

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF DELAWARE**

IN THE MATTER OF INTEGRATED RESOURCE
PLANNING FOR THE PROVISION OF
STANDARD OFFER SERVICE BY
DELMARVA POWER & LIGHT COMPANY UNDER
26 DEL. C. § 1007(c) & (d): REVIEW
AND APPROVAL OF THE REQUEST FOR
PROPOSALS FOR THE CONSTRUCTION OF
NEW GENERATION RESOURCES UNDER 26
DEL. C. § 1007(d)

(OPENED JULY 25, 2006)

PSC DOCKET NO. 06-241

**REPORT ON FINAL POWER
PURCHASE AGREEMENT
BETWEEN DELMARVA
POWER AND BLUEWATER
WIND DELAWARE LLC**

PREPARED FOR:

***Delaware Public Service Commission
Delaware Office of Management and Budget
Delaware Energy Office
Delaware Controller General***

PREPARED BY THE CONSULTING TEAM OF:

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July 3, 2008

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I. Introduction

A. Background

On November 1, 2006, Delmarva Power & Light Company (“Delmarva” or “DP&L”) issued a Request for Proposals (“RFP”) for the purchase of power under long-term contracts from new generation facilities to be built within the State of Delaware for the purpose of supplying standard offer service (“SOS”), as required under the Electric Utility Retail Customer Supply Act of 2006 (“EURCSA” or “House Bill 6”). Following the submission and evaluation of the bids, the state agencies authorized by House Bill 6—the Delaware Public Service Commission (“Commission”), the Energy Office, the Office of Management and Budget, and the Controller General (“State Agencies”)—directed Delmarva to negotiate a power purchase agreement (“PPA”) with Bluewater Wind Delaware LLC (“Bluewater”) for approximately 200-300 MW of energy and associated capacity from its proposed offshore wind project and for backup power from a natural gas-fired facility to be built by either of the two other bidders, NRG Energy, Inc. (“NRG”) or Conectiv Energy Supply, Inc. (“Conectiv”).¹ Delmarva was directed to conduct three separate negotiations in parallel with oversight from an independent mediator. On September 14, 2007, Delmarva submitted term sheets for a PPA with Bluewater and PPAs for backup power from NRG and Conectiv.

Following modifications by Bluewater of its term sheet pricing proposal (most importantly, elimination of a price escalator provision based on construction-related commodity indexes and currency exchange rates), the State Agencies adopted the Commission staff’s procedural proposal to reach closure in this proceeding.² The key elements were:

- Authorizing the mediator, Professor Lawrence A. Hamermesh, to act as an arbitrator to resolve all outstanding PPA issues between Delmarva and Bluewater; and
- Directing that a Bluewater/Delmarva PPA be submitted by December 10, 2007 that resolves all outstanding issues, with a meeting of the State Agencies to consider the PPA scheduled soon thereafter.

On December 10, 2007, a completed Delmarva/Bluewater PPA acceptable to Bluewater (but not Delmarva with respect to a variety of major commercial terms such as contract size and price) was concluded and filed with the State Agencies (hereinafter, the “Draft PPA”).³ New Energy Opportunities, Inc. and its subcontractors, the independent

¹ Findings, Opinion and Order No. 7199, PSC Docket No. 06-241 (May 22, 2007).

² Findings, Opinion and Order No. 7328, PSC Docket No. 06-241 (Dec. 4, 2007).

³ See Proposed Purchase Power Agreement Between DP&L and BWW (December 10, 2007), <http://depsec.delaware.gov/irp.shtml>.

consultant retained by the State Agencies with respect to the RFP, (“Independent Consultant” or “IC”), submitted its assessment on the Draft PPA.⁴

On December 18, 2007, the State Agencies met to consider the Draft PPA. Due to the lack of consensus among the State Agencies, the matter was tabled.

Several months later, as the Senate Energy and Transit Committee was finalizing hearings related to Delaware’s energy options and the RFP process under EURCSA, negotiations between Delmarva and Bluewater commenced with the facilitation of Delaware Senate Majority Leader Anthony DeLuca.⁵ These negotiations resulted in a power purchase agreement executed by Delmarva and Bluewater on June 23, 2008 and filed by Delmarva with the State Agencies on the same date (the “Final PPA”).

B. The Delmarva/Bluewater Final PPA

Pursuant to the Draft PPA, Delmarva would have purchased from Bluewater up to 300 MWh per hour of electric energy and renewable energy credits (“RECs”) and associated capacity from a planned 450 MW offshore wind project off the coast of Delaware. Pricing was as follows:

- Energy: \$98.93/MWh
- Capacity: \$70.23/kW-year
- RECs: \$19.75

All of these prices were for 2007 and increased annually by 2.5% beginning in 2008. The Guaranteed Initial Delivery Date was June 1, 2014. The term of the PPA was 25 years following commercial operation of the Project.

The Final PPA is similar to the Draft PPA in many respects but with the following major differences:

- Delmarva would purchase the energy, capacity and RECs produced by only 200 MW of installed capacity (Final PPA), rather than up to 300 MWh per hour from a 450 MW project (Draft PPA);
- While energy and capacity prices would remain the same as under the Draft PPA, REC prices would be reduced from \$19.75 to \$15.32 (2007\$), subject to the same 2.5% annual escalation rate (Section 4.2(a)(iii));

⁴ See Assessment of Power Purchase Agreement Between Delmarva Power and Bluewater Wind Delaware LLC (Dec. 13, 2007) (IC Draft PPA Report).

⁵ “Deal reached on wind power for DE: DeLuca, Delmarva and Babcock & Brown forge compromise” (press release dated June 23, 2008).

- Of critical importance, the Final PPA has a condition precedent that two amendments to Delaware law be enacted: (1) Delmarva be entitled to receive a 350 percent credit toward meeting its obligations under Delaware's Renewable Energy Portfolio Standards Act ("RPS Act") for RECs received from the Bluewater project pursuant to the Final PPA (Section 5.1(a)(vii)); and (2) the Commission would be directed to establish an adjustable non-bypassable charge that would allocate all PPA-related costs under the Final PPA to Delmarva's Delaware distribution customers (Section 5.1(a)(vi));
- Bluewater would have the flexibility to build an offshore wind project of between 200 MW and 600 MW of installed capacity (Section 2.4(b));
- If, however, Bluewater is unable to find satisfactory buyers for the unsold energy, capacity, and RECs, or determines that it is otherwise not prudent to develop the Project, it may terminate the Final PPA on or by June 23, 2010 without liability and obtain the return of its \$6 million of Development Period Security (Section 2.4(a));
- Bluewater has agreed to a qualified most favored nations clause which would allow Delmarva to obtain the benefit of lower prices for energy, capacity and RECs if Bluewater or an affiliate enters into a more favorable agreement with another purchaser with respect to products from the Project prior to financial closing of the Project (Section 4.3);
- Importantly, Delmarva has agreed not to appeal or otherwise challenge regulatory approval of the Final PPA (Section 13.5).

The legislative condition precedents have already been satisfied. On June 25, 2008, Governor Minner signed into law Senate Bill No. 328, which would provide a 350 percent credit to Delmarva under the RPS Act for RECs purchased under the Final PPA and allocate the costs incurred as a result of the Final PPA among Delmarva's entire Delaware customer base through an adjustable non-bypassable charge.⁶ Senate Bill No. 328 passed the Delaware Senate and House of Representatives unanimously.⁷

Economically, Delmarva's purchase obligations for energy and RECs have been reduced from an estimated 1,106 GWh/year under the Draft PPA to approximately 559 GWh/year under the Final PPA, a 49% reduction. REC prices have been reduced by \$4.43/REC (2007\$). Hence, from a Delmarva customer standpoint, the \$/MWh Bluewater costs are reduced by \$4.43/MWh in 2007 (increasing by 2.5% per year), while the amount of energy, RECs and capacity is being reduced by approximately 49% per year. Since we have previously evaluated the Delmarva PPA as being over-market,⁸ these changes are beneficial from the standpoint of customer bill impacts.

⁶ <http://legis.delaware.gov/LIS/lis144.nsf/vwLegislation/SB+328?Opendocument>. Senate Bill 328 is attached as Appendix A to this report.

⁷ *Id.*

⁸ See IC Draft PPA Report at 5-8.

Another favorable modification in terms of reducing customer bill impacts is the allocation of Final PPA costs to all of Delmarva's Delaware distribution customers, rather than the smaller class of residential and small commercial ("RSCI") standard offer service ("SOS") customers. Finally, natural gas and electric energy costs and cost projections have increased over the past 6-9 months, which further serves to mitigate customer impacts.

Bluewater has stated that it has confidence that it will be able to build an offshore wind project of at least 200 MW in size pursuant to the Final PPA. While Delmarva would pay \$114.25/MWh for energy and RECs (in 2007\$), including \$15.32/MWh for RECs, Bluewater would only be required to deliver 28.6% of the RECs attributable to Delmarva's 200 MW energy entitlement (the reciprocal of the 350% RPS credit). Hence, Bluewater would receive \$53.62/REC for the 28.6% of RECs that it would have to deliver to Delmarva.⁹ In other words, for approximately 160,000 MWh of the estimated 559,000 MWh of energy that Bluewater would sell to Delmarva annually, i.e., RECs associated with 57 MW out of 200 MW of installed capacity, Bluewater would receive \$152.55/MWh for energy and RECs (2007\$). For the remaining estimated 399,000 MWh (energy/RECs associated with 143 MW), Bluewater would receive \$98.93/MWh for energy from Delmarva and would have 399,000 RECs to sell into the market (these RECs would not qualify for the 350 percent multiplier).

The commercial impact of the RPS multiplier is (a) it has allowed a smaller sale of energy and RECs to Delmarva at a lower cost to the consumer compared to that under the Draft PPA, while (b) providing Bluewater with a higher unit price for an even smaller quantity of RECs (associated with 57 MW) and giving Bluewater additional RECs to sell to the market (associated with 143 MW). The "cost" associated with the multiplier is that fewer MWhs of renewable energy will need to be produced (from anywhere) to satisfy the Delaware RPS Act requirements than would be the case if those requirements were satisfied by renewable energy not subject to the RPS multiplier. In other words, while the multiplier allows for lower costs to customers, the actual renewable energy generated for the Delaware RPS will be effectively lower than the ultimate 20% RPS goal if the Bluewater project is built and RECs are sold to Delmarva under the Final PPA.¹⁰

C. Matters Addressed in This Report

In this report, we present our economic evaluation of the proposed Final PPA (a) in comparison with the Draft PPA using the economic assumptions used in the IC Draft PPA Report, and (b) with updated economic assumptions.

