



Mid-Term Assessment of the adopted 2010 Integrated Resource Plan

Adopted December 20, 2011

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1 OVERVIEW

The Preferred Plan in the adopted 2010 Integrated Resource Plan (“IRP”) covers the 13-year period from 2010 through 2022, and was filed with the Washington State Department of Commerce on August 29, 2010. The plan meets the Commission’s two guiding principles: to meet the utility’s load growth and to continue to position the PUD as a regional leader in conservation and renewable resource development.

The plan established a target goal of 126 aMW of new cost-effective energy efficiency for the planning horizon, and established a “stretch” goal of 152 aMW. The conservation potential identified in Scenario 2, “Home Sweet Home” and Scenario 3, “Shades of Green,” formed the foundation for the District’s target level and stretch conservation goals, respectively.

During the public process and review of the 2010 IRP, the Commission requested that staff reassess the target level for new cost-effective conservation prior to the District filing its two-year biennial target and 10-year conservation potential estimate with the Washington State Department of Commerce on January 1, 2012.¹

Staff performed a new conservation potential assessment for Scenarios 2 and 3 for the 2010 through 2022 planning horizon for the Mid-Term Assessment. In addition, current information and assumptions that affect the acquisition or development of new planned resources were included to inform a review of the District’s compliance with Initiative 937 requirements, specifically for January 1, 2012.

This document reports on the results of the Mid-Term Assessment. The updated analysis resulted in the targets for conservation changing from 126 aMW to 115 aMW for the period 2010-2022. For purposes of the Initiative 937 filing due to the Washington State

¹ The Energy Independence Act, Chapter 19.285 RCW, or “Initiative 937” requires the District to formally adopt by resolution its two-year biennial conservation target and 10-year conservation potential estimate, and submit them to the Washington State Department of Commerce on or before January 1 in even years (e.g., January 1, 2012, January 1, 2014, etc.).

Department of Commerce on January 1, 2012, staff recommends the Commission adopt a 10-year conservation potential estimate of 85.8 aMW for the 2012-2021 period. The corresponding target for the 2012-2013 biennium is 17.2 aMW, or 8.6 aMW each year.

1.1 CHANGES IN THE PLANNING ENVIRONMENT

The primary drivers influencing the Mid-Term Assessment are:

- A revised load growth forecast
- A new BPA Regional Dialogue power contract
- Changes in resource assumptions
- Federal legislation on climate change and emissions standards

Revised Load Growth Forecast

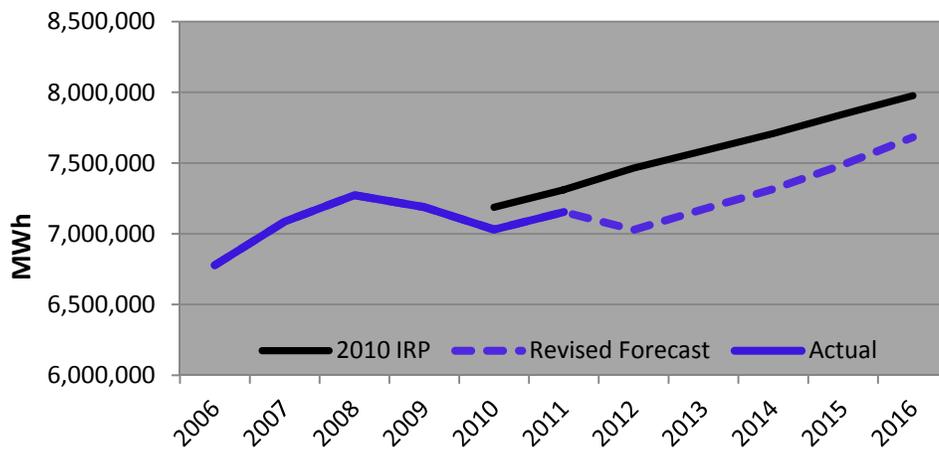
Loads are currently forecast to grow at a 1.4% annual rate, slightly higher than the projected 1.3% growth rate in the 2010 IRP. The new forecast reflects Conway Pedersen's September 2011 outlook for Snohomish County activity. It also adjusts for an assumed phase-out of the Kimberly-Clark Pulp and Paper Mill ("KC Mill") in Everett.

