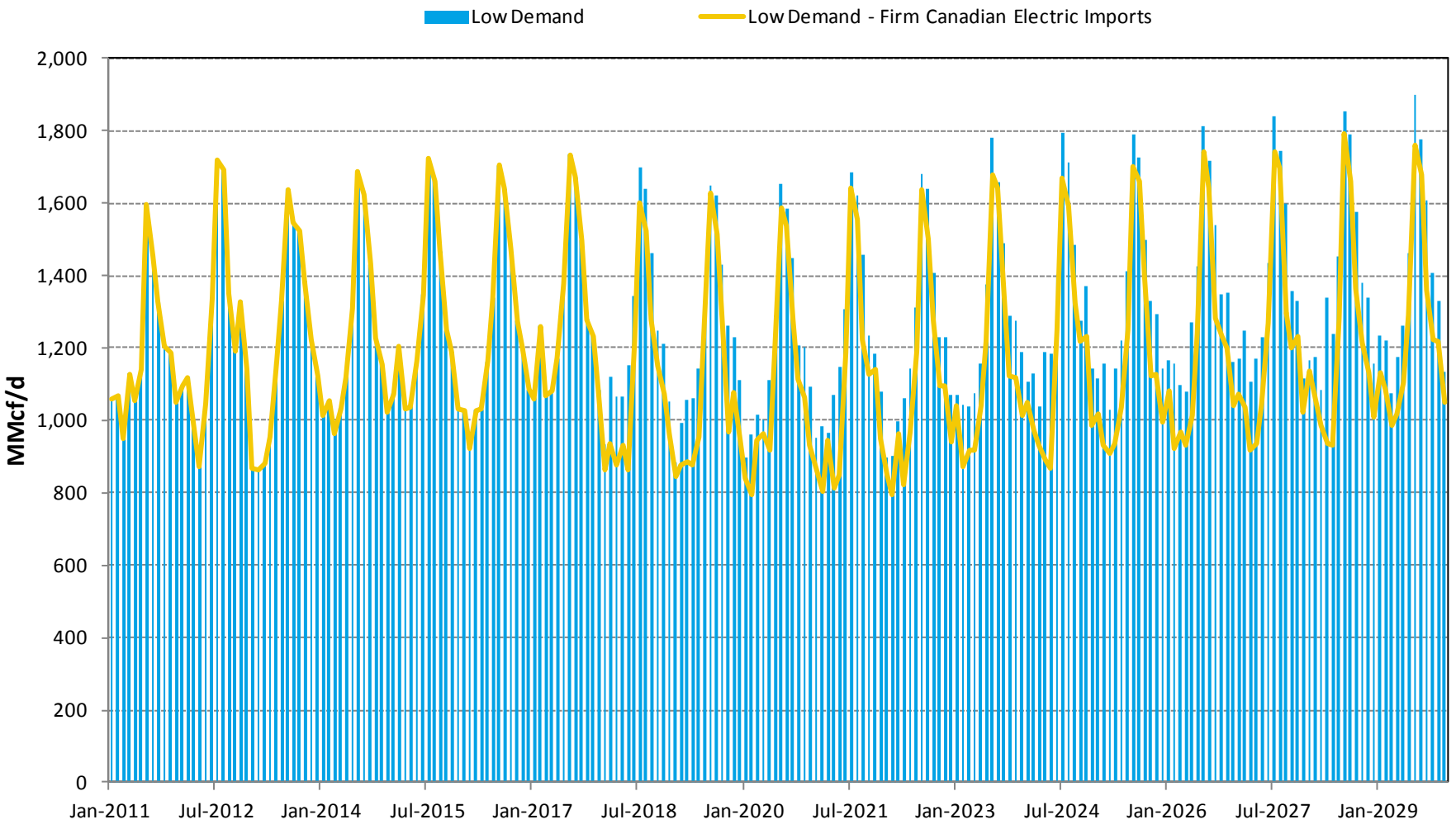
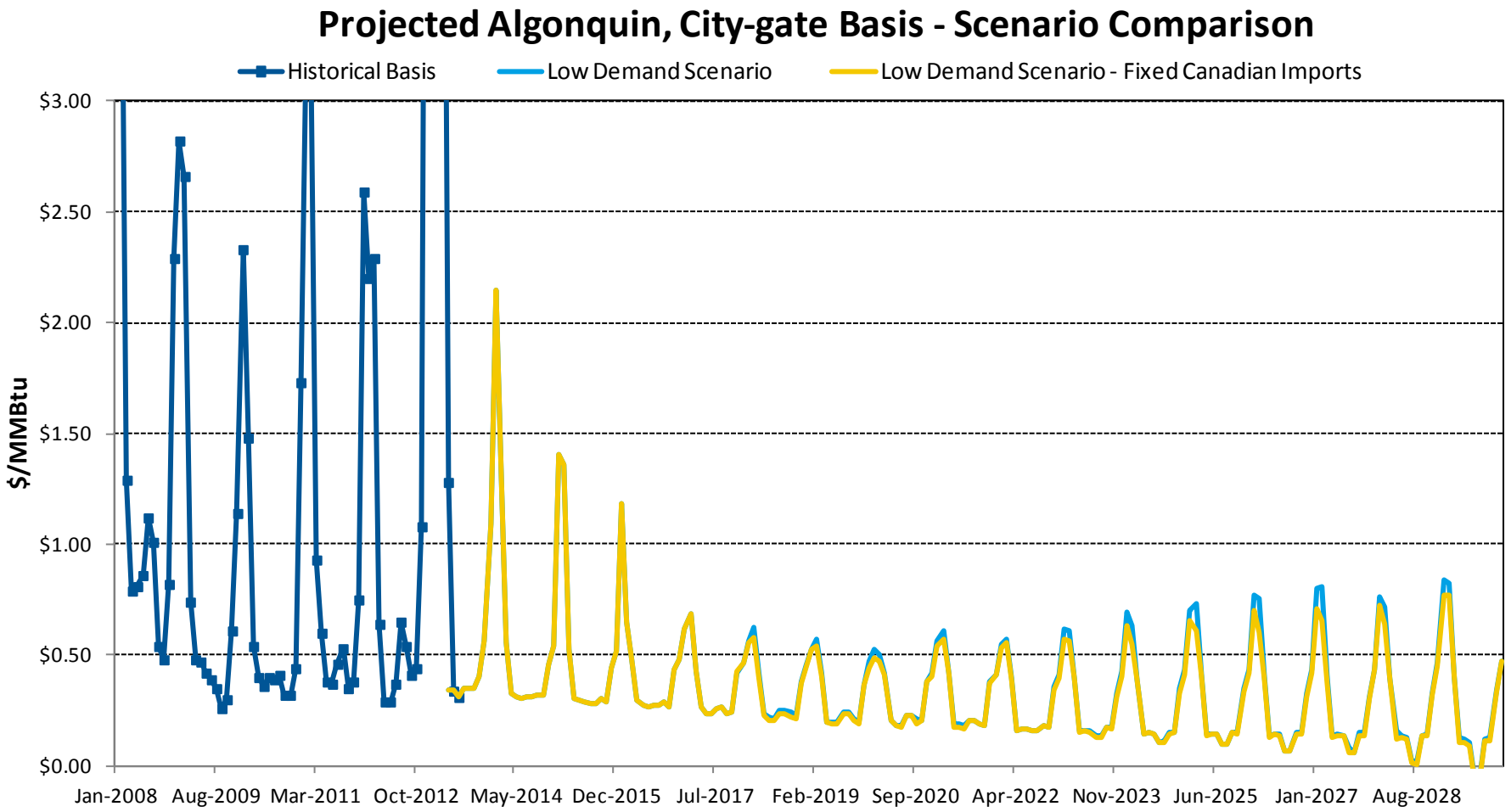
Long – Term Solutions under Low Demand Scenario

- Black & Veatch studied the impact of firm-based energy Imports from Canada as a long-term solution for the Low Demand Scenario. The associated assumptions are the same as in the Base Case.
- Two LNG peak shaving facilities installed in Rhode Island and Massachusetts were tested as a solution.
  - The load duration curves showed limited constraints in these two sub-regions.
  - There are existing peak shaving facilities, indicating that constructing new facilities may be more acceptable to LDCs and consumers.
  - The facilities were assumed to be placed in service in late 2016.
- The capital cost of one LNG peak shaving facility was assumed to be $120 million for a 1.1 Bcf facility, resulting in a total capital cost of $240 million and $31 million cost of service levelized over a 20-year period.