In addition, to our reference case analyses, we also explore the economic impacts associated with the following sensitivities:

⁹ See Final PPA Section 3.1(a)(i)(C), Section 4.2(a)(iii) and Appendix 5.

¹⁰ Based on updated projections of Delmarva's distribution load, the difference between the amount of RECs Delmarva would be credited for under the RPS and the associated amount of energy produced by Bluewater represents 3-4% of projected Delmarva distribution load over the term of the Final PPA.

- Natural gas market prices are substantially higher or lower than projected;
- Federal Greenhouse Gas regulation is more stringent than expected or is not enacted;
- Combinations of (a) Natural gas prices are higher than projected and Federal Greenhouse Gas regulation is more stringent than expected or otherwise results in higher compliance costs than projected and (b) natural gas prices are lower than projected and Federal Greenhouse Gas regulation is not enacted or is no more stringent than the Regional Greenhouse Gas Initiative (“RGGI”).
- REC prices are substantially higher or lower than projected.

Next, we address some of the important commercial terms and conditions of the Final PPA not previously addressed, such as the most favored customer pricing provision and certain termination rights of the parties.

Finally, we address several “big picture” policy issues in connection with the Bluewater project, the Final PPA, and Senate Bill No. 328, including:

- The benefits, costs and risks associated with the Bluewater proposal as a hedge against market price risks;
- Impacts regarding climate change and the renewable energy market; and
- The feasibility of administering the contract consistent with customer choice and procurement of standard offer service.

These issues are addressed in the context of the strong support the Final PPA has received through the expeditious passage of Senate Bill 328.

II. Economic Analysis

A. Methodology and Presentation

Our methodology for determining the rate impact on customers is to compare the cost of the Final PPA to market rates for energy, unforced capacity (“UCAP”) and RECs associated with 200 MW of installed Project capacity. We then divide the annual above-market or below-market dollars by projected load of the customer class (in MWh) responsible for the costs and benefits associated with the contract (for the Final PPA, Delmarva’s Delaware distribution customers). The annual \$/MWh amount, which is in nominal dollars, is converted to \$/MWh in 2007\$ based on a projected 2.5% inflation rate. Then, a single real (2007\$) levelized \$/MWh above-market or below-market figure is calculated to determine the ratepayer impact over the entire term of the Bluewater PPA. Because the typical Delmarva residential customer uses approximately 1,000 kWh per month—one MWh—the \$/MWh figure is equal to a monthly bill for a typical residential customer.

As in our Draft PPA Report, we are presenting our results based on the following metrics:

- Impact on customers over the term of the PPA: in real levelized \$/MWh (2007\$) using a 2.5% inflation rate and a 6.3% real discount rate;¹¹
- Year-by-year rate impacts: (a) stated in today’s dollars (real 2007\$) and (b) stated in nominal dollars.

Customer impacts are presented in terms of today’s dollars to provide a better sense of the value of future net costs. Year-by-year impacts are also provided in nominal dollars for the reference case scenario to provide decision makers with information on the dollars to be paid in the future (with the value that future dollars may have after inflation).

Our analysis shows two major assessments:

- Using the same economic and load assumptions as in the IC Draft PPA Report (“Late 2007 Analysis”), a comparison between the Final PPA and the Draft PPA;
- An analysis of the Final PPA based on updated economic and load assumptions (“Updated Analysis”).

The Updated Analysis contains the same economic (market) assumptions as the Late 2007 Analysis, with the following changes:

¹¹ The metric for the bid evaluation in the RFP process was the levelized above-market (or below-market) cost impact on standard offer service customers in 2005\$. This metric was proposed by Delmarva’s consultant, ICF, and we concurred with it. We used that metric in our evaluation of the Bluewater/Delmarva Draft PPA, but updated it to then-current 2007\$ (also used in this report).

- Natural gas price estimates are higher based on an updated ICF International (“ICF”) reference case natural gas price forecast, resulting in higher energy market prices;
- Forecasted carbon dioxide allowance costs are higher in the first four years and last 12 years of the forecast contract term period (2014-2038) based on an updated ICF reference CO₂ case, resulting in higher energy market prices during these years; and
- Load forecast for Delmarva’s Delaware distribution customers is significantly higher than previously projected, due primarily to an error in information we previously received that inadvertently omitted distribution customers that purchase power from competitive retail suppliers (which has the effect of reducing customer bill impacts on a \$/MWh basis).¹²

We have retained the following assumptions used in the Late 2007 Analysis: forecasted capacity prices, projected system heat rates used in estimating future energy prices, forecasted capacity prices, and discount rates.

B. Overall Ratepayer Impact of Final PPA

As shown in Table 1 below, the Final PPA is superior to the Draft PPA and the initial 2006 Bluewater proposal in terms of customer bill impacts, primarily because the contract size has been reduced (MWh) and the customer usage against which the net costs would be allocated has increased.

Table 1: Comparison of Final PPA to Original Bluewater Proposal and Draft PPA

	Draft PPA (Late '07 Analysis)*	Final PPA (Late '07 Analysis)*	Final PPA (Updated Analysis)**
Contracted Annual Energy and RECs (GWh)	1,106	559	559
2014 Distribution Load	7,272	7,272	9,826
Percentage of 2014 Distribution Load	15.2%	7.7%	5.7%
Levelized Contract Cost (2007\$/MWh)	\$126.11	\$121.67	\$121.67
Total Contract Cost (Nominal \$million)	\$5,665	\$2,761	\$2,761
Real Levelized SOS Cost Impact (\$/MWh)	\$6.46		
Real Levelized Distribution Customer Cost Impact(\$/MWh)	\$3.37	\$1.67	\$0.70

* Uses erroneous Delmarva distribution load forecast from 2007

**Uses corrected Delmarva distribution load forecast

As shown above, the overall impact to Delmarva’s Delaware distribution customers is projected to be \$0.70/MWh in real levelized 2007\$ based on the Updated Analysis. This

¹² The updated load projections are set forth in Appendix B of this report.

is significantly lower than the \$3.37/MWh figure used in the IC Draft PPA Report for the Draft PPA and is lower than the \$1.67/MWh figure for the Final PPA using the Late 2007 Analysis. When applying the Late 2007 Analysis assumptions to the Draft PPA and Final PPA, the Final PPA has a lower cost impact (\$1.67/MWh) than the Draft RFP (\$3.37/MWh). The reasons for this decrease are summarized below in relative importance.

- Due to the reduced contract size, the percentage of energy and RECs purchased has declined from approximately 15.2% of distribution load in 2014 (declining to 10.8% in 2038) to approximately 7.7% of distribution load in 2014 (declining to 5.5% in 2038);
- The direct levelized unit cost of the products under the PPA have been reduced from \$126.11/MWh to \$121.67/MWh in 2007\$, due to the \$4.43/MWh reduction of the base year (2007) REC price.

There are several reasons why the Updated Analysis for the Final PPA results in a lower real levelized 2007\$ customer bill impact than under the Late 2007 Analysis (\$0.70/MWh compared to \$1.67/MWh).

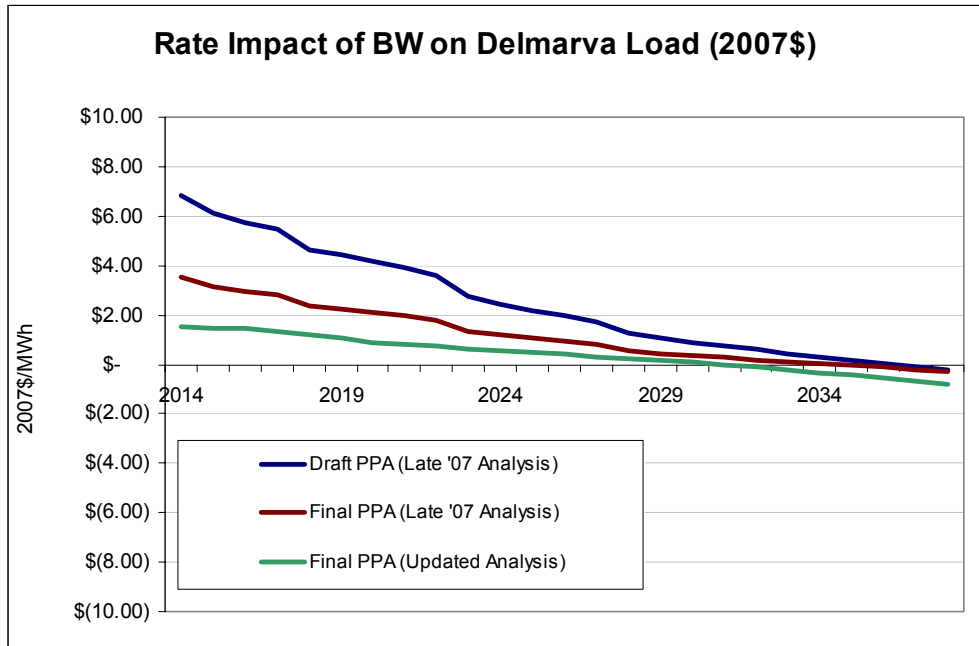
- A reduction in the percentage of energy and RECs purchased from approximately 7.7% of distribution load in 2014 (declining to 5.5% in 2038) to approximately 5.7% of distribution load in 2014 (declining to 4.1% in 2038) as a result of a 35% increase in projected Delmarva Delaware distribution load relative to the estimates used in the IC Draft PPA Report (due to an error in the estimates previously provided to the IC from Delmarva’s consultant);
- Forecast market energy prices are 21% higher in 2014 and approximately 7% higher on average over the term of the Final PPA than previously projected as a result of higher natural gas and CO₂ allowance cost forecasts; and
- The elimination of imputed debt, an indirect cost, due to the legislatively mandated cost-recovery mechanism and changes in Standard & Poor’s methodology for calculating imputed debt (discussed below).

In the following section, we present the estimated year-by-year customer bill impacts..