Conway Pederson expects Snohomish County to outpace the Puget Sound region in terms of job and population growth. County employment is expected to return to 2008 levels during 2013, due in part to local aerospace employment. Certification of the Boeing 787 *Dreamliner* and the Air Force tanker contract are expected to keep Boeing employment levels strong.

The number of new customer connections in the revised forecast ranges from 3,400 in 2012 to 6,200 through 2022, compared to the 4,000 to 7,400 range assumed in the 2010 IRP Base Case. Despite this trend, average annual residential consumption has increased 2.6%, from 11,700 kWh to 12,000 kWh, and is expected to grow through the forecast period.

The load forecast reflects the KC Mill announcement that it may cease operations if a buyer for the mill is not found by December 31, 2011. Consistent with the assumptions used in the 2012-2016 budget forecast, the Mid-Term Assessment assumes an 85% reduction to the mill’s load beginning in January 2012; a 75% reduction to the remaining load in 2013; with final mill closure in early 2014.

Figure 1-1
Comparison of Revised Load Forecast
2010 IRP Base Case vs. Mid-Term Assessment
 (without New Conservation)



New BPA Regional Dialogue Power Contract

In July 2011, BPA formally established the amount of power preference customers would be eligible to purchase under the Regional Dialogue Power Contracts. The District’s Contract High Water Mark, or amount of energy it is eligible to purchase at the Tier 1 Rate for the term of the contract, is 811 aMW. This compares to the 800 aMW assumed in the 2010 IRP.

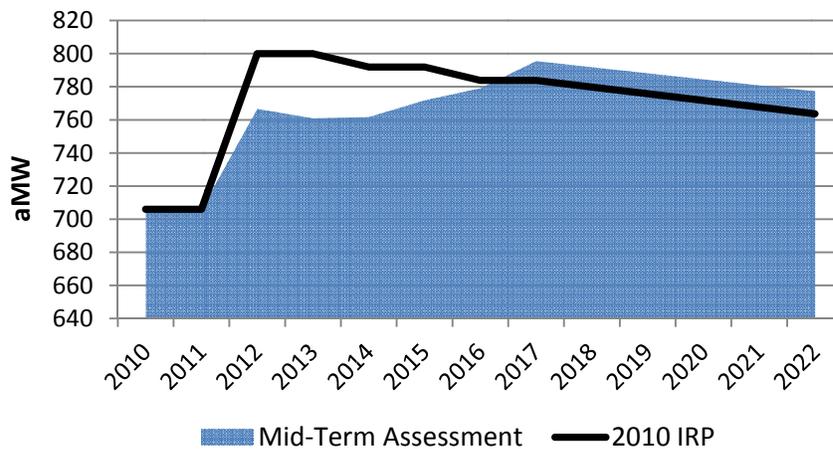
The quantity of Tier 1 Power the District will be allocated from BPA will vary from rate period to rate period depending on a number of factors, including: (1) the District’s forecasted load which determines its Net Requirement on BPA; (2) the forecast output capability or size of the Federal System; (3) and the total demand for Tier 1 Power by all of

BPA’s preference customers. Consistent with the planning assumptions used in the 2010 IRP, the capability of the Federal System is expected to decline and affect the District’s output associated with the Slice product over the 2012-2022 planning horizon.

The amount of Tier 1 Power the District will receive each fiscal year over the BPA power contract term will be based on the *lesser* of the District’s High Water Mark for the two-year rate period or its forecast Net Requirement. Net Requirements are computed annually, and are set equal to the District’s forecasted average annual load, minus the District resources dedicated to serving load. Dedicated resources consist of the Jackson Hydroelectric Project (29.5 aMW), and the District’s 20% share of the Packwood Lake Hydroelectric Project (1.3 aMW), for a total of approximately 30.8 aMW.