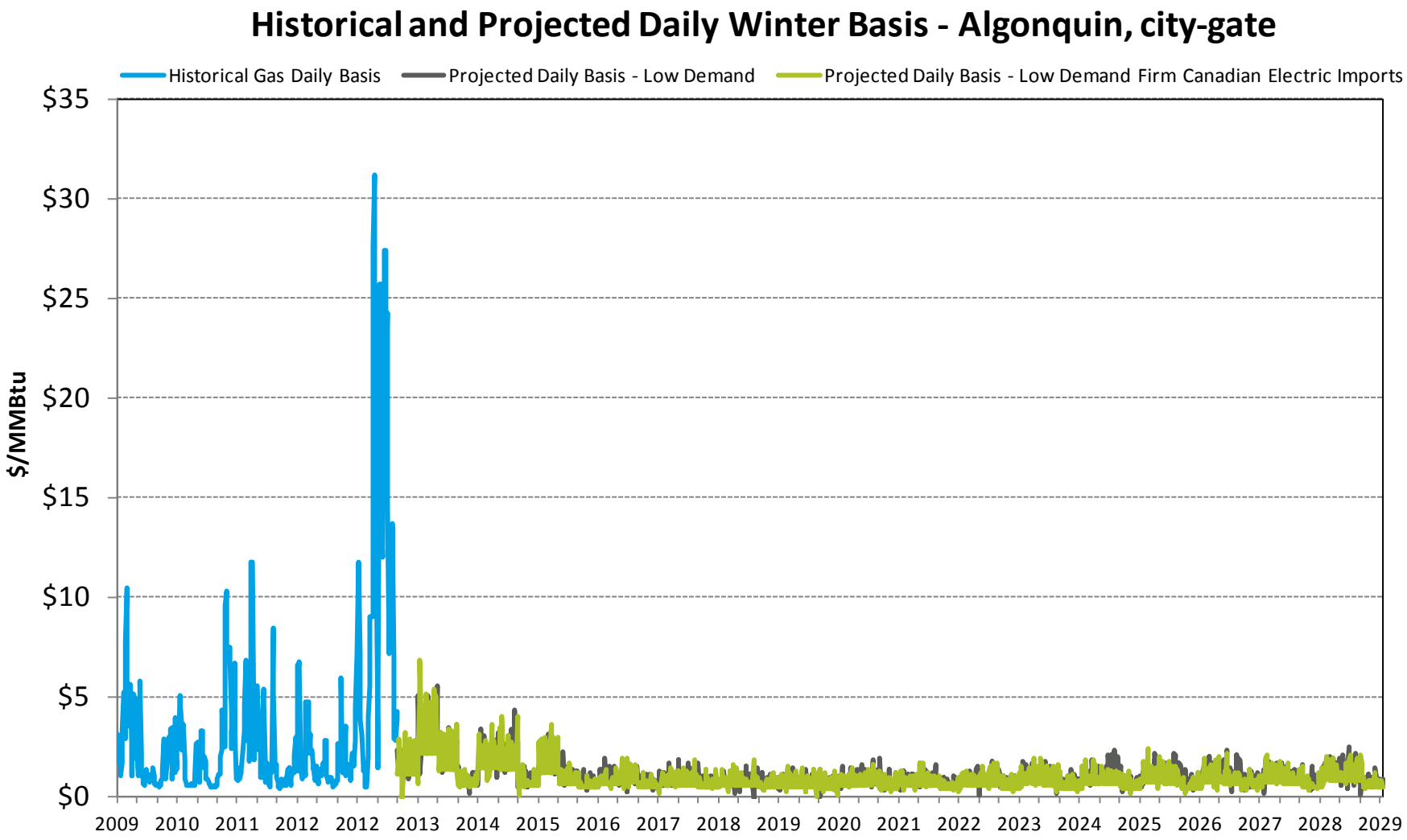
Natural Gas Demand from the Power Sector: Low Demand vs. Low Demand with Firm-Based Energy Imports



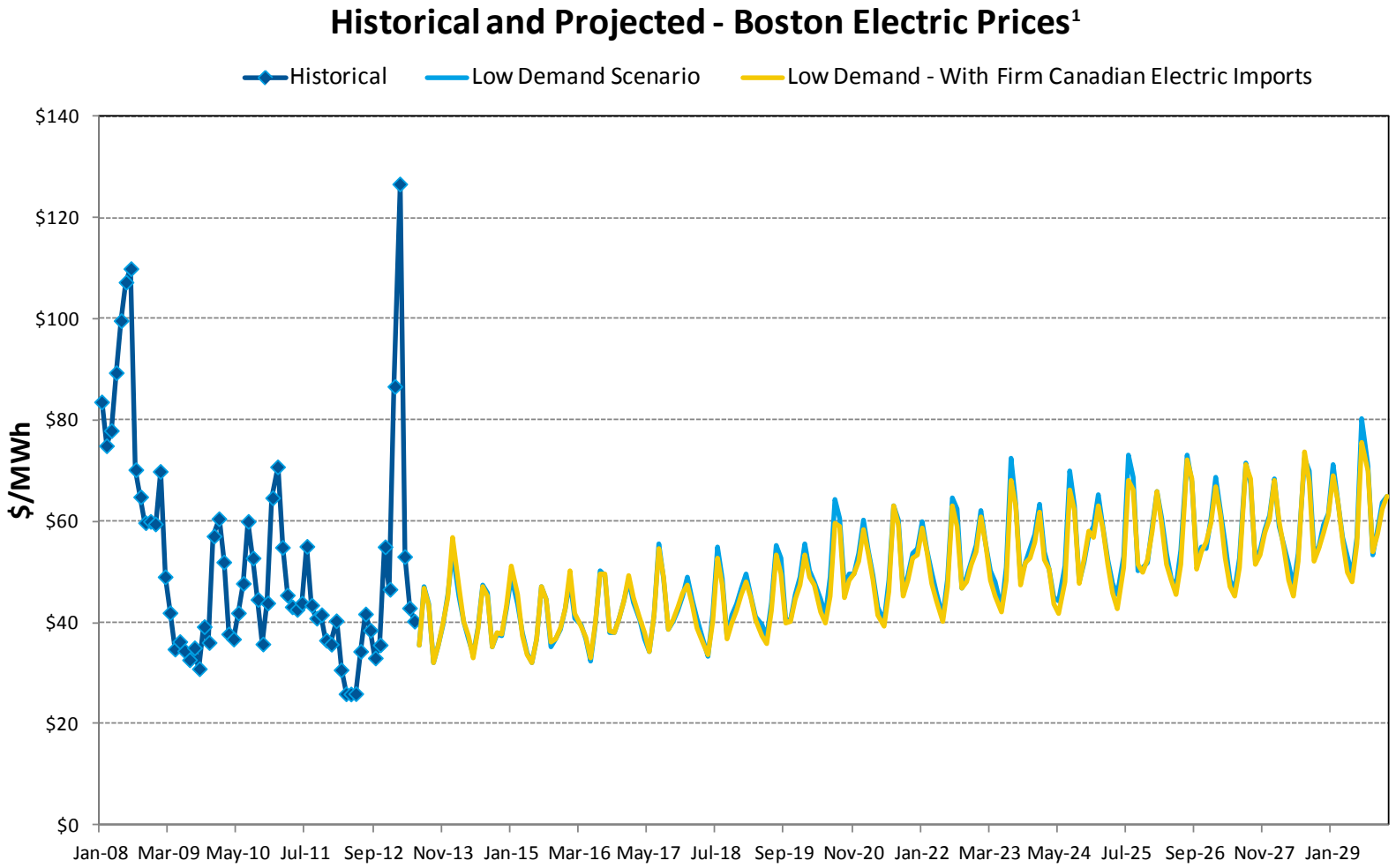
Historical and Projected Natural Gas Basis in New England – Low Demand with Firm-Based Energy Imports



Historical and Projected Daily Winter Basis – Low Demand with Firm-Based Energy



Historical and Projected Electricity Price in New England – Low Demand with Firm-Based Energy Imports