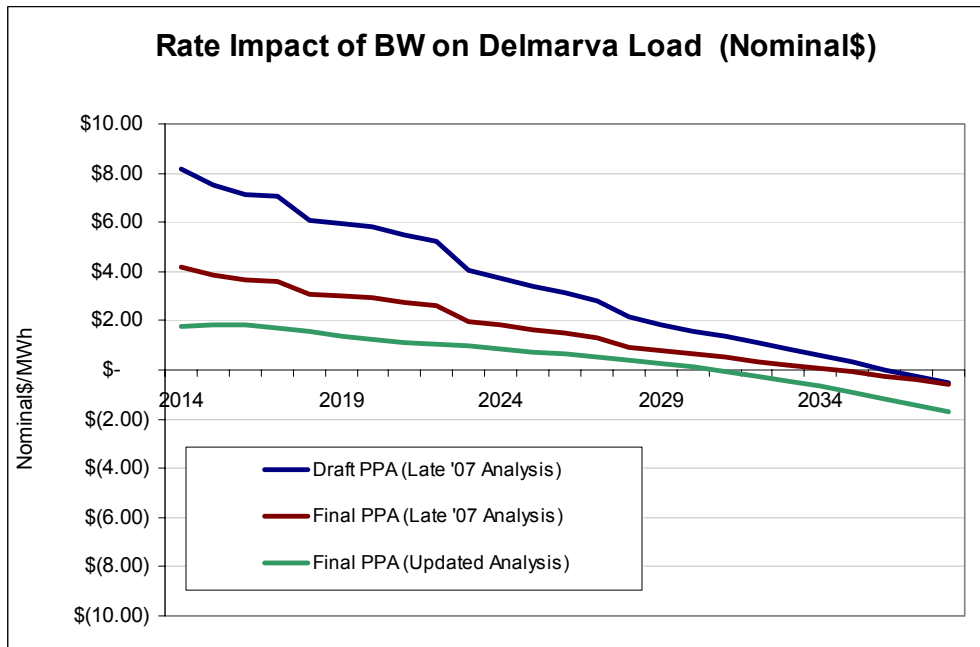
C. Initial and Year-By-Year Customer Impact

While in our reference case the impacts on distribution customers appear very modest, the impacts in the initial years when Bluewater is projected to come on line are somewhat higher, although not as significantly higher as they would have been under the Draft PPA using the Late 2007 Analysis. As shown in the graph below and the table in Appendix C, the impact in real 2007\$ is in the range of \$1.50/MWh—equivalent to \$1.50/month for a

typical residential customer using 1,000 kWh/month—for 2014, the first year, declining to \$1.19 in 2018, then breaking even and turning to savings by 2031.



In nominal dollars (the future value of dollars rather than dollars with today’s value), the impact is somewhat higher--\$1.79/MWh in 2014,¹³ declining to approximately \$1.56/MWh in 2018, before eventually turning positive in 2031 (as shown in the graph below and the table in Appendix C).



¹³ This is equivalent to \$30/MWh if one divides the projected above-market cost by the projected energy output associated with Delmarva’s 200 MW entitlement from the Bluewater project.

Hence, based on our forecast of energy, capacity and REC prices, the rate impacts during the first several years of service in today's dollars will be approximately double the real levelized cost impact over the entire 25 years of the Bluewater PPA. Over time, the impact is reduced until it breaks even and turns positive more than half-way through the contract term.

D. Updated Analysis Assumptions

In this section, we address the key assumptions behind our energy, REC and capacity market forecasts, imputed debt analysis, and the distribution load forecast used in our reference case assessment.

Energy Prices: Natural Gas, Carbon Dioxide Allowance Costs, System Heat Rate

Important inputs to our energy price forecast are forecasts for delivered natural gas prices to PJM, carbon dioxide allowance costs, and system heat rate, the relationship between natural gas market prices (and in future years, carbon dioxide allowance costs) and electric energy market prices.

Earlier this year, ICF revised its natural gas price forecast higher, reflecting some of the market developments in the last 6-9 months. Henry Hub natural gas prices for the month of June in 2007 averaged about \$7.40/MMBtu. This June (2008), Henry Hub natural gas prices have jumped up to around \$12-\$13/MMBtu. Currently, the NYMEX futures price for contracts for 2014, though thinly traded, are averaging around \$11/MMBtu. This is significantly higher than the fourth quarter 2007 futures prices for the same period.

Similarly, the NYMEX futures market for PJM as of June 30, 2008, shows the all-hours futures price for 2013 is \$85.67/MWh (\$102/MWh on-peak and \$73/MWh off-peak). Our energy price forecast for 2014, the first year that we project Bluewater to be in operation, is \$84.11/MWh, which is very close to the PJM futures price for the preceding year.

For our carbon dioxide allowance cost forecast, we used an updated ICF forecast with prices that are higher overall than those used in the Late 2007 analysis, especially in the last decade of the analysis.

We have used the same implied system heat rate as in our Late 2007 Analysis. We note that the implied market heat rate in Eastern PJM has increased dramatically over the last year. When we conducted the previous analysis, the annual average implied market heat rate (July 2006-June 2007) was around 7,300 btu/kWh. The market heat rate has climbed to over 8,100 btu/kWh this past year (July 2007-June 2008) as more natural gas units set the marginal price in the region, reinforcing the IC's market heat rate approach and projections.

REC Prices

In the past 18 months since bids were submitted in response to Delmarva's RFP, REC market prices in the Mid-Atlantic region have increased from the low teens to the low twenties, based on discussions with market participants and broker quotes for the next few years (although the market is admittedly thin and illiquid over the longer term). The most visible market is broker quotes for New Jersey Class I RECs for 2009 and 2010, which are in the \$18-\$24 range. Moreover, in light of the size of the project and the additional RECs that would be available to sell into the broader PJM market in connection with the Final PPA provisions and the RPS multiplier, there may be a dampening effect on market prices if and when the project goes into service, a point we have noted in previous reports (an indirect economic benefit to customers that our model does not directly value). Hence, we are comfortable with continuing to use a REC market forecast of \$19.75 in 2007, escalating at 2.5%/year, as used in the Late 2007 Analysis. This is consistent with the continuing increase in RPS demand for a number of states in the region, concerns about the ability of renewable energy development to keep up with the demand, and the need for REC value for renewable project developers in light of increasing construction costs.

Capacity Prices

We use the capacity price forecast from our Late 2007 Analysis. While construction costs in the industry continue to escalate, our view is that our prior capacity price projection remains appropriate for this evaluation.¹⁴

Imputed Debt

In our December 2007 report on the Draft PPA, our customer bill impact estimate included \$0.64/MWh for imputed debt allocated across the SOS customer base and \$0.33/MWh allocated across Delmarva's distribution customers on a real levelized 2007\$ basis. This analysis was based on Standard & Poor's methodology as enunciated on November 1, 2006 for imputing debt applicable to power purchase agreements with wind farms where the predominant payment is in \$/MWh. Under this methodology, a proxy capacity payment based on the cost of new combustion turbine is used and a risk factor of 25% where the costs are to be recovered under a power cost/fuel cost recovery mechanism authorized by a public service commission.¹⁵

Our assessment is that there likely will be no imputed debt associated with the Final PPA and, if there is any, it will likely be negligible. First, a condition precedent of the Final PPA, which has already been satisfied, is that the Delaware Legislature will enact into law a requirement that the costs associated with the Final PPA will be recovered from all Delmarva distribution customers. Standard & Poor's has stated that the risk factor associated with legislatively-mandated cost recovery will be "as low as 0% because legislatively prescribed recovery mechanisms are viewed as providing utilities with a

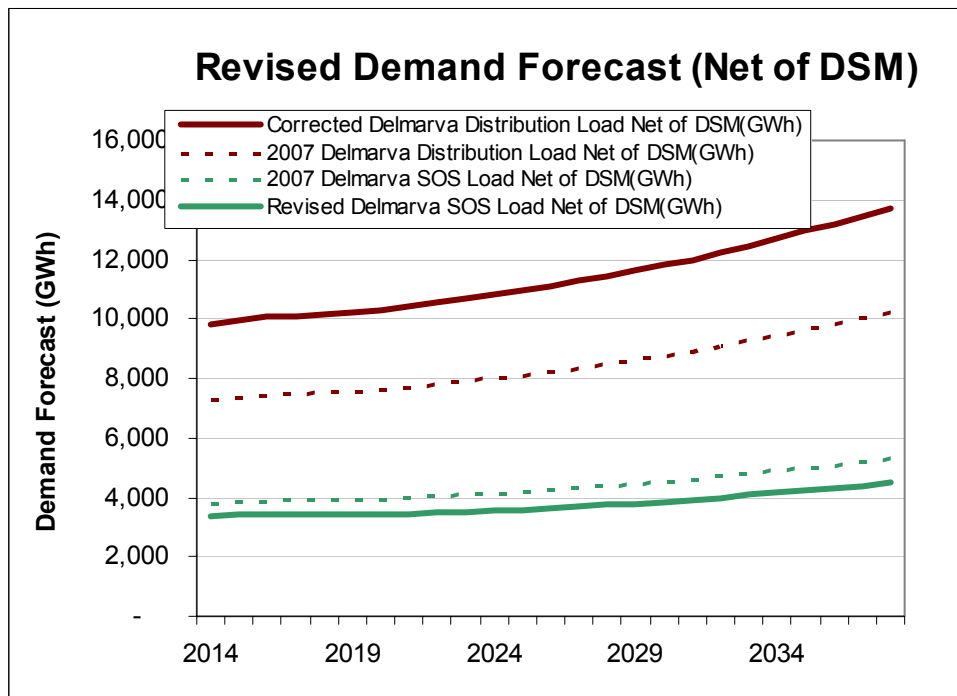
¹⁴ The capacity price forecast is explained in Assessment of Term Sheets for Proposed Power Sales to Delmarva Power, at 28-31, attached as Exhibit A to PSC Staff Report on the Term Sheets for Proposed Power Sales to Delmarva Power (October 29, 2007).

¹⁵ Standard & Poor's, Request for Comments: Imputing Debt to Purchased Power Obligations (Nov. 1, 2006).

greater level of protection than that provided by regulatory orders.”¹⁶ In light of the attention this project, power contract and cost recovery mechanism has received from the Legislature, we view it likely that the risk factor associated with this PPA will be 0%. Second, even if a small risk factor (e.g., 5% or 10%) would be assigned, S&P has subsequently revised its imputed debt methodology to multiply the amount of capacity used in the imputed debt calculation by the expected capacity factor.¹⁷ Hence, rather than imputed debt being calculated on the cost of 200 MW of combustion turbine capacity, it would be calculated based on approximately one-third as much or 67 MW. Finally, the rate impact would be reduced from the PPA negotiated in December 2007 due to the reduced size of the PPA (from 300 MW to 200 MW) and allocated across all Delmarva Delaware distribution customers. If there would be any imputed debt associated with the Final PPA, it would be less (under current S&P guidance) than \$.05/MWh on a real levelized basis.

Demand Forecast

We have used an updated demand forecast for Delmarva’s Delaware distribution load, which corrects estimates previously provided to us by Delmarva’s consultant that were incorporated into our Draft PPA Report in December 2007.. As mentioned previously, the correction of this error increases the forecast distribution load by approximately 35%, resulting in a larger customer base to spread costs. The revised distribution and SOS load forecasts are presented in the figure below.



¹⁶ *Id.* Subsequently, Standard & Poor’s has stated that the range of risk factors for legislatively-mandated cost recovery is 0% to 15%. Standard & Poor’s Methodology for Imputing Debt for U.S. Utilities Power Purchase Agreements (May 7, 2007).