The loss of the KC Mill load impacts the District’s Net Requirement. The amount of BPA power supplied to the District has been revised downward to account for this potential, and ranges from approximately 760 aMW in 2013 to approximately 780 aMW in 2022.

Figure 1-2
**Comparison of BPA Regional Dialogue Power Contract
 2010 IRP Base Case vs. Mid-Term Assessment (aMW)**



Federal Legislation on Climate Change and Emissions

Several bills were proposed to address climate change and emissions standards at the national level during development of the 2010 IRP. Each scenario in the 2010 IRP identified a specific year in which a carbon tax would likely be implemented. For Scenario 2, Home Sweet Home, a carbon tax was expected to be implemented in 2012. Under Scenario 3, Shades of Green, implementation of a carbon tax occurred beginning in 2013. These planning assumptions were included in the avoided costs used to evaluate the conservation potential assessment.

Because no federal carbon legislation has been adopted, the Mid-Term Assessment defers implementation of a carbon tax to 2016, and at lower levels than had been assumed in the 2010 IRP.

1.2 CHANGES IN RESOURCE ASSUMPTIONS

The 2010 IRP established an Action Plan to ensure resources would be available, at reasonable cost, to meet the District's future load growth. Energy efficiency, renewable power supplies, purchased power contracts, and District-owned resources were among the potential alternatives. Since adoption of the 2010 IRP, the District has proceeded with planning and exploration of geothermal, tidal and utility-scale solar resources. Updates have been included in the Mid-Term Assessment to reflect the current status of the District's efforts for the purpose of reviewing compliance with Initiative 937 on January 1, 2012.

Kimberly-Clark Cogeneration Project

On August 22, 2011, the District and Kimberly-Clark entered into a Termination Agreement for the Everett Cogeneration Project, advancing the original termination date for the project from December 31, 2016 to September 30, 2011. On October 1, 2011, power deliveries to the District from the project ended.

Geothermal

The District has been actively exploring the geothermal potential in or near Snohomish County since 2008. During the summer of 2010 a total of five, 700-foot deep temperature gradient wells were drilled. One of the five wells exhibited temperature gradient data warranting further exploration. The District is currently drilling a 5,000-foot deep geothermal exploration slimhole at this location.

The Preferred Plan in the adopted 2010 IRP forecast that a new 5 MW geothermal resource would be constructed in 2016, with expansion to 10 MW in 2018, and ultimately a total of 50 MW of geothermal would be available by 2020. Based on the District's current efforts, development of a new geothermal plant in or near the District's service area is not expected to occur before 2017. The Mid-Term Assessment reflects the deferral to 2017.

Tidal Energy

The District submitted a draft license application to FERC in December 2009 for a pilot tidal energy demonstration project in Admiralty Inlet, and is now working to prepare its final license application for filing in early 2012. The demonstration project will be connected to the grid and is expected to generate a modest amount of energy. The primary purpose of the pilot is to generate data to inform evaluation of the technical, economic and environmental viability of commercial tidal energy generation in Puget Sound.

For purposes of the Mid-Term Assessment, tidal energy is assumed to remain at the demonstration project level through the 2022 planning horizon. The potential of this resource will be explored in greater detail in the 2012 IRP.

Utility-Scale Solar

Throughout 2011, District staff worked with the developer of a 5 MW utility-scale PV solar project in central Oregon, slated to reach commercial operation in 2012. The

combination of state and federal tax incentives made the project attractive, but was not enough to overcome development challenges.

Staff believes utility-scale solar could prove to be an economically attractive resource that would further diversify the District's renewable resource portfolio. Solar is considered an eligible renewable resource and would assist the District in achieving its Initiative 937 requirements. For purposes of the Mid-Term Assessment, staff assumed that the addition of a utility-scale solar resource would not occur before 2013.

* * * * *

2 ANALYTICAL FRAMEWORK

This section details the analytical framework used to develop the avoided cost for the Mid-Term Assessment and the updated conservation potential assessment.