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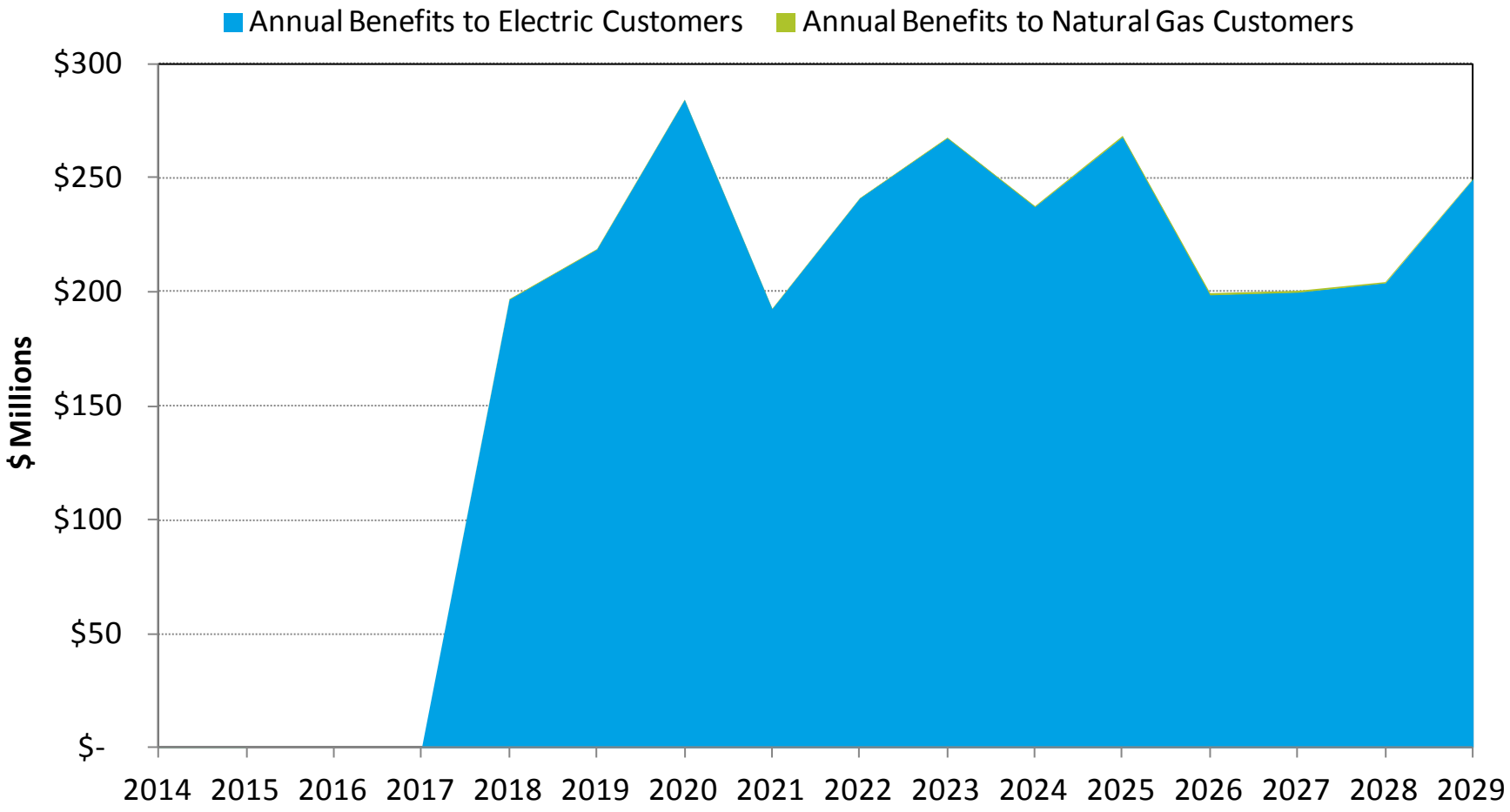
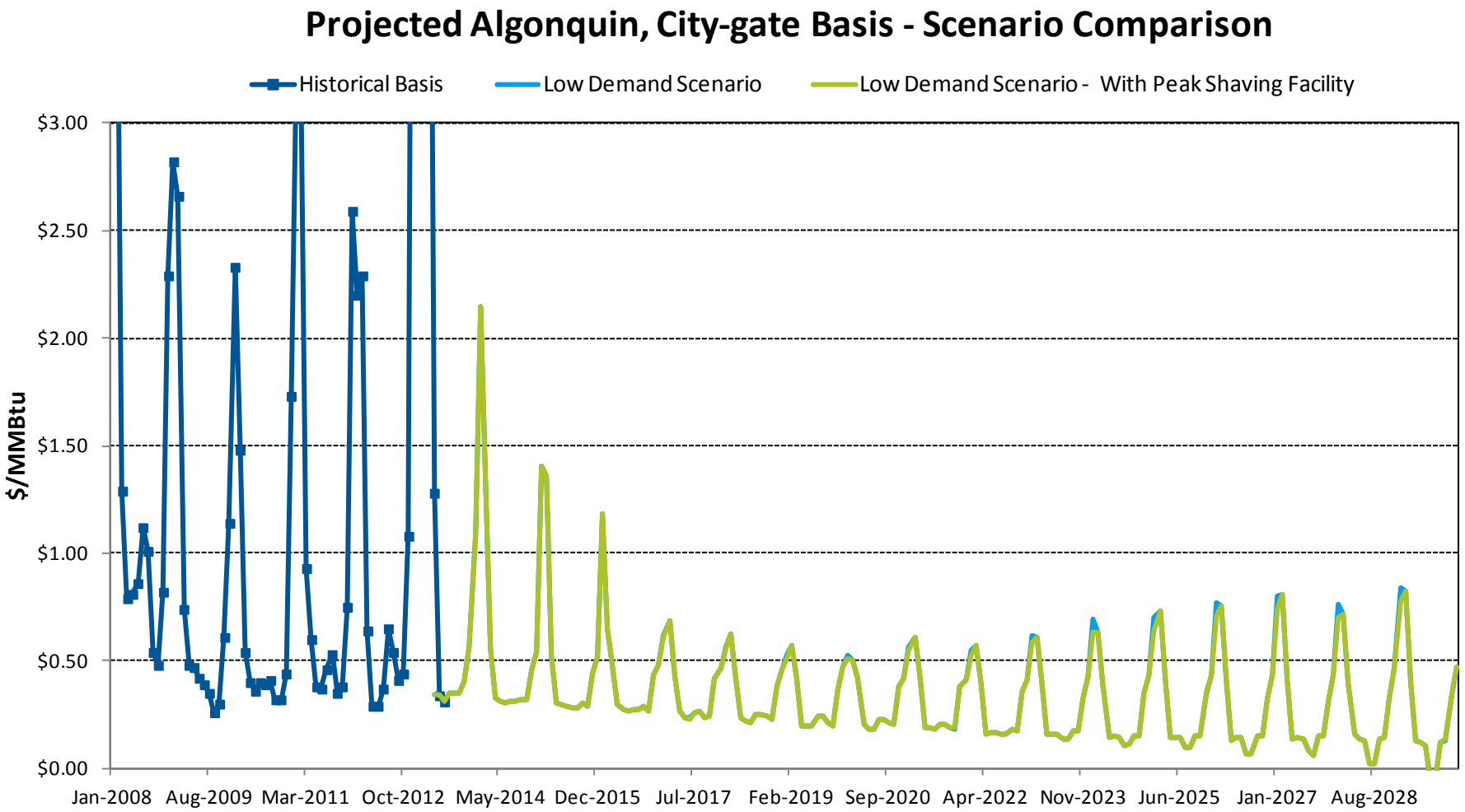
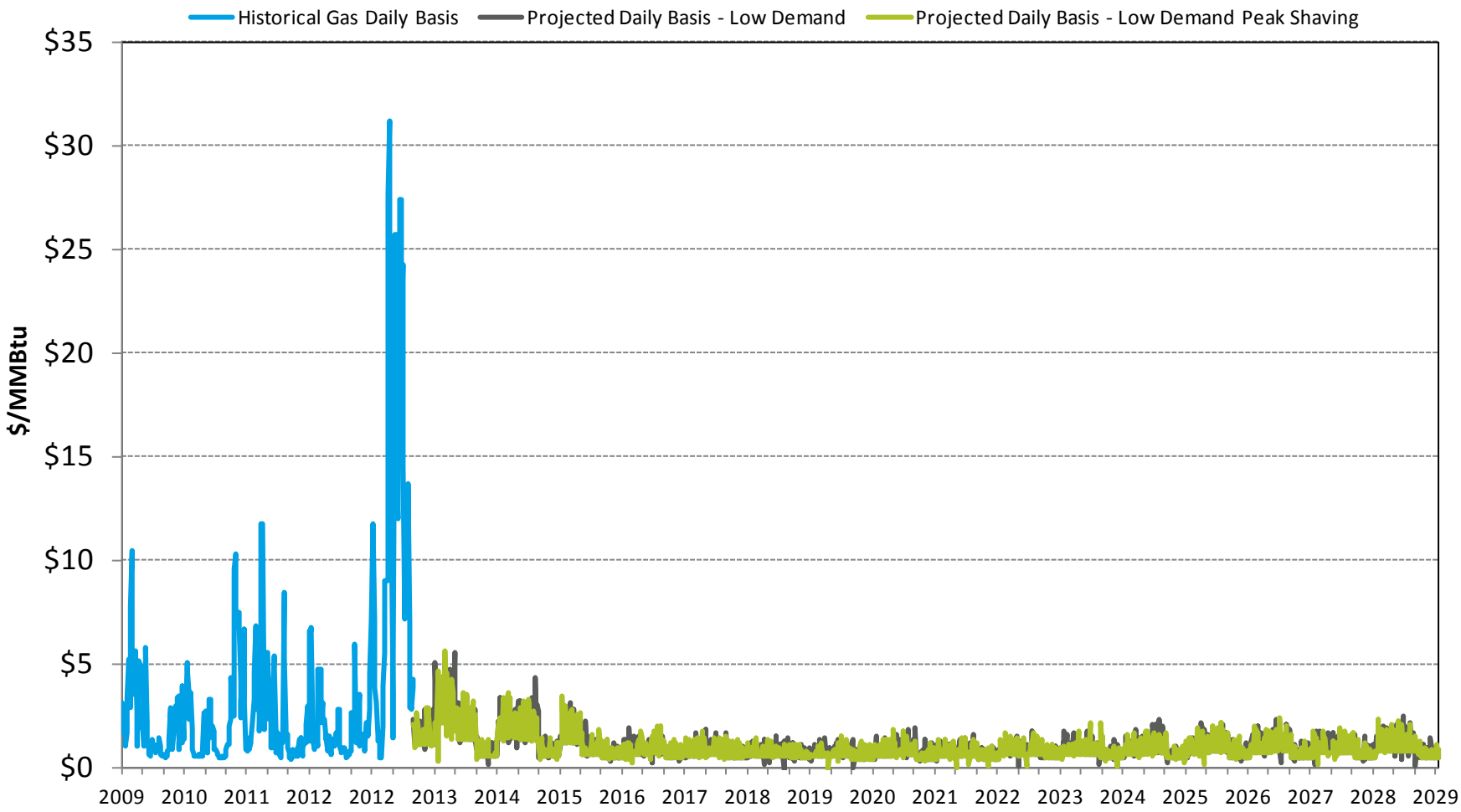
Electric and Natural Gas Customer Benefits – Low Demand with Firm-Based Energy Imports