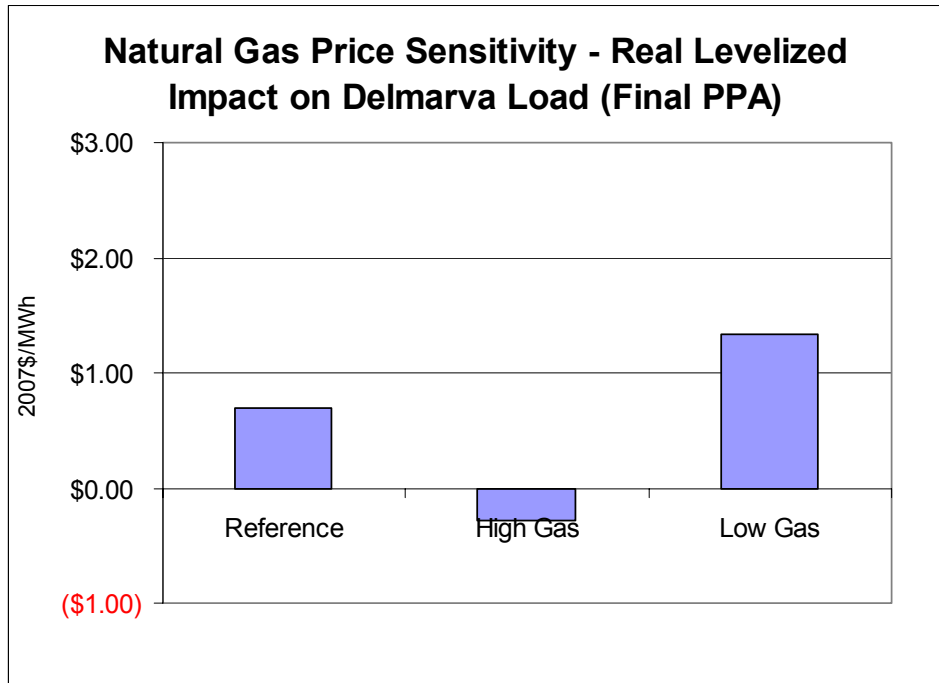
¹⁷ Standard & Poor’s, Methodology for Imputing debt for U.S. Utilities’ Power Purchase Agreements (May 7, 2007).

E. Sensitivity Analyses and Economic Risks

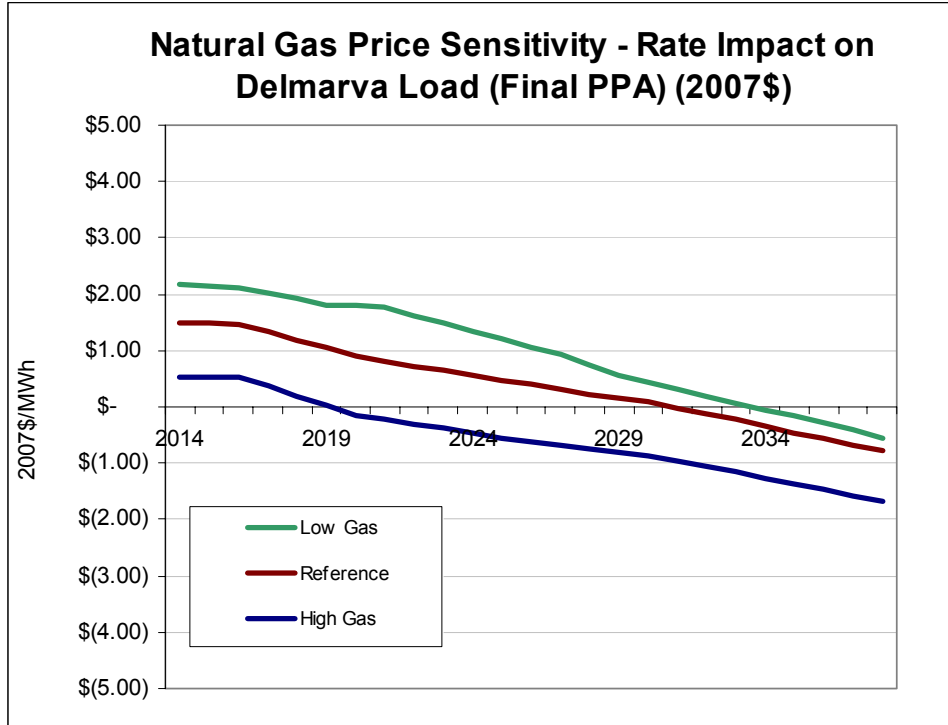
In this section of the report, we explore alternative scenarios and resulting ratepayer impacts.

Natural Gas Prices

In a scenario where natural gas prices are projected to be 30% higher than the reference case based on the revised ICF forecast, the Final PPA results in overall savings for the distribution customers, albeit at relatively low levels.



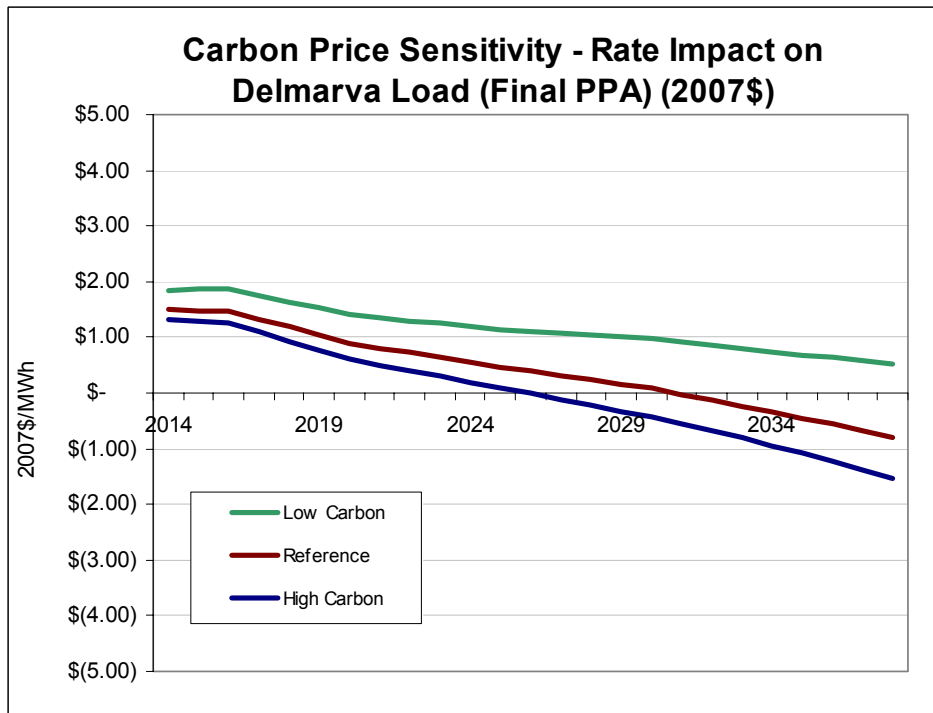
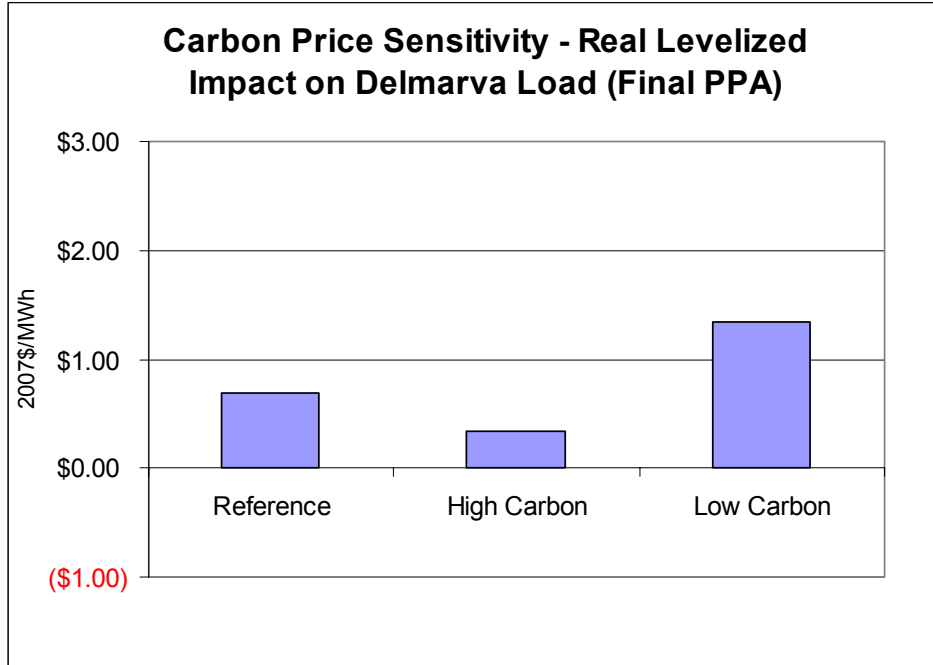
In the initial years, with the high natural gas forecast, the ratepayer impacts for Delmarva distribution customers are about \$0.50/MWh. The ratepayer impact declines in subsequent years until it is projected to result in savings by 2020, sooner than the reference case.



If natural gas prices follow the “Low Gas” trajectory—based on the Energy Information Administration’s Annual Energy Outlook 2008 Reference case—rate impacts would be somewhat higher than shown in our reference case throughout the 25-year term of the Bluewater PPA. The low gas sensitivity case has a cost impact of over \$2.00/MWh in the initial years and does not provide savings until 2034.