2.1 AVOIDED COST FOR MID-TERM ASSESSMENT

Methodology

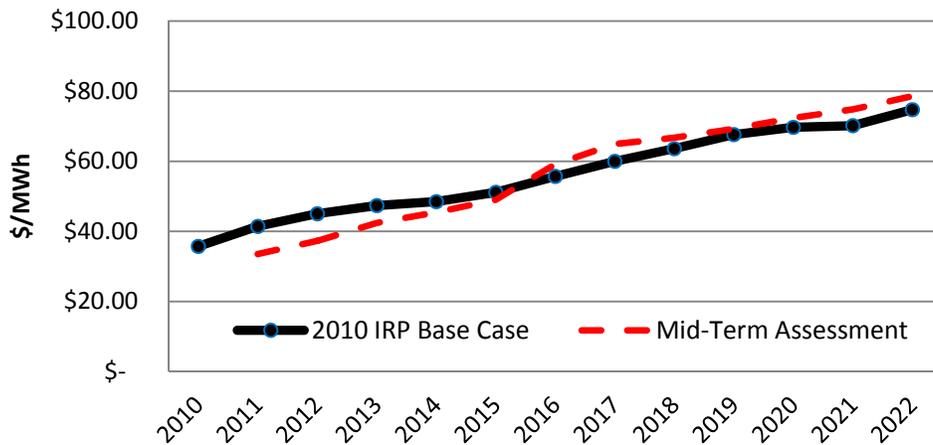
The avoided cost forecast provides the basis for comparing supply-side and demand-side resources and determining which demand-side investments are cost-effective. Consistent with the avoided cost methodology used in the adopted 2010 IRP, the avoided cost for the Mid-Term Assessment was defined as the costs the District would incur in the absence of a particular conservation program or measure.

For the PUD, energy savings from conservation programs defer the need for new power resources and in the near-term free up existing power supplies that can be sold into the wholesale energy market. Conservation and energy efficiency also defers the need for additional transmission and distribution capacity and reduces the number of renewable energy credits required under Initiative 937.

District staff calculated an avoided cost for the Mid-Term Assessment by first identifying the point at which new power supplies would be needed absent further conservation and energy efficiency efforts. For the years when the District has sufficient supply-side resources, avoided power costs were set equal to wholesale energy market prices. For the years when the District requires new power supplies to meet its load growth, avoided power costs were calculated using the value of deferring development of a base load geothermal power plant. Consistent with the 2010 IRP avoided cost methodology, geothermal costs were chosen as the proxy for the long-run avoided cost as the IRP identified this plant type as the District's power supply resource of choice.

Figure 2-1 below shows the comparison of regional electric prices for the 2010 IRP Base Case and the Mid-Term Assessment. These price forecasts were derived using a computer simulation model known as AURORA^{XMP}. PUD staff modified AURORA to reflect the assumptions in the Mid-Term Assessment (e.g., load growth rate, inflation rate, hourly production for Northwest renewable resources, and natural gas and carbon prices). The model then simulated regional supply and demand on an hourly basis producing a regional electric price forecasts through 2022.

Figure 2-1
Comparison of Regional Electricity Price Forecast
2010 IRP Base Case vs. Mid-Year Assessment
 (\$/MWh)



The value of a base load geothermal project was based on data published in the Northwest Power and Conservation Council’s Sixth Power Plan²:

- Capital costs of \$5,043 per kW in 2010 dollars, inflated at a rate of 2.5% each year;
- Project lead time of four years;
- Debt service at a borrowing rate of 5%;
- Project asset life of 30 years;
- Capacity factor of 90%;
- Fixed O&M rate of \$175 per kW, inflated at a rate of 2.5% each year; and

² Northwest Power and Conservation Council, *Sixth Northwest Conservation and Electric Power Plan*, Appendix I, pp 33-35.