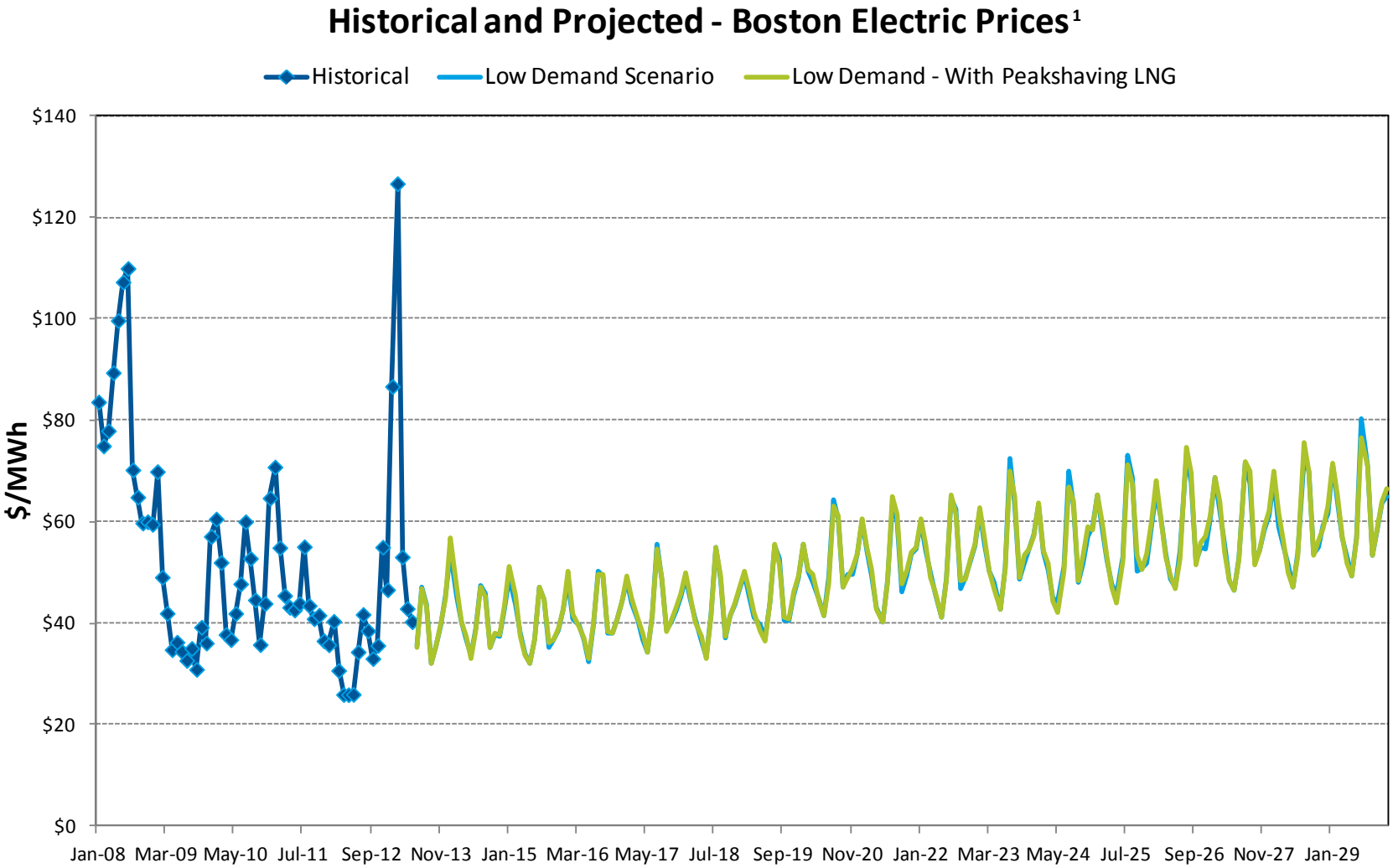
Historical and Projected Natural Gas Basis in New England – Low Demand with Peak Shaving Facilities



Historical and Projected Daily Winter Basis - Algonquin, City-gates



Historical and Projected Electricity Price in New England – Low Demand with LNG Peak Shaving Facilities