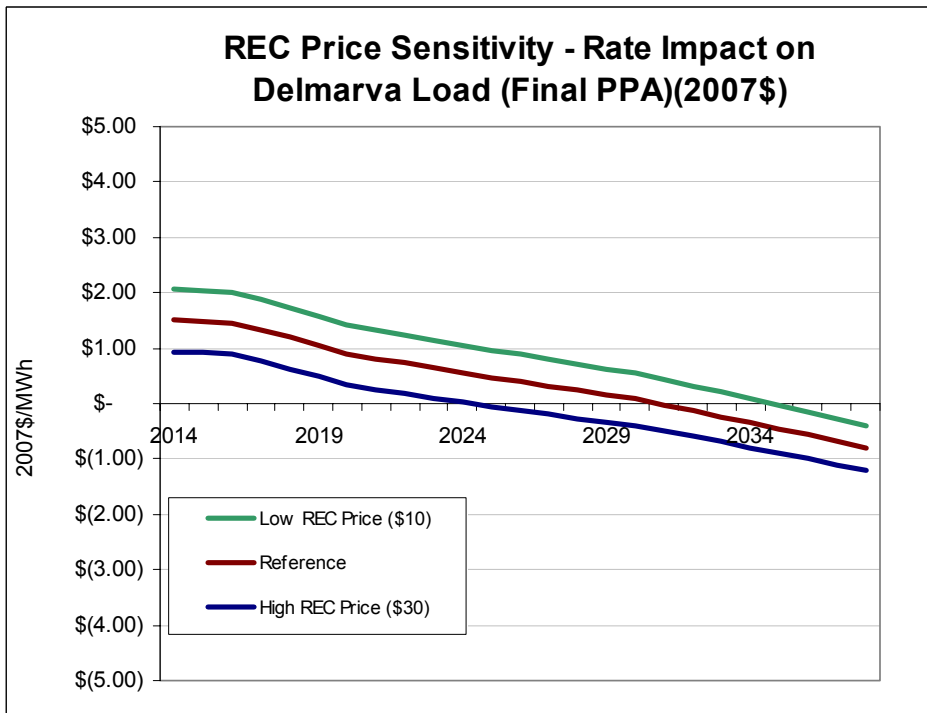
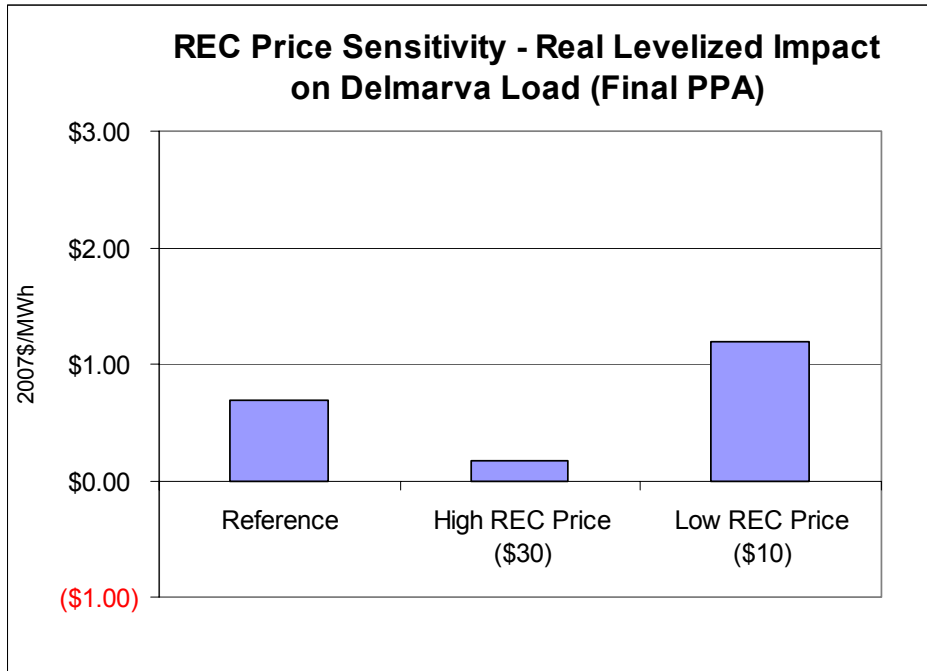
Carbon Regulation

If the Federal Government does not enact greenhouse gas control legislation or if it does, it is no more stringent than those under the Regional Greenhouse Gas Initiative (“RGGI”), the real levelized cost to distribution customers increases to \$1.34/MWh levelized (2007\$). In a case where controls are more stringent than projected, the impact is reduced to \$0.34/MWh over the term of the PPA. While using the reference carbon case is reasonable over the term of the PPA, there are substantial risks that (a) the commencement of a federal regulatory scheme will be delayed well beyond our projected start date for the Bluewater project—2014—and (b) on the other side of the equation, the costs associated with CO₂ regulation will be much higher than projected, resulting in lower customer cost impacts associated with the Final PPA.



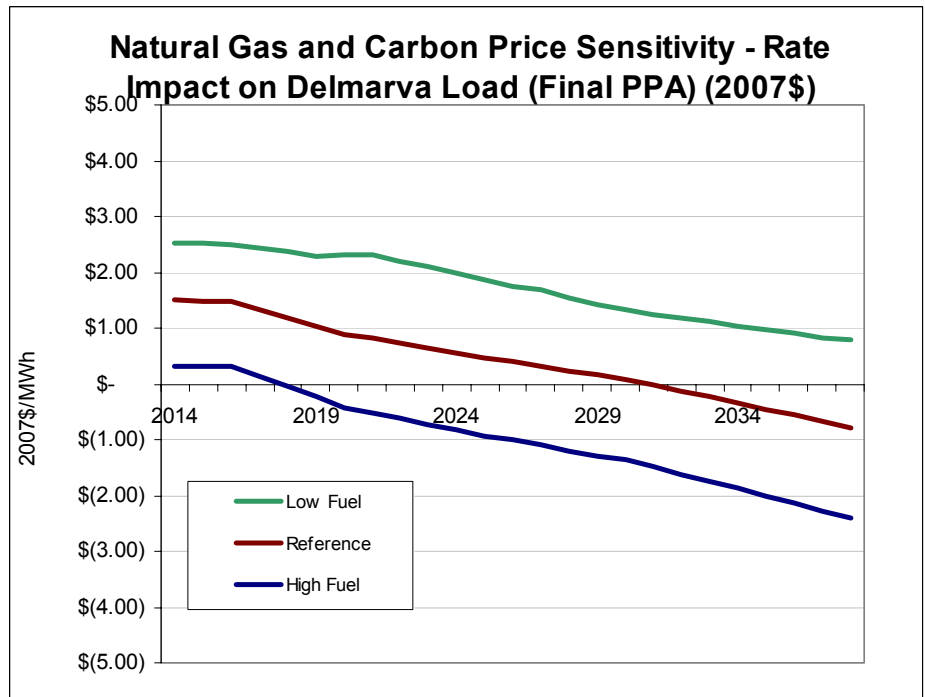
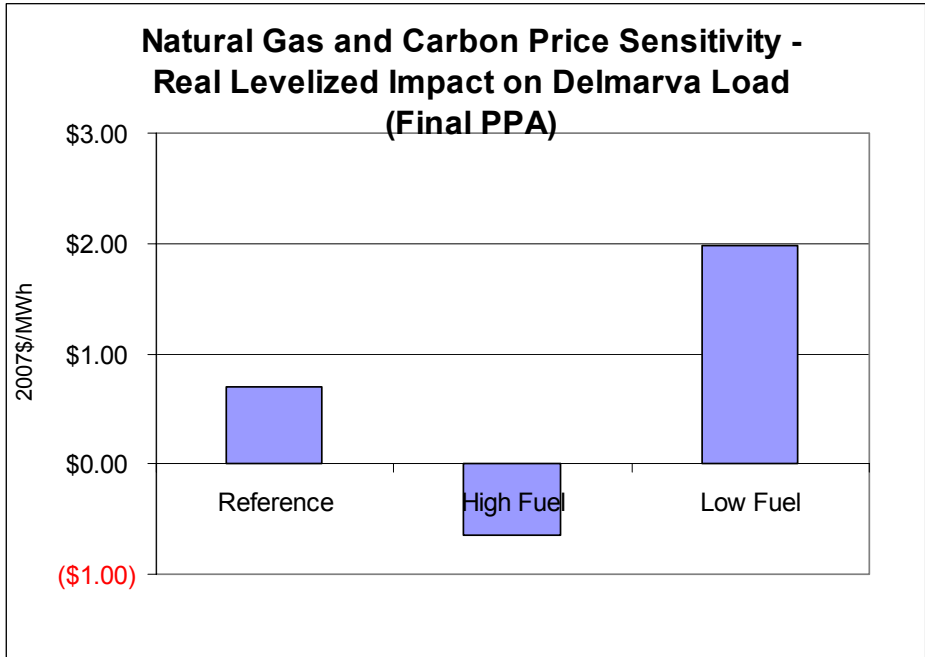
REC Prices

If one assumes that REC prices are \$10 higher or lower than Bluewater’s price of \$19.75 in 2007\$, the impact on distribution customers will be approximately \$0.55/MWh higher or lower than the reference case forecast of \$0.70/MWh. We recognize that there is substantial uncertainty regarding REC market prices over long time periods.



Combined Scenarios

We also ran scenarios that combined high natural gas prices and high carbon prices—the High Fuel scenario—and low natural gas prices and low carbon prices (assuming that federal carbon control regulation is not enacted)—the Low Fuel Scenario. These scenarios, unsurprisingly, produced substantially more favorable and unfavorable customer impacts for the Final PPA.



Other Variables

In our assessment of the term sheets in October 2007, we also explored the impact of higher and lower capacity prices than projected, 10% higher Bluewater output than projected, and a lower rate of increase in market energy prices due to a flat rather than increasing system heat rate over time. In these analyses, results were within \$1-2/MWh in real levelized 2007\$ of the reference case, and we expect that the impact would be substantially less with the Final PPA analysis due to a larger customer base to spread costs.

F. Conclusions on Ratepayer Impacts

Due to higher forecasted energy market prices, lower quantities of energy purchases from Bluewater, and a larger customer base to allocate net costs, the forecasted customer bill impact to ratepayers is substantially less than in our evaluation of the Draft PPA in December 2007. Sensitivities show that the range of impacts are slightly positive to modestly negative based on variances in key economic assumptions.

III. Assessment of Final PPA Terms and Conditions

In most respects the Final PPA is very similar to the Draft PPA, which we previously found “as a whole” to be “a reasonable commercial document in terms of its risk allocation between Bluewater and Delmarva.”¹⁸ Here, we focus on the provisions of the Final PPA which differ from the Draft PPA.

Contract Terms Pertaining to Economics and Delmarva Cost Recovery

Most of the changes in the PPA from the Draft PPA to the Final PPA pertain to the fundamental economics of the transaction. As indicated in Section I.B of this report, these changes include the following:

- Delmarva would purchase the energy, capacity and RECs produced by only 200 MW of installed capacity (Final PPA), rather than up to 300 MWh per hour from a 450 MW project (Draft PPA);
- While energy and capacity prices would remain the same as under the Draft PPA, REC prices would be reduced from \$19.75 to \$15.32 (2007\$) (Section 4.2(a)(iii));
- Of critical importance, the Final PPA has a condition precedent that two amendments to Delaware law be enacted (which conditions precedent have already

¹⁸ Draft PPA Report at 20.

been satisfied): (1) Delmarva be entitled to receive a 350 percent credit toward meeting its obligations under Delaware's RPS Act for RECs received from the Bluewater project pursuant to the Final PPA (Section 5.1(a)(vii)); and (2) the Commission would be directed to establish an adjustable non-bypassable charge that would allocate all costs under the Final PPA to Delmarva's Delaware distribution customers (Section 5.1(a)(vi)).