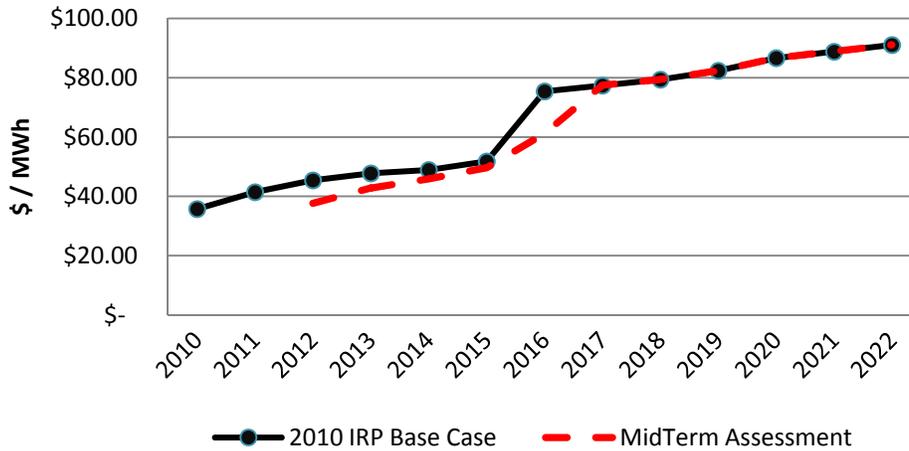
- Variable O&M rate of \$4.50 per MWh, inflated at a rate of 2.5% each year.

The calculated avoided cost also recognizes the value of conservation to allow the District to defer:

- Generation utility taxes of approximately \$0.214 per MWh on new generation additions;
- Investment in transmission and distribution infrastructure for a period of time at an average of \$41.00/kW-year;
- Distribution system capacity expansion estimated in the 2010 IRP at \$25 per kW-year;
- Regional transmission line losses of 1.9% of the total kWh delivered; and
- A portion of the renewable resources required to meet the Initiative 937 targets. This benefit, in dollars per MWh, was computed by multiplying the Initiative 937 target percentage requirement each year by the forecast REC price across the planning period.

The methodology used to develop the avoided cost forecast for the Mid-Term Assessment is consistent with that used in the 2010 IRP. Figure 2-2 below compares the results of the avoided cost forecast for the Mid-Term Assessment with the 2010 IRP Base Case for the 2012-2022 period.

Figure 2-2
**Comparison of Avoided Cost Forecast
 2010 IRP Base Case vs. Mid-Term Assessment (\$/MWh)**



2.2 REVISED CONSERVATION AND ENERGY EFFICIENCY POTENTIAL ASSESSMENT

For the 2010 IRP analysis, the District conducted a comprehensive conservation potential assessment (“CPA”). Conservation potential was calculated for each of the four scenarios and identified by sector, by end use and by year over the 13 year planning horizon. The conservation potential identified in Scenario 2, “Home Sweet Home,” and Scenario 3, “Shades of Green,” formed the foundation for the District’s target and stretch conservation goals, respectively. The target level of conservation established the minimum threshold for resource planning and Initiative 937 compliance purposes. The “stretch” goal reflected the level programs would be designed to meet.

The District’s 2010 IRP target conservation level established cumulative savings of 126 aMW over the period 2010 through 2022. The stretch goal was set at 152 aMW, or 20% higher than the target conservation level. Achievement of the stretch goal was predicated to a significant degree on market conditions and technology available at the time.

The District updated its CPA in fall of 2011 to reflect the avoided cost developed for the Mid-Term Assessment and current market conditions. This CPA update focused on the two scenarios used to establish the Preferred Plan for the District—Scenario 2, “Home Sweet Home,” and Scenario 3, “Shades of Green.”

The primary factors affecting the results of the 2011 CPA were the revised avoided cost forecast and the assumption of the phased out closure of the KC Mill. The impact of these two factors reduced the conservation potential under both scenarios. For Scenario 2, there was a reduction of 9% in the 13 year potential affecting the target level of conservation, and an 11% reduction in the stretch goal under Scenario 3, compared to the 2010 CPA results.

The 9% reduction to the target level of conservation established under Scenario 2 is evenly distributed between the industrial and residential sectors. The majority of the 11% reduction in the stretch goal under Scenario 3 occurs primarily in the residential sector. The figures below compare the conservation potential by sector from the adopted 2010 IRP with the Mid-Term Assessment.