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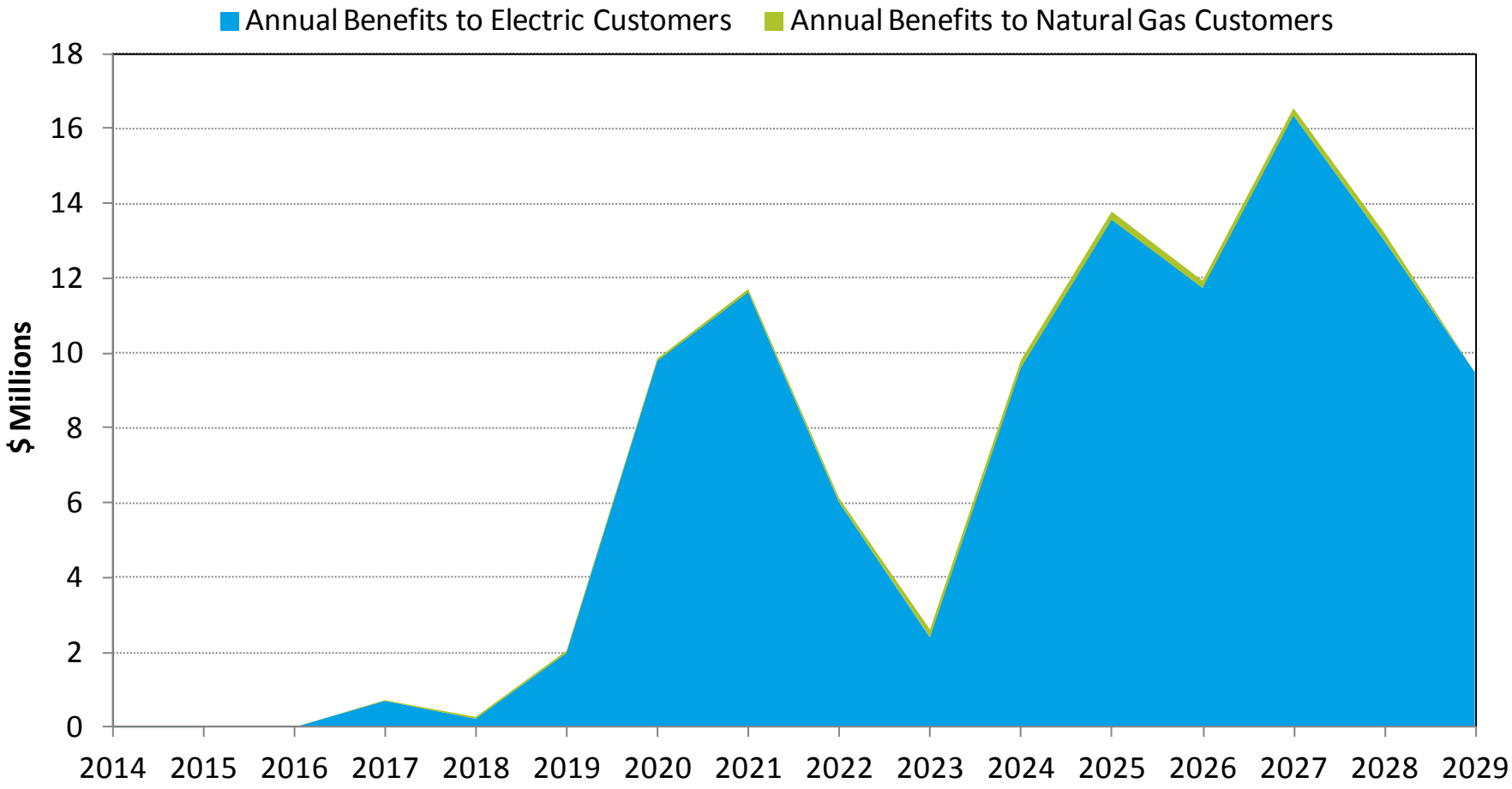
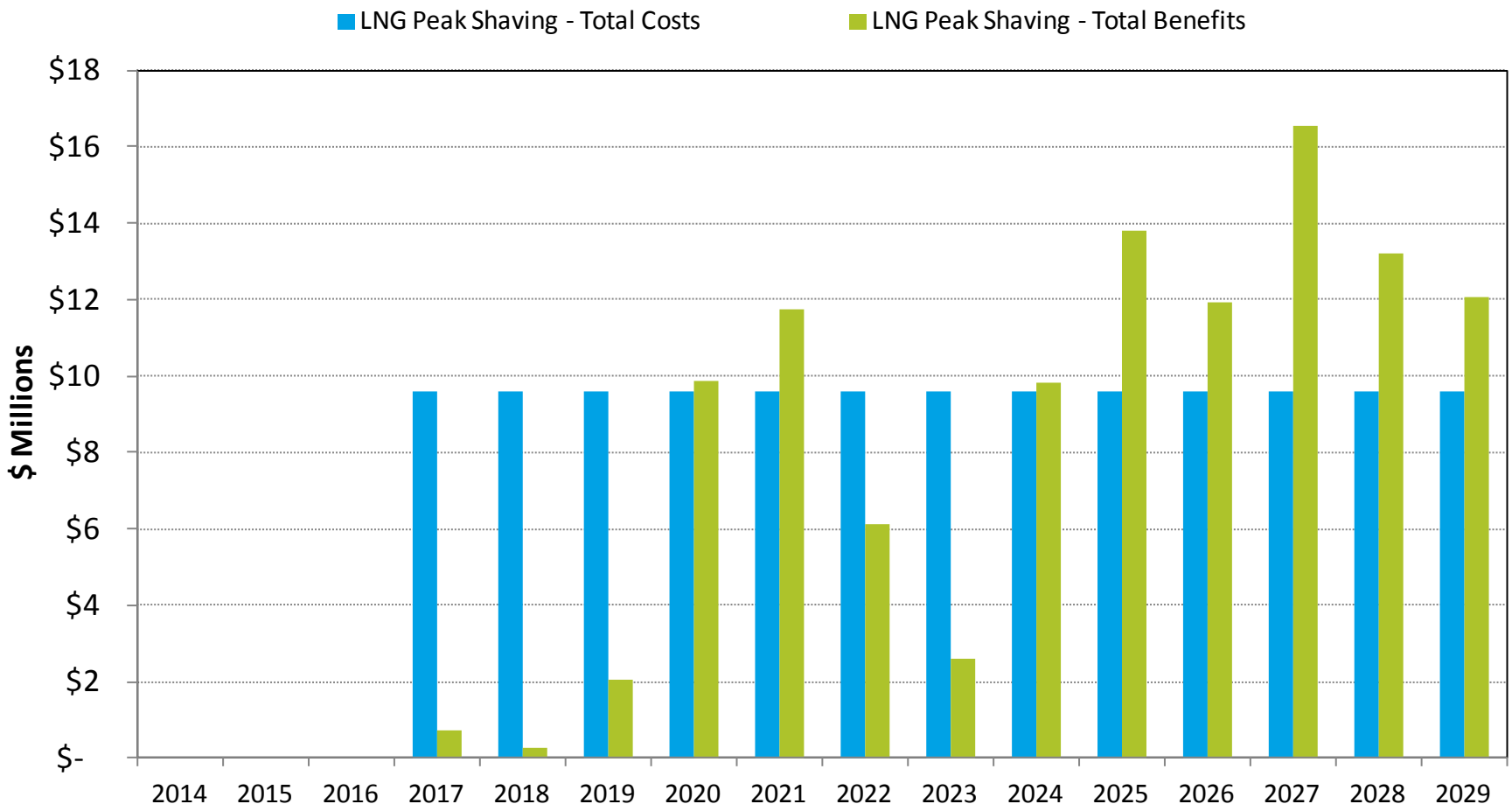
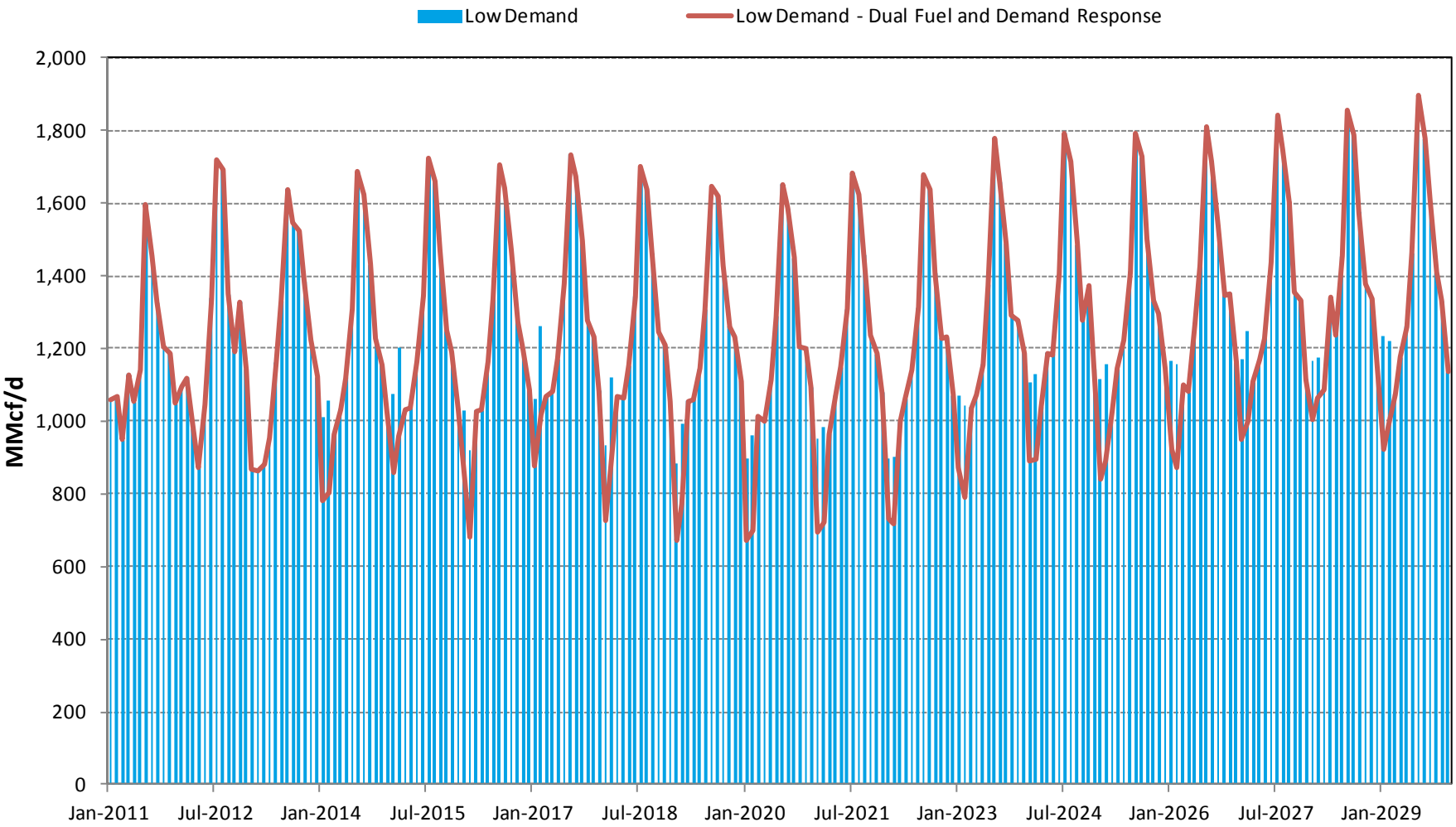
Electric and Natural Gas Customer Benefits – Low Demand with LNG Peak Shaving Facilities



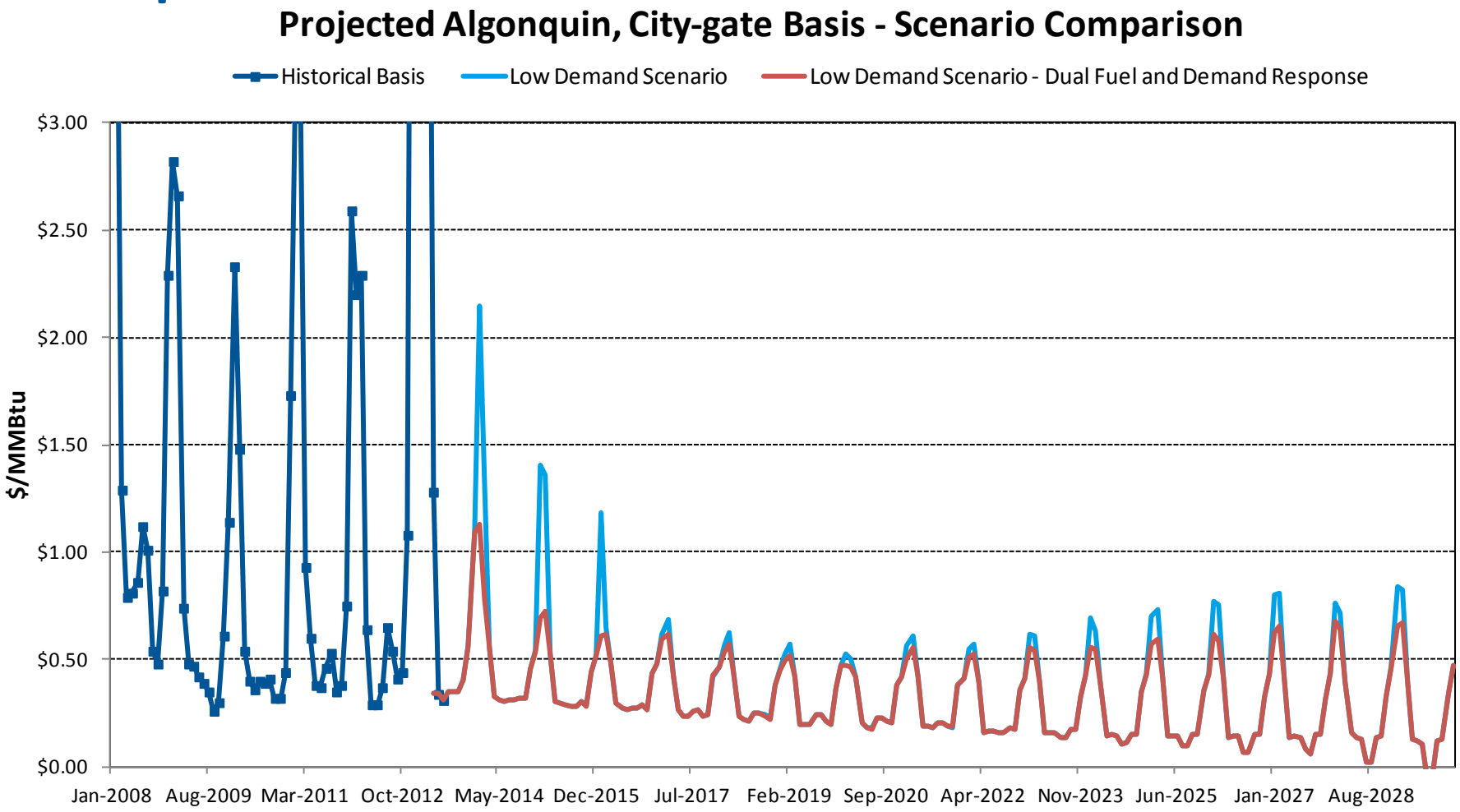
Annual Costs/Benefits – Low Demand with LNG Peak Shaving Facilities