We have evaluated the impacts on customer bills of the foregoing provisions.

There are several other new contract provisions which have potential economic consequences. First, Bluewater and Delmarva have agreed to a qualified "most favored customer pricing" clause (Section 4.3), a type of contract provision generally referred to as a "most favored nations" clause. Under this provision, if Bluewater or an affiliate enters into a power sale agreement, directly or indirectly, prior to financial closing with respect to products from the Project (or from any offshore wind facility within 50 miles of the Project) that is more economically favorable to the purchaser, then Bluewater must offer these more favorable terms and conditions to Delmarva with respect to the 200 MW of energy, capacity, and RECs that Delmarva has committed to purchase under the Final PPA. In assessing REC prices under this provision, the RPS Multiplier under the Final PPA is not considered. There are several exclusions: (a) any sale of RECs without energy; (b) sales under a contract with the Delaware Municipal Electric Corporation based on previously negotiated terms (sales of energy are anticipated to be approximately 100,000-150,000 MWh annually); and (c) sales of RECs associated with energy from Delmarva's 200 MW entitlement to the Project that is not sold to Delmarva due to the RPS Multiplier (estimated to be approximately 400,000 RECs/year). Generally, Section 4.3 would apply to sales (unless exempted) that are associated with an expansion of the Project over 200 MW (or the construction of a nearby project) before financial closing of the Project.

It is very unusual for a developer selling a portion of the energy and capacity (and RECs) from a project to one buyer to agree to any form of most favored nations clause. Similarly, it is unusual for a power purchaser to successfully negotiate to obtain such a commitment from a seller. The reason is that it puts a substantial constraint on the seller's flexibility to obtain additional power sales contracts without jeopardizing the revenues associated with the contract that has already been executed.

From the standpoint of Delmarva's distribution customers, this provision is favorable since it provides an opportunity for potential rate reductions if Bluewater is successful in obtaining additional power sales contracts at lower rates. At the same time, the exceptions and limitations are reasonable in the context of this transaction and the challenges that Bluewater faces in its ability to successfully develop and finance the Project.

Section 2.5 of the Final PPA provides Delmarva with the right to terminate the Final PPA if within two years after execution of the Final PPA, the legislation creating the 350 percent RPS multiplier and directing the Commission to adopt a non-bypassable charge to distribution customers is amended or repealed and Delmarva suffers a material adverse effect as a result. Since these legislative changes are a condition precedent to the Final PPA and are apparently critical to acceptability of the agreement to Delmarva, it is reasonable for Delmarva to have such a termination right if there are changes to the

legislation which have a material adverse impact on Delmarva. Importantly, there is a limited time period—until June 23, 2010—in which the trigger event would have to occur so that the potential termination right would not impair Bluewater’s ability to finance the Project.¹⁹

Critical Milestones, Liquidated Damages and Security

The Final PPA provisions on critical milestones, development period security, operational period security, and delay damages are generally consistent with those in the Draft PPA, with exceptions noted below.

First, contractual milestone dates have been extended by six months, which, according to Delmarva and Bluewater, is due to the delayed signing of the PPA from the submission of the Draft PPA in December 2007.²⁰ The Guaranteed Initial Delivery Date is now December 1, 2014, rather than June 1, 2014. In light of the delay in reaching agreement on the Final PPA, extension of the contractual milestones is reasonable.

With expected energy output attributable to Delmarva’s entitlement approximately 50 percent less than under the Draft PPA, development period security, operating period security, and liquidated damages for delay, poor performance, and various termination rights are 50 percent less in amount than the amounts embodied in the Draft PPA.²¹ We view these provisions as commercially reasonable, consistent with our earlier opinion on the Draft PPA. The security provisions are somewhat lower than the standard terms in the RFP—\$30/kW for development period security (\$6 million) instead of \$40/kW (\$8 million) and \$60/kW (\$12 million) rather than \$80/kW (\$16 million) for services term security. However, the lower security levels are justified by the reduced risk to Delmarva and its customers associated with the smaller size of the contract and the allocation of costs to a broader set of Delmarva’s customers. Moreover, they are within the range of commercial reasonableness for PPAs for renewable energy projects arising out of utility RFPs.²²

The most significant change from the Draft PPA in terms of risk allocation is the provision that allows Bluewater to terminate the PPA and obtain its development period security back if within two years it is unable to find satisfactory purchasers for energy, capacity

19 In comments filed on June 30, 2008, Jeremy Firestone raised the question as to whether this provision could apply more generally to changes in the RPS Act rather than to the 350% credit embodied in Senate Bill 328 specifically; he called upon Delmarva to state on the record that the more narrow interpretation is applicable. Our interpretation of Section 2.5 is that Delmarva could only exercise the termination right if there was a modification of the 350% RPS credit that resulted in a material adverse effect on Delmarva and that Delmarva would not have the right to terminate based on other changes in the RPS Act (unless such modifications would result in adverse changes to the non-bypassable charge mechanism for Delmarva to recover the costs associated with the final PPA from its Delaware distribution customers).

²⁰ Joint transmittal letter to the State Agencies dated June 23, 2008, <http://dep.sc.delaware.gov/electric/irp/ppatransmittal062308.pdf>, at 3.

²¹ See Sections 3.15, 5.4(a), 5.4(b), 5.6, and 8.1.

²² For example, in a recently approved renewable energy RFP, development period security is \$30/kW while operating period security is \$40/kW (Hawaiian Electric Company, Inc. RFP Section 3.12, <http://www.heco.com/vcmcontent/GenerationBid/HECO/HECOFinalRFPforRenewableEnergyProjects.pdf>). In another renewable energy RFP, development period security assuming a 32% capacity factor is \$28/kW and operating period security is \$84/kW (San Diego Gas & Electric Co. 2008 Renewables RFO at 26-27, <http://www.sdge.com/documents/rfo/renewablerfo2008/RFO.pdf>).

and RECs not sold to Delmarva or determines that it is otherwise not prudent to continue to develop the Project. While provisions allowing Seller termination rights with no liability if the developer using commercially reasonable efforts fails to obtain permits or to overcome some other specific development hurdle are sometimes negotiated, a blanket “walk away” right such as that embodied in Section 2.4(a) of the Final PPA is very unusual in agreements with investor-owned utilities, in our experience. However, in the context of the Final PPA, where Bluewater has taken on considerably more risk as a result of the reduced sales to Delmarva and the most favored nations clause and taking into consideration the considerable risks associated with developing the first offshore wind project in the United States, we do not find this provision to be commercially unreasonable.

Finally, we note that the Final PPA includes the contract provisions in the Draft PPA that were incorporated as the result of Professor Hammermesch’s determinations, with applicable adjustments due to the change in contract size (FIN 46—Section 12.4, Negative LMP—Section 3.4(d)), Assignment/Changes of Control—Section 14.5(a), Contract Capacity—Section 1.1, Extension of Milestones due to Litigation by Delmarva or Affiliates—Section 13.4, Delmarva Lien on Shared Facilities—Section 8.3(b), and Allocation of Costs Due to Revised Resource Adequacy Requirements—Section 3.14).²³

Overall Assessment

The Final PPA as a whole is commercially reasonable in terms of its risk allocation between Bluewater and Delmarva under the particular circumstances presented by Bluewater’s proposal and the difficulties associated with both parties reaching a voluntary agreement.

IV. Policy and Contract Management Issues

The State Agencies are faced with some important policy questions in determining whether to approve the Final PPA. These include the extent to which the Final PPA will (a) foster some degree of long-term price stability for Delmarva’s distribution customers at an acceptable cost and with acceptable risks, (b) contribute to addressing climate change and advancing renewable energy development without having a significant negative impact on Delaware’s RPS and the REC market, and (c) provide the potential for being feasibly managed by Delmarva and the Commission.

Senate Bill 328

While we address each of these questions below, it is important to point out that legislative changes were critically important to the ability of Delmarva and Bluewater to consensually achieve an executed agreement and that the necessary legislation was

²³ See “Resolution and Commentary on Disputed Issues in the Delmarva/Bluewater Power Purchase Agreement” (December 12, 2007), <http://depssc.delaware.gov/electric/irp/Arbitrator%20Report%20121207.pdf>.

enacted within two days of the execution of the Final PPA with the unanimous support of the Delaware House of Representatives, the Delaware Senate and the Governor. In our view, the institutional support for the Final PPA should be given considerable weight in review of the Final PPA and the associated policy issues and implications.

Price Stability, Cost and Risk

One of the objectives of EURCSA (House Bill 6) was to foster long-term price stability for SOS customers. The RFP process for long-term power contracts from new generation to be built in Delaware was a vehicle to help achieve that objective. This objective was made more palatable for SOS Customers with respect to the Final PPA by the passage of Senate Bill 328 which effectively reduces the customer cost impact by virtue of the 350% RPS credit and by allowing a wider allocation of net contract costs to all Delmarva distribution customers in the state. The result is that the Bluewater PPA becomes a mechanism for providing price stability for all Delmarva's Delaware distribution customers, rather than just the SOS customers, although the potential benefit is relatively small because the energy and RECs from the Final PPA represent less than 6 percent of customer load.²⁴ On the other hand, the related costs and risks are relatively small as well. Nevertheless, an important question is how effective is the Final Bluewater PPA in providing price stability relative to the costs and risks.

Wind energy projects generally are quite effective in hedging long-term energy market price risk. While output is variable on an hourly and daily basis, it is quite predictable over the long term. However, a key issue is the level of development risk (i.e., the degree of uncertainty as to whether the project will go into operation) and the timeframe before one knows that the project will be successfully financed and constructed. In the IC Draft PPA Report, we expressed concern regarding the opportunity cost associated with the Draft PPA.²⁵ The lead time for offshore wind projects (four to eight years) is generally longer than for onshore wind projects or natural-gas fired projects and development risk is higher. With the longer lead times, Delmarva could be precluded from taking some other action (such as entering into other PPAs) that could hedge market prices while it is unknown whether Bluewater will be successful in developing, financing and constructing the Project.²⁶

While this is an inherent risk associated with the Bluewater proposal, it is mitigated in several respects by the Final PPA and Senate Bill 328. First, since the costs and benefits of the PPA will be borne by a far broader class of customers and only a portion of the

²⁴ Price stability is provided through the non-bypassable charge (or credit) assigned to distribution customers associated with the net cost or benefit associated with the Final PPA. If market prices rise above the costs paid by Delmarva under the Final PPA so that the sales price Delmarva obtains for selling the products into the market or under contract to a wholesale supplier are greater than the purchase price under the Final PPA, distribution customers would receive a credit on their bill. Conversely, if costs under the Final PPA are higher than the price Delmarva could obtain for selling the products, distribution customers would be assigned their share of the net costs. This works as a hedge, albeit for a small portion of distribution customers' power purchases, because if market prices go up higher than expected, they will have a smaller cost or obtain a benefit through the Final PPA's stable pricing.