Figure 2-3
Conservation Potential by Sector
Comparison of 2010 IRP vs Mid-Term Assessment by Scenario
2010 through 2022 (aMW)

| | TARGET CONSERVATION Home Sweet Home (Scenario 2) | | | STRETCH GOAL Shades of Green (Scenario 3) | | |
|--------------------|---|--------------|---------------|--|--------------|---------------|
| | Mid-Term Assessment | | | Mid-Term Assessment | | |
| | 2010 IRP | Case | Variance | 2010 IRP | Case | Variance |
| Residential | 69.8 | 64.5 | (5.2) | 86.1 | 70.5 | (15.6) |
| Commercial | 42.3 | 41.5 | (0.7) | 48.5 | 47.3 | (1.2) |
| Industrial | 10.5 | 5.2 | (5.3) | 13.6 | 13.6 | - |
| DEI | 3.9 | 3.9 | - | 3.9 | 3.9 | - |
| Total | 126.4 | 115.1 | (11.3) | 152.0 | 135.2 | (16.8) |
| Change | | | -9% | | | -11% |

Scenario 2 Mid-Term Assessment CPA Results

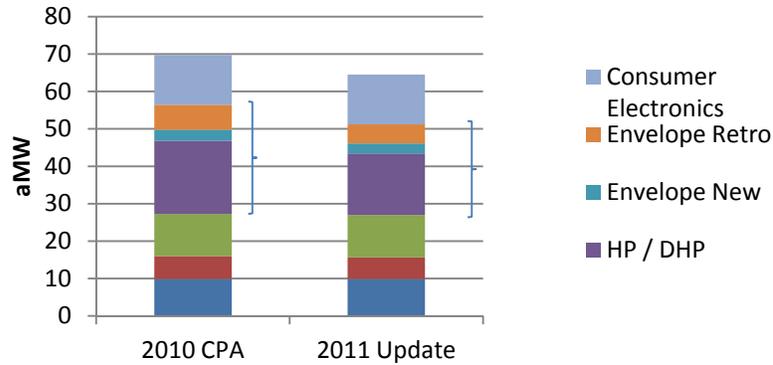
The revised conservation potential estimate for Scenario 2 is 115.1 aMW over the 13-year period, compared to 126.4 aMW in the 2010 analysis. This represents a total reduction in conservation potential of 11.3 aMW, or 9% of the 13-year potential. Figure 2-4 below compares the annual conservation potential for Scenario 2.

Figure 2-4
**Comparison of Annual Conservation Potential for Scenario 2
 2010 IRP vs. Mid-Term Assessment (aMW)**

| Year | 2010 IRP | Mid-Term Assessment | Year | 2010 IRP | Mid-Term Assessment |
|------|----------|---------------------|--------------|--------------|---------------------|
| 2010 | 7.2 | 6.7 | 2017 | 10.0 | 9.1 |
| 2011 | 8.1 | 7.6 | 2018 | 10.5 | 9.5 |
| 2012 | 8.7 | 8.1 | 2019 | 10.7 | 9.7 |
| 2013 | 9.6 | 8.9 | 2020 | 10.9 | 9.9 |
| 2014 | 9.7 | 8.8 | 2021 | 10.9 | 9.9 |
| 2015 | 9.4 | 8.4 | 2022 | 10.8 | 9.8 |
| 2016 | 9.8 | 8.8 | Total | 126.4 | 115.1 |