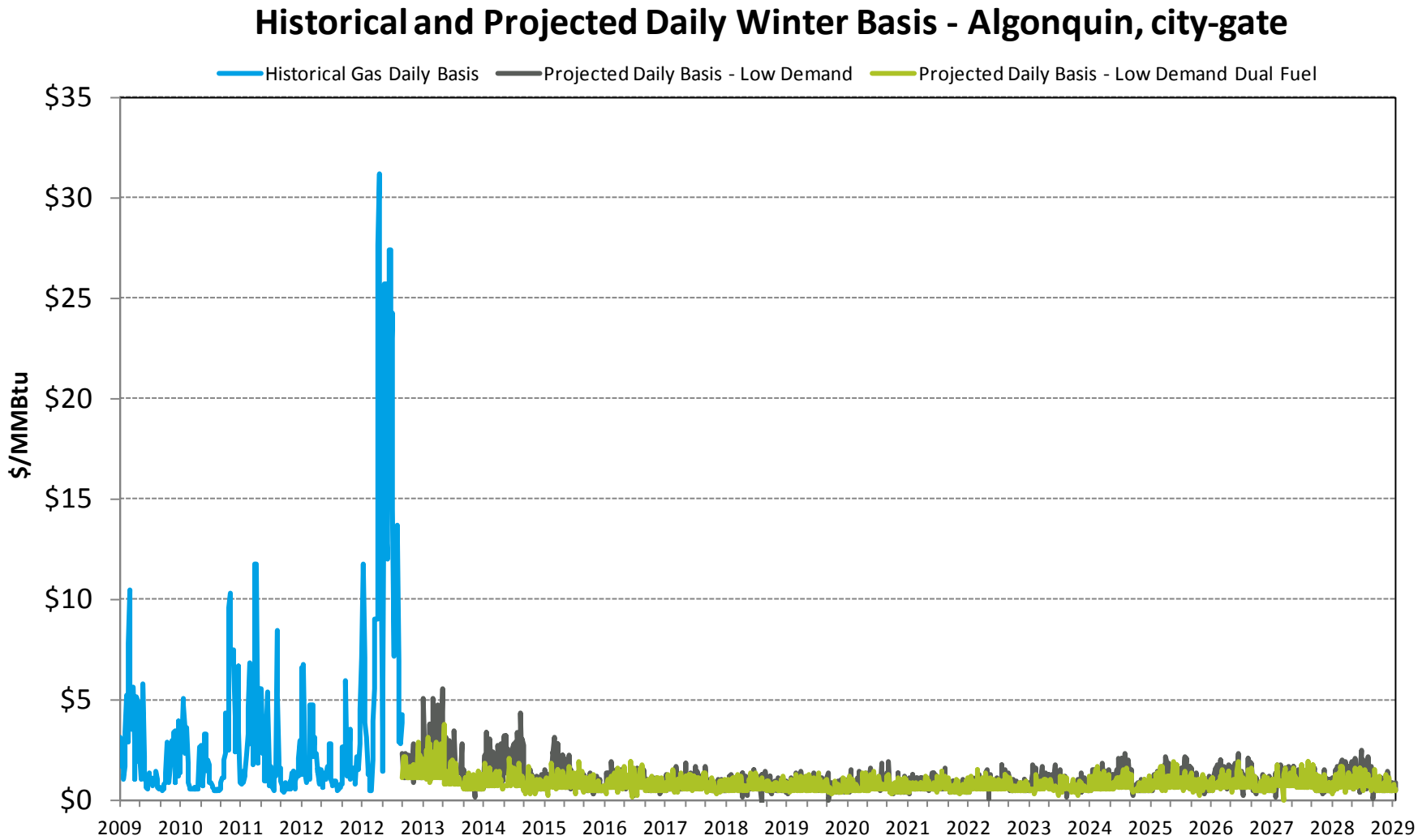
Demand Comparison – Low Demand vs. Dual-Fuel and Demand Response



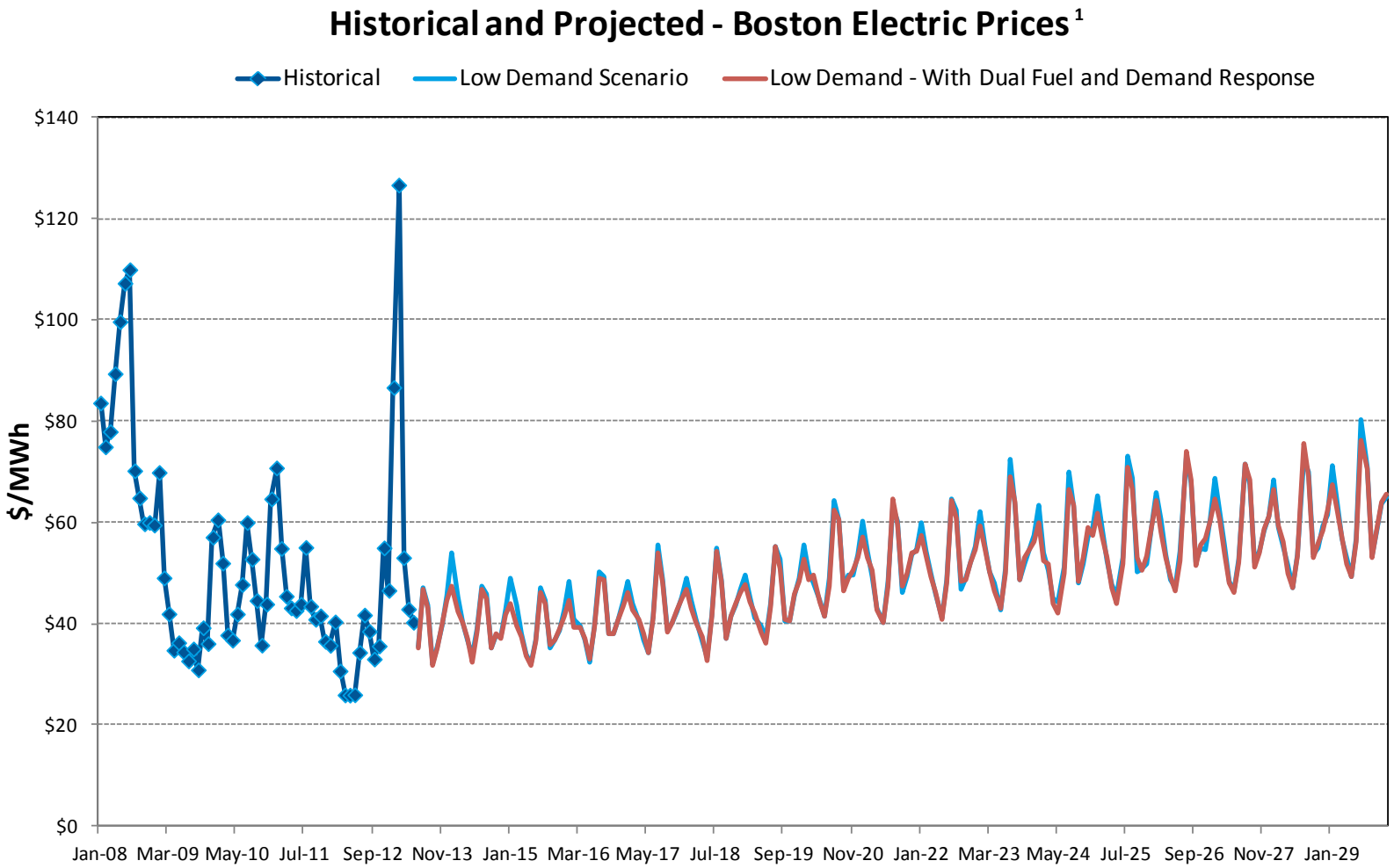
Historical and Projected Natural Gas Basis in New England – Low Demand with Dual-Fuel and Demand Response



Historical and Projected Daily Winter Basis – Low Demand with Dual-Fuel Solution



Historical and Projected Electricity Price in New England – Low Demand with Dual-Fuel and Demand Response