²⁵ See IC Draft PPA Report at 17.

²⁶ This opportunity cost includes the risk that the federal Production Tax Credit will not be extended through the time when the Bluewater Project wind turbines come on line, which would likely increase the cost of replacement power from other wind energy projects.

costs and benefits will be assigned to RSCI SOS customers, there is a substantial opportunity for Delmarva to hedge energy and/or REC price risk for these SOS customers through PPAs with other wind energy projects.²⁷ Second, the free “walk away” provision in the Final PPA which can be exercised by Bluewater only by June 23, 2010 provides a strong financial incentive for Bluewater to terminate the PPA at that time (and not several years later) if the project does not appear feasible or financially worthwhile. In this regard, we note that the sharp increase in steel prices over the five-year period ending in 2006 (an annual average increase of 16.4%),²⁸ has accelerated even more rapidly over the past 12 months (an increase of 63%),²⁹ which increases the risk that Bluewater will not be able to finance and build the project under the Final PPA prices. Importantly, if Bluewater is unable to successfully develop the Project, Bluewater is solely at risk for its expenditures and investment; Delmarva and its customers will not be responsible for any payments to Bluewater.

While onshore wind can be produced less expensively because siting, permitting, developing, and constructing onshore wind projects is easier, takes less time, is less costly and imposes less technological, construction, and execution risk, Delaware has little in the way of onshore wind potential due to its geography and wind resource. Importantly, no developer submitted a proposal for an onshore wind project in the RFP process and out-of-state wind project proposals were not eligible to be submitted in the RFP process.

Climate Change and Impact on the Renewable Energy Market

Our economic analysis effectively monetizes the projected cost of reduction of carbon dioxide emissions, an accepted way of addressing the external costs associated with electric power generation. Because a wind project will have no carbon dioxide emissions, this analysis forecasts increased energy market prices without adding any associated cost to a wind project. Hence, these external costs are incorporated into the economic evaluation.

Carbon dioxide emissions, which contribute to climate change, are a major societal cause for concern. Climate change is likely to be the greatest environmental challenge we will face in this century. Approving the Bluewater PPA would pave the way for pioneering development of an offshore wind energy industry in the United States. This would undoubtedly be a major step both in itself and as an example of what can be done to address climate change.

Of concern, however, from a policy standpoint is the amendment to the Delaware RPS Act to provide a 350% credit multiplier to RECs sold pursuant to the Final PPA. One impact of the Final PPA, Senate Bill 328 and the construction of the Bluewater Project is that less RECs from other projects would be needed to meet the Delaware RPS than if there was no

²⁷ We note that Delmarva has separately issued a RFP for power purchase agreements for energy and RECs from out-of-state wind projects and has recently executed several PPAs pursuant to the RFP that are subject to regulatory approval by the Commission.

²⁸ See IC “Assessment of Term Sheets for Proposed Power Sales to Delmarva Power” at 17, attached as Exhibit A to PSC Staff Report on the Term Sheets for Proposed Power Sales to Delmarva Power (dated October 29, 2007).

²⁹ See CRU Global Steel Prices Index (as of July 1, 2008), <http://cruonline.crugroup.com/SteelFerroAlloys/PriceIndex/tabid/143/Default.aspx>.

350% credit multiplier. Effectively, the RECs produced by 57 MW of the Bluewater Project will count as if they were produced by a 200 MW wind project. A potential unintended effect could be the softening of the market for RECs which could make it more difficult for developers to finance their renewable energy projects. Another potentially unintended impact is that future equity or debt investors in these projects or potential power purchasers might be reluctant to make financial commitments based on the REC market due to concerns that future legislative changes could dilute renewable portfolio standards.

While these concerns are not without basis, the credit multiplier for the Bluewater PPA is similar to other provisions in the Delaware RPS Act and in other state renewable portfolio standards and there are countervailing benefits flowing from the Final PPA. First, the Delaware RPS Act and renewable portfolio standards in other states have similar credit multipliers (although the 350% credit is higher than we have seen) or other provisions, such as specific tiers for solar photovoltaic projects, which are designed to support renewable technologies that are more expensive than the lowest cost renewables but which have other desirable features.³⁰ Based on the long and arduous path followed by Bluewater en route to the Final PPA, it seems apparent that an RPS multiplier of this approximate magnitude was critical in achieving a consensual agreement with Delmarva—which is important since the risk that Delmarva would appeal regulatory approval of the PPA has been eliminated in the Final PPA.

Moreover, offshore wind is more expensive and difficult to finance than onshore wind and hence is legitimately in need of special legislative support assuming state elected officials want to support it. In New England, strong RPS requirements in several states have not led to commensurate development of renewable energy projects, resulting in retail energy suppliers making alternative compliance payments rather than purchasing RECs from projects. It is conceivable that the same scenario in PJM could occur in future years. Yet, it is also evident that offshore wind will not be successful without special supports to be provided at the state or federal governmental level. Hence, there is more certainty that the Delaware RPS will support an offshore wind project that otherwise could not likely be financed and constructed than there is certainty that it will support onshore wind projects that otherwise could not be financed and constructed. Of course, if Bluewater is unsuccessful and no wind energy project is built, the Delaware RPS will not be directly affected by the RPS credit multiplier.

It would be helpful, however, if statements or actions were taken by state legislators and officials that they would not support weakening of the Delaware RPS Act or would support strengthening it in order to counteract any adverse and unintended consequences associated with Senate Bill 328. However, we recognize the delicate commercial and political balancing that led to the Final PPA and Senate Bill 328 and the role and responsibilities of the State Agencies in this proceeding, and we are not specifically recommending any particular statement or action be taken by the State Agencies in

³⁰ Under the Delaware RPS Act, retail electricity suppliers are entitled to receive (a) a 300% credit for customer-sited solar photovoltaics physically located in Delaware or a fuel cell powered by renewable fuels and (b) a 150% credit for wind energy installations sited in Delaware on or before December 31, 2012. See Rules and Procedures to Implement the Renewable Energy Portfolio Standard, Sections 3.27 and 3.28 (June 10, 2008). Other state renewable portfolio standards with multiplier credits include Maryland, Arizona, Nevada, Colorado, and the District of Columbia.

connection with their decision whether to approve the Final PPA. Regardless, there may be some dampening impact on the REC market due to Senate Bill 328 and the Final PPA. However, since the REC market is effectively a regional market, any dampening effect would be attenuated.

Finally, the long-term beneficial effect of providing a jump start to what could become a burgeoning clean energy industry segment could be considerable to Delaware and the nation. On balance, there are substantial positive attributes associated with the Final PPA and Senate Bill 328 and while there are potential negative consequences, they could be mitigated through further statements or actions by Delaware legislators and officials.

Contract Management Issues

As we have stated in prior reports, there are several ways in which Delmarva could manage a long-term PPA.³¹ Delmarva could simply sell the capacity, energy and RECs produced under the Final PPA into the spot or short-term market resulting in a gain or loss to be credited to or paid by distribution customers. A second approach would be to sell the energy, capacity and/or RECs under longer-term contracts. A third approach would be to sell the energy, capacity and RECs to wholesale SOS suppliers for three-year terms at the same time that SOS requirements are procured. A fourth approach, similar to the third, would be to allow wholesale suppliers the option of linking a SOS requirements bid with a purchase of products for which Delmarva has an entitlement under the Final PPA.³² A fifth approach would be for Delmarva to retain a certain amount of RECs attributable to its SOS customers and reduce the amount of RECs that its wholesale suppliers would need to provide for SOS service. With each case approach (other than the fifth approach with respect to RECs retained attributable to SOS customers), the net gains or losses associated with the purchase of products pursuant to the Final PPA and the resale of such products would be credited to or paid by distribution customers.

It is not necessary for the Commission or the State Agencies to determine or state a preference for any single contract management approach or combination of approaches at this time. It is sufficient that there be a recognition that there are several potential viable approaches to manage the Final PPA that are not inconsistent with retail customer choice or competitive wholesale procurement for standard offer service.

³¹ See, e.g., Interim Report on Delmarva Power IRP in Relation to RFP (April 4, 2007), at 37-38.

³² The Maine Public Utilities Commission has found this approach, which it refers to as "contingent bidding," to have resulted in the best combination of purchase and sales prices in several competitive procurements. See Interim Report on Delmarva Power IRP in Relation to RFP, at 37.

V. Conclusions

Under our revised reference case analysis, the Bluewater/Delmarva Final PPA has a real levelized 2007\$ cost impact on Delmarva's Delaware distribution customers that is \$0.70/MWh, which is substantially lower than the \$6.46/MWh (applied to RSCI SOS customers) or \$3.37/MWh (applied to distribution customer load) under the December 2007 Draft PPA, as set forth in our December 2007 report. There are several reasons for the substantially reduced impact:

- Application of the net above/below-market costs to a larger MWh load, resulting from (a) the net costs being borne by Delmarva's Delaware distribution load instead of RSCI SOS customer load and (b) an increase in estimated distribution load due to correction of an error in data previously supplied to the IC;
- Reduction of the contract size, especially energy, by approximately 50%;
- Reduction of REC prices by 22% in connection with a 350% RPS credit multiplier enacted in Senate Bill 328;
- Higher forecasted natural gas prices and higher forecasted CO₂ compliance costs, which result in higher forecasted energy market prices.

Moreover, even in nominal dollars, the rate impact in any year (including the initial contract years) is less than \$1.80/MWh. In other words, a residential customer that consumes 1,000 kWh/month (equal to one MWh) would not pay more than \$1.80/MWh in any month and over the term of the Final PPA would pay less than \$1.00/MWh in real levelized 2007\$ under our reference case scenario. In scenarios involving higher natural gas price forecasts, we have projected a small net benefit to Delmarva's distribution customers over the term of the Final PPA.

Importantly, Delmarva has voluntarily agreed to the Final PPA, has executed the contract, and has agreed not to appeal regulatory approval of the PPA by the State Agencies. Key provisions of the Final PPA—the 350% RPS credit multiplier and the allocation of costs across Delmarva's Delaware distribution customer base—required legislation, which was enacted within two days of execution of the Final PPA, with unanimous support from the Delaware Senate, House of Representatives, and the Governor. While we have some concerns regarding unintended consequences associated with the RPS credit multiplier that could have an adverse impact on the REC market and renewable energy development generally, we believe that those impacts will be moderated in the context of a broader regional REC market and could be mitigated through statements and/or actions of Delaware state officials and legislators to oppose dilution of, and/or support strengthening of, the Delaware RPS.