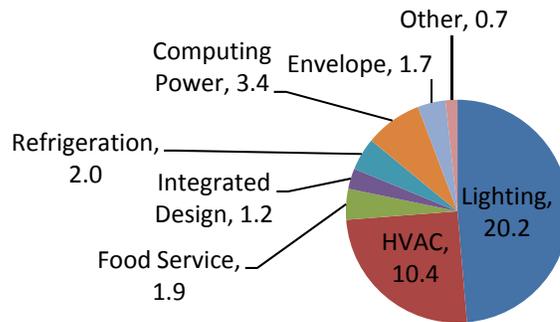
Residential Potential. Overall, the residential conservation potential for Scenario 2 is 7% lower than in the 2010 IRP. The potential remains unchanged for the following measure groups: lighting; water heating efficiency improvements; and consumer electronics. Potential for energy efficient appliances is reduced by 5%. Changes in the avoided cost from the 2010 IRP to the 2011 update impacted envelope measures and high efficiency heat pumps, including ductless heat pump units. Collectively, the potential for those measures is reduced by 17% over the planning horizon. Space heating and envelope measures are assessed over a wide range of housing types, vintages and baseline efficiencies. While no measure is fully excluded from the conservation potential as a result of the changes in avoided costs, some applications of the measures are no longer cost-effective (e.g., in newer homes or when existing conditions are relatively efficient). The total conservation potential in the residential sector over the planning horizon is 69.8 aMW.

Figure 2-5
Residential Potential – Scenario 2
Comparison of 2010 IRP vs. Mid-Term Assessment



Commercial Potential. The conservation potential from the commercial sector remains relatively unchanged from the 2010 IRP. The primary difference between the Mid-Term Assessment and the 2010 analysis was small reductions in lighting and HVAC measures.

Figure 2-6
Commercial Sector - 13 Year Potential
Mid-Term Assessment for Scenario 2 (aMW)



Industrial Potential. The assumed loss of a large industrial load such as the KC Mill in the Mid-Term Assessment results in a 57% reduction to the industrial conservation potential, compared to the 2010 IRP. Nearly half of the 5.3 aMW of potential associated with KC’s industrial load is identified as “process” potential, with the remaining potential identified as pumps, fans, compressed air and other, as shown in Figures 2-7 and 8.

Figure 2-7
Industrial Sector - 13 Year Potential
Mid-Term Assessment for Scenario 2 (aMW)

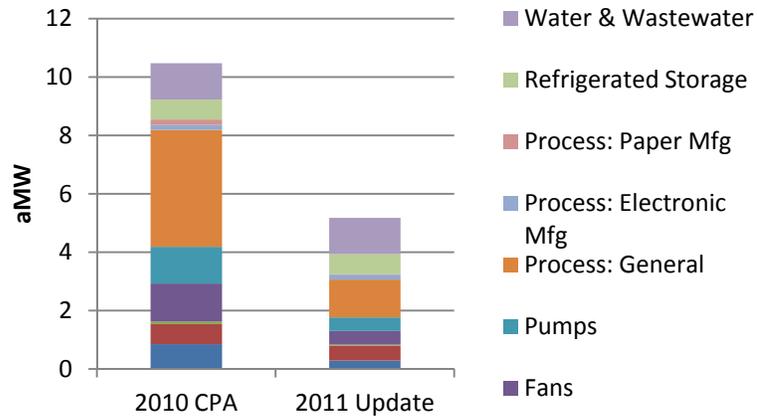
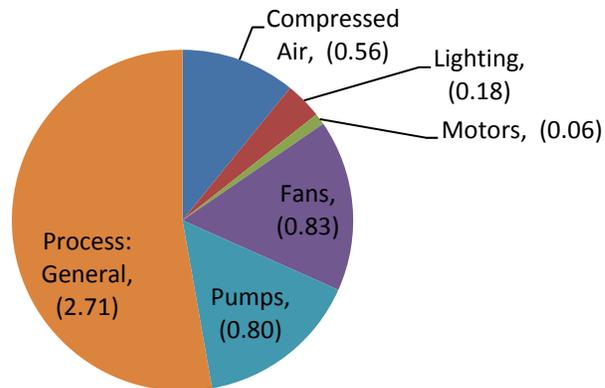


Figure 2-8
Industrial Conservation for Pulp and Paper - 13 Year Potential
Mid-Term Assessment for Scenario 2 (aMW)



Scenario 3 Mid-Term Assessment CPA Results

The revised conservation potential estimate for Scenario 3 under the Mid-Term Assessment is 135.2 aMW over the 13-year period, a reduction of 11% or 16.8 aMW compared to the 2010 analysis.