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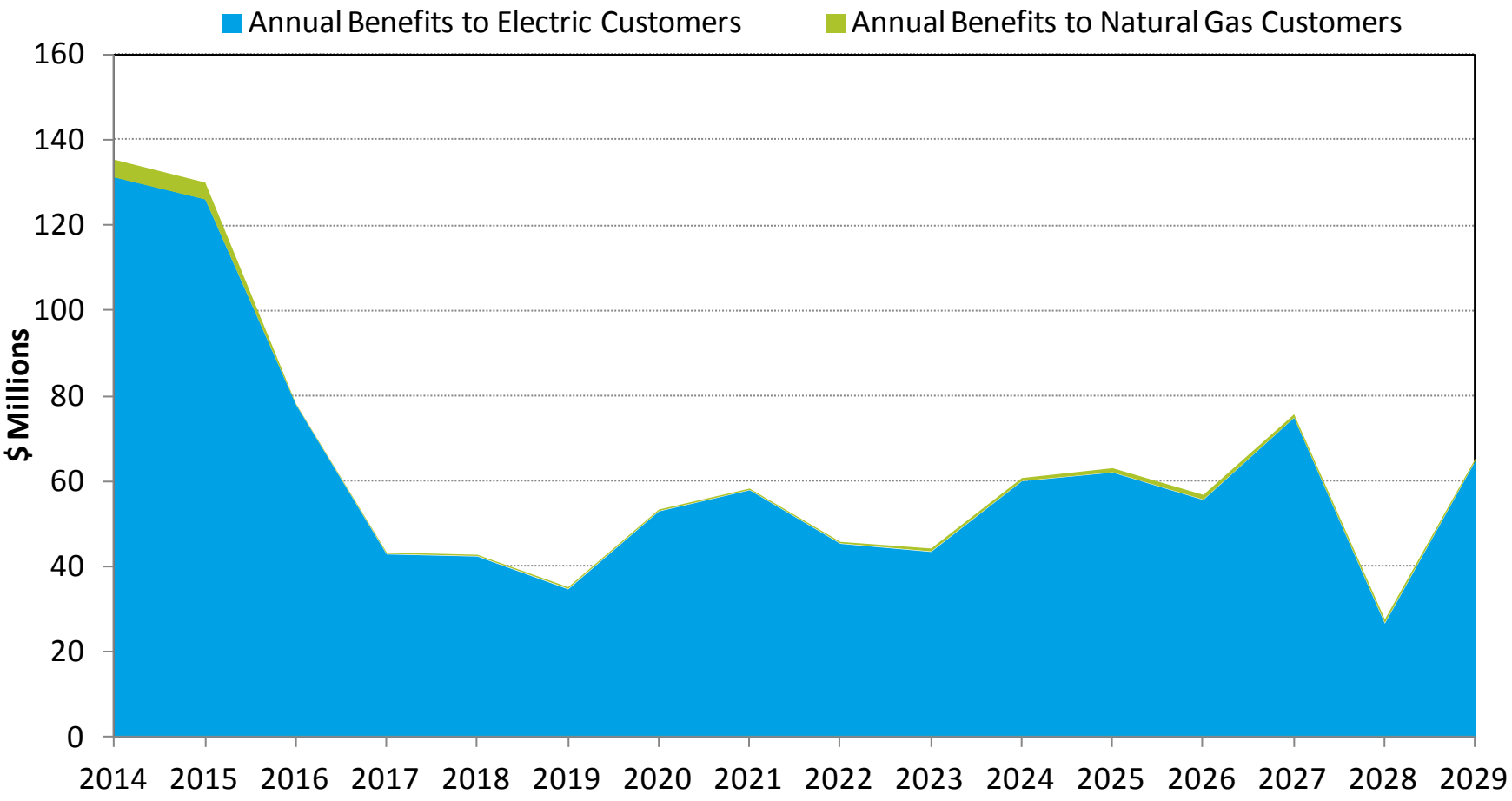
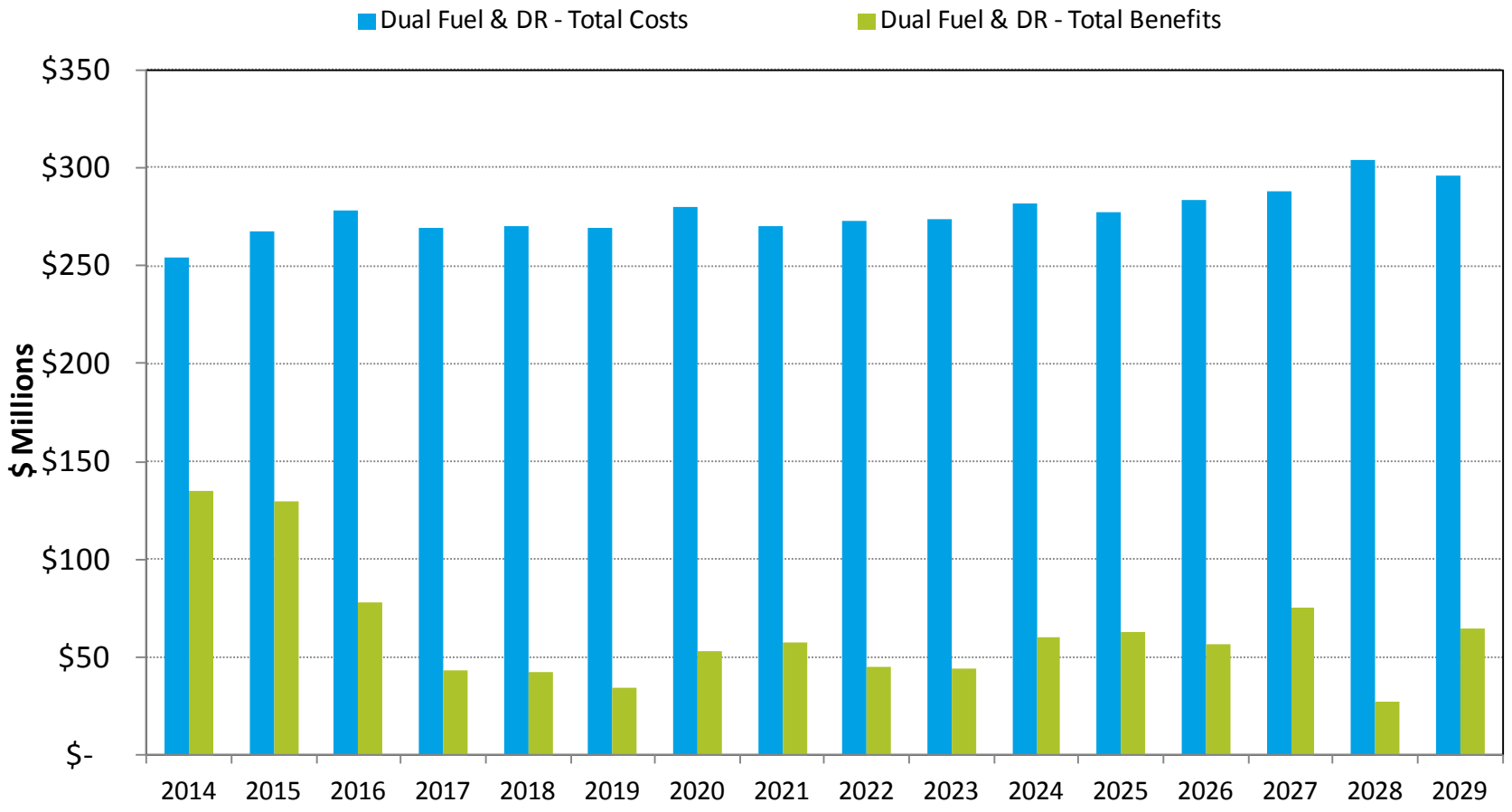
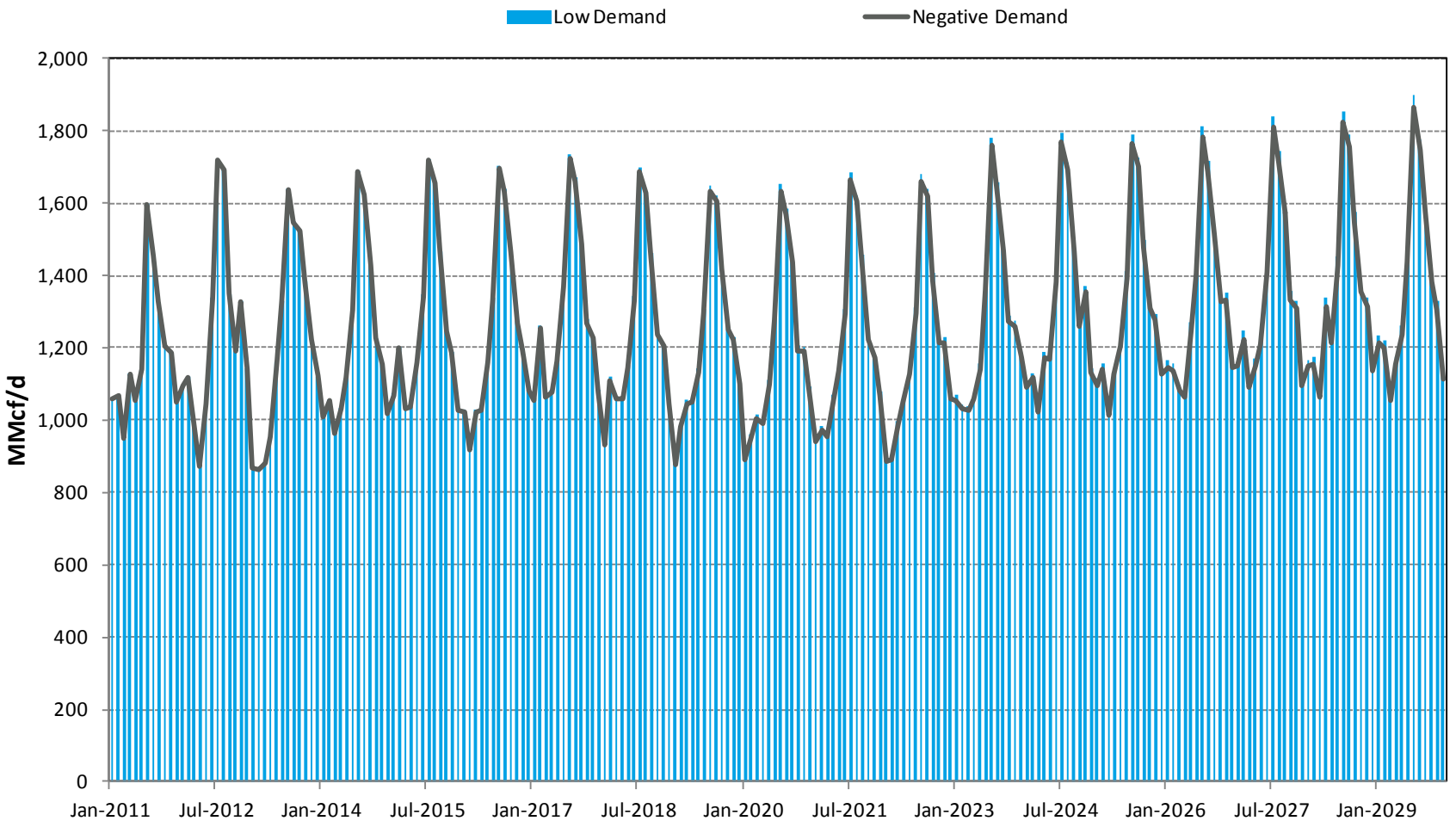
Electric and Natural Gas Customer Benefits – Low Demand with Dual Fuel and Demand Response