We also recognize that the approval of the Final PPA could lead to both substantial development of renewable energy offshore of Delaware and could facilitate the pioneering of an offshore wind energy business in the United States, both of which could contribute

substantially to meeting the challenge of mitigating climate change. The decision whether or not to go forward with the Bluewater PPA is an important policy decision for Delaware's future.

Appendix A: Senate Bill 328

DELAWARE STATE SENATE
144th GENERAL ASSEMBLY

SENATE BILL NO. 328

AN ACT TO AMEND TITLE 26 OF THE DELAWARE CODE RELATING TO OFFSHORE WIND POWER INSTALLATIONS.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF DELAWARE:

Section 1. Amend § 356, Title 26 of the Delaware Code, by inserting as new "§ 356(c)" the following:

“(c) A Commission regulated electric company shall receive 350% credit toward meeting the Renewable Energy Portfolio Standards established pursuant to this subchapter for energy derived from off-shore wind energy installations sited off the Delaware coast on or before May 31, 2017.

(1) To be entitled to 350% credit, contracts for energy and renewable energy credits from such off-shore wind energy installations must be executed by Commission regulated electric companies prior to commencement of construction of such installations.

(2) Commission regulated electric companies shall be entitled to such multiple credits for the life of contracts for renewable energy credits from off-shore wind installations executed pursuant to this subsection.”

Section 2. Amend Title 26 of the Delaware Code, by adding the following new section 364:

“§ 364. Special provisions for customers of Public Service Commission regulated electric companies.

All costs arising out of contracts entered into by a Commission regulated electric company pursuant to § 1007(d) of this Title shall be distributed among the entire Delaware customer base of such companies through an adjustable non-bypassable charge which shall be established by the Commission. Such costs shall be recovered if incurred as a result of such contracts unless, after Commission review, any such costs are determined by the Commission to have been incurred in bad faith, are the product of waste or out of an abuse of discretion, or in violation of law.”

SYNOPSIS

This bill promotes the establishment of clean offshore wind energy off the coast of Delaware, while minimizing the cost concerns related to offshore wind installations and encouraging DPL to execute offshore wind power purchase agreements for customers: by: (1) Creating a 350% offshore wind renewable energy credit multiplier, (2) Making the 350% renewable energy credit multiplier available for the life of offshore wind contracts, and (3) spreading both the cost and the benefits of offshore wind power contracts executed by DPL to DPL’s entire customer base, rather than only to DPL’s standard offer service customers.

Senator DeLuca

Appendix B: Load Data

Revised Load (GWh) Net of DSM

	2014	2015	2016	2017	2018	2019	
Delmarva SOS Load	3,371	3,401	3,434	3,407	3,410	3,419	
Delmarva State Distribution Load	9,826	9,942	10,072	10,091	10,150	10,228	
	2020	2021	2022	2023	2024	2025	
Delmarva SOS Load	3,419	3,451	3,481	3,509	3,536	3,559	
Delmarva State Distribution Load	10,291	10,423	10,554	10,683	10,809	10,933	
	2026	2027	2028	2029	2030	2031	
Delmarva SOS Load	3,617	3,676	3,736	3,796	3,858	3,920	
Delmarva State Distribution Load	11,104	11,277	11,451	11,628	11,806	11,985	
	2032	2033	2034	2035	2036	2037	2038
Delmarva SOS Load	3,996	4,073	4,151	4,231	4,313	4,396	4,481
Delmarva State Distribution Load	12,218	12,454	12,696	12,941	13,192	13,447	13,707

Appendix C: Rate Impact

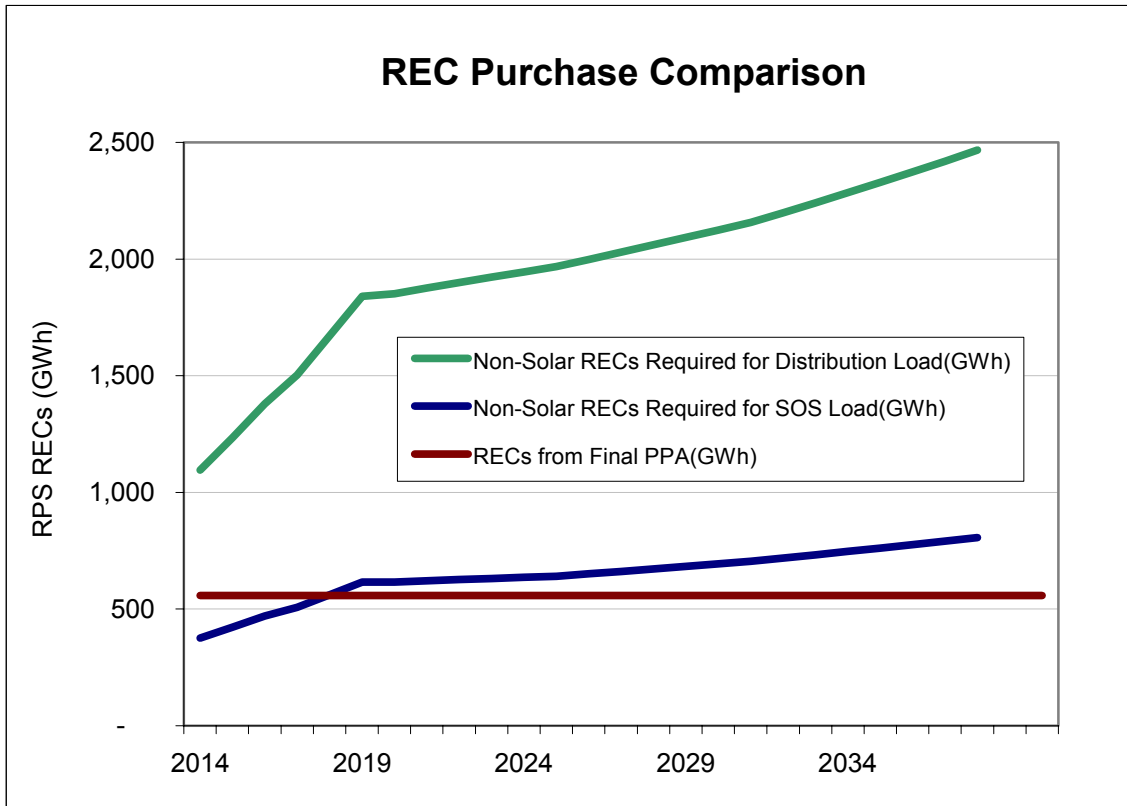
Annual Rate Impact on Different Loads (2007\$)

	2014	2015	2016	2017	2018	2019	
Draft PPA (Late '07 Analysis)	\$6.85	\$6.15	\$5.72	\$5.50	\$4.63	\$4.42	
Final PPA (Late '07 Analysis)	\$3.51	\$3.14	\$2.92	\$2.79	\$2.35	\$2.23	
Final PPA (Updated Analysis)	\$1.50	\$1.49	\$1.47	\$1.33	\$1.19	\$1.04	
	2020	2021	2022	2023	2024	2025	
Draft PPA (Late '07 Analysis)	\$4.20	\$3.90	\$3.61	\$2.72	\$2.45	\$2.17	
Final PPA (Late '07 Analysis)	\$2.11	\$1.95	\$1.79	\$1.34	\$1.19	\$1.04	
Final PPA (Updated Analysis)	\$0.89	\$0.81	\$0.73	\$0.64	\$0.56	\$0.47	
	2026	2027	2028	2029	2030	2031	
Draft PPA (Late '07 Analysis)	\$1.95	\$1.73	\$1.27	\$1.06	\$0.90	\$0.75	
Final PPA (Late '07 Analysis)	\$0.92	\$0.80	\$0.56	\$0.45	\$0.36	\$0.28	
Final PPA (Updated Analysis)	\$0.39	\$0.31	\$0.23	\$0.15	\$0.08	(\$0.02)	
	2032	2033	2034	2035	2036	2037	2038
Draft PPA (Late '07 Analysis)	\$0.59	\$0.44	\$0.29	\$0.15	\$0.01	(\$0.12)	(\$0.26)
Final PPA (Late '07 Analysis)	\$0.19	\$0.11	\$0.03	(\$0.05)	(\$0.12)	(\$0.19)	(\$0.27)
Final PPA (Updated Analysis)	(\$0.13)	(\$0.23)	(\$0.34)	(\$0.45)	(\$0.56)	(\$0.68)	(\$0.79)

Annual Rate Impact on Different Loads (Nominal\$)

	2014	2015	2016	2017	2018	2019	
Draft PPA (Late '07 Analysis)	\$8.15	\$7.49	\$7.14	\$7.04	\$6.08	\$5.95	
Final PPA (Late '07 Analysis)	\$4.17	\$3.83	\$3.64	\$3.58	\$3.08	\$3.00	
Final PPA (Updated Analysis)	\$1.79	\$1.81	\$1.83	\$1.70	\$1.56	\$1.40	
	2020	2021	2022	2023	2024	2025	
Draft PPA (Late '07 Analysis)	\$5.79	\$5.51	\$5.22	\$4.04	\$3.73	\$3.39	
Final PPA (Late '07 Analysis)	\$2.91	\$2.75	\$2.59	\$1.98	\$1.81	\$1.63	
Final PPA (Updated Analysis)	\$1.23	\$1.14	\$1.05	\$0.95	\$0.85	\$0.73	
	2026	2027	2028	2029	2030	2031	
Draft PPA (Late '07 Analysis)	\$3.11	\$2.83	\$2.13	\$1.83	\$1.59	\$1.35	
Final PPA (Late '07 Analysis)	\$1.47	\$1.31	\$0.95	\$0.78	\$0.64	\$0.50	
Final PPA (Updated Analysis)	\$0.62	\$0.51	\$0.39	\$0.26	\$0.15	(\$0.04)	
	2032	2033	2034	2035	2036	2037	2038
Draft PPA (Late '07 Analysis)	\$1.10	\$0.84	\$0.57	\$0.30	\$0.02	(\$0.26)	(\$0.55)
Final PPA (Late '07 Analysis)	\$0.36	\$0.21	\$0.06	(\$0.09)	(\$0.25)	(\$0.41)	(\$0.57)
Final PPA (Updated Analysis)	(\$0.23)	(\$0.44)	(\$0.66)	(\$0.90)	(\$1.15)	(\$1.42)	(\$1.70)

Appendix D: Delmarva REC Purchases Compared to RPS Requirements



** The RPS requirement for Delmarva's distribution load does not reflect the potential exemption available to large industrial customers with peak consumption of greater than 1.5 MW.*

Appendix E: Market Assumptions and Energy Prices