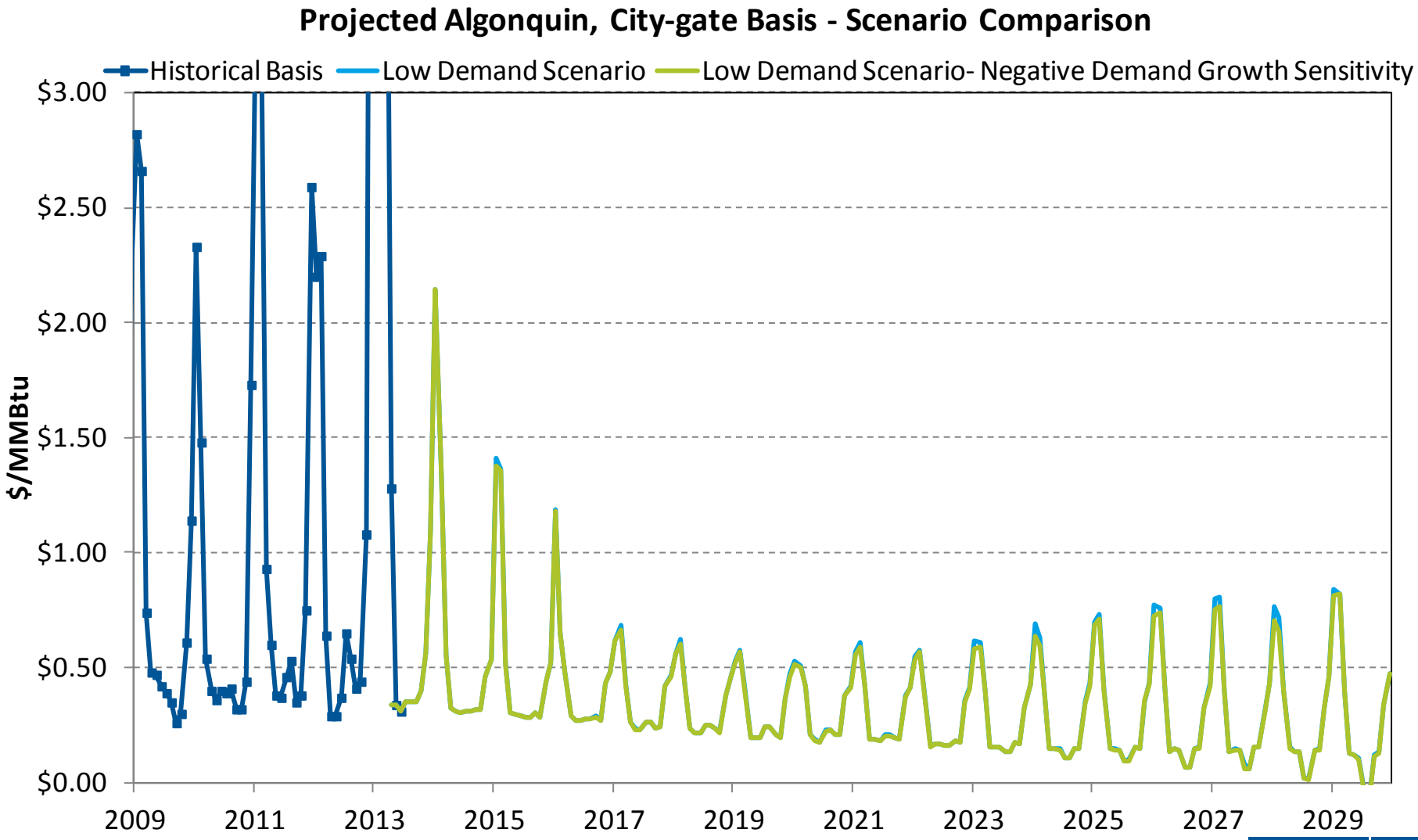
Projected Cost and Benefits – Low Demand with Dual-Fuel and Demand Response



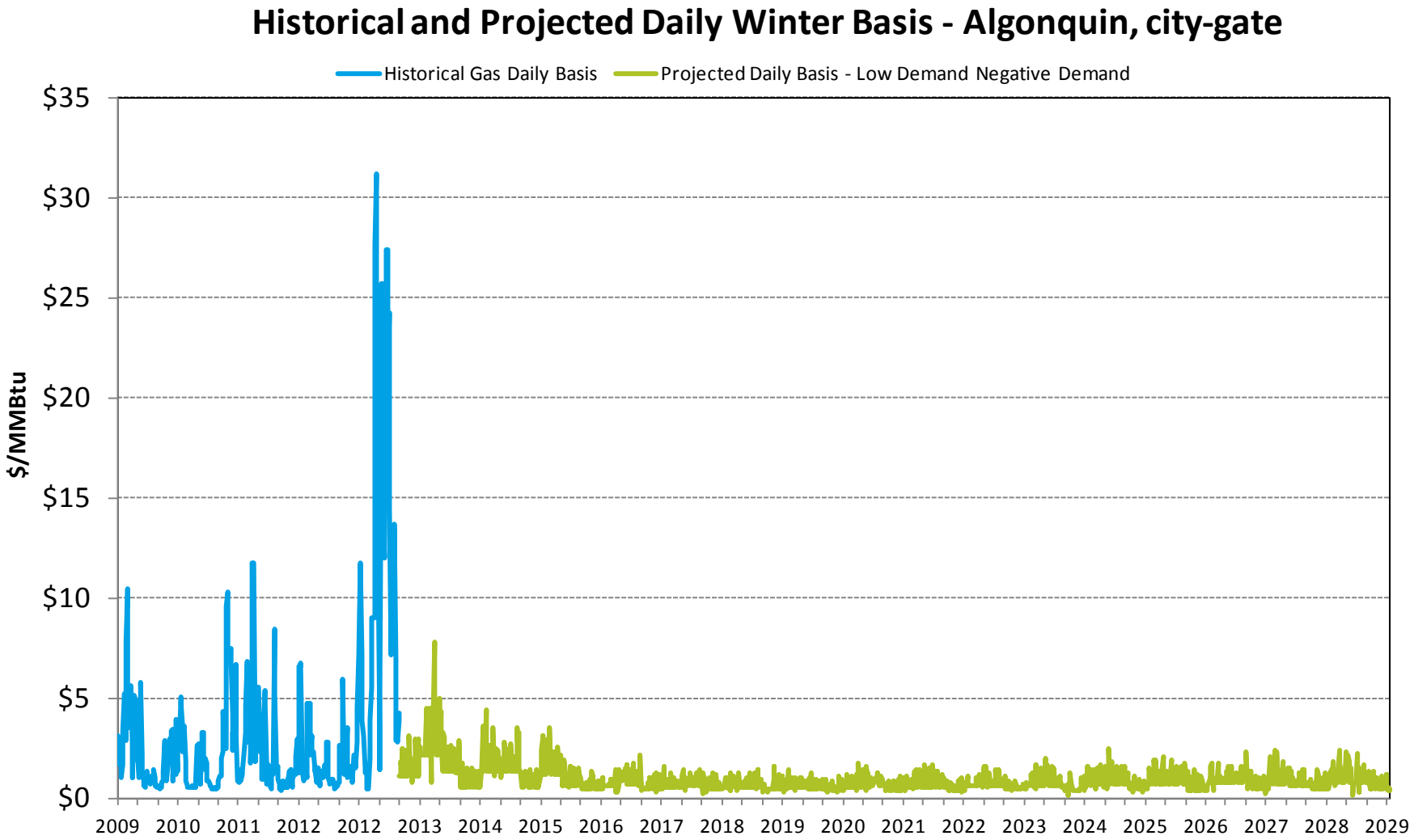
New England Gas Demand for Power Generation – Low Demand vs. Negative Demand Growth



Historical and Projected Natural Gas Basis in New England – Negative Demand Growth



Historical and Projected Daily Winter Basis – Low Demand vs. Negative Demand Scenario



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