This reduction is a result of the avoided cost and also an adjustment to the assumed program delivery costs applied to residential conservation measures. The cost of program delivery was increased from 17% to 20% to reflect the higher programmatic costs associated with an increasingly complex set of measures to achieve the stretch goal. Under the 2010 IRP, staff used a 17% administrative overhead for Scenario 3 which is now viewed as conservative. Revising the program delivery cost and overhead assumption to 20% more closely reflects the District's actual calculated historical rate of 23-30%. In addition, the Northwest Power and Conservation Council ("NPCC") uses a 20% administrative cost as their default assumption for planning.

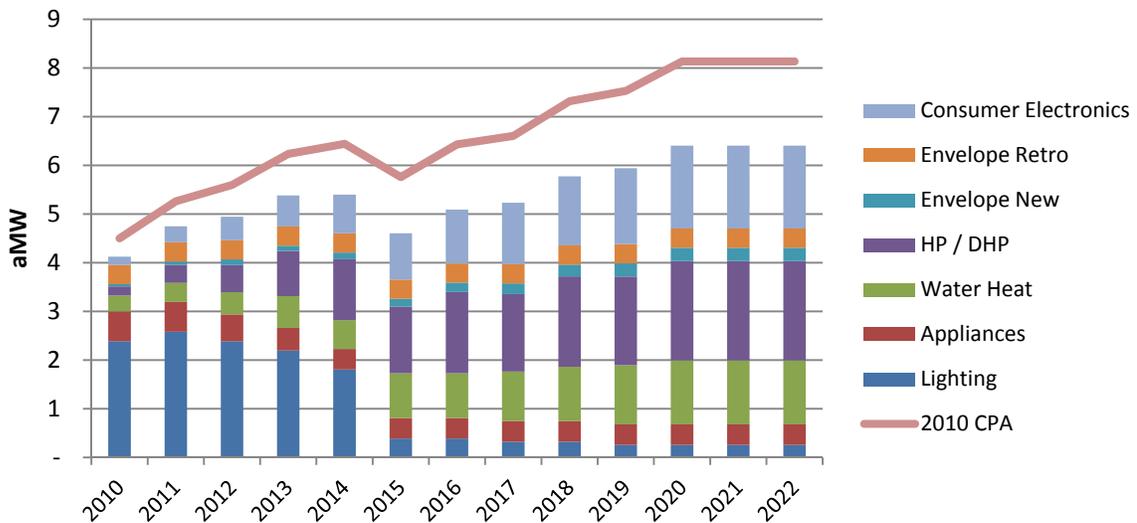
The 11% reduction in conservation potential for Scenario 3 under the Mid-Term Assessment is slightly larger than Scenario 2, with the change concentrated primarily in the residential sector. The residential sector comprises over 90%, or 15.6 aMW of the 16.8 aMW of reduced potential, with the remaining 1.2 aMW associated with the commercial sector. Figure 2-9 below compares the annual conservation potential for Scenario 3.

Figure 2-9
**Comparison of Annual Conservation Potential for Scenario 3
 2010 IRP vs. Mid-Term Assessment (aMW)**

| Year | 2010 IRP | Mid-Term Assessment | Year | 2010 IRP | Mid-Term Assessment |
|------|----------|---------------------|--------------|--------------|---------------------|
| 2010 | 8.7 | 8.2 | 2017 | 12.0 | 10.5 |
| 2011 | 9.9 | 9.3 | 2018 | 12.6 | 11.0 |
| 2012 | 10.6 | 9.9 | 2019 | 12.8 | 11.1 |
| 2013 | 11.7 | 10.8 | 2020 | 13.1 | 11.3 |
| 2014 | 11.9 | 10.7 | 2021 | 13.1 | 11.3 |
| 2015 | 11.2 | 9.9 | 2022 | 12.8 | 10.9 |
| 2016 | 11.8 | 10.3 | Total | 152.0 | 135.2 |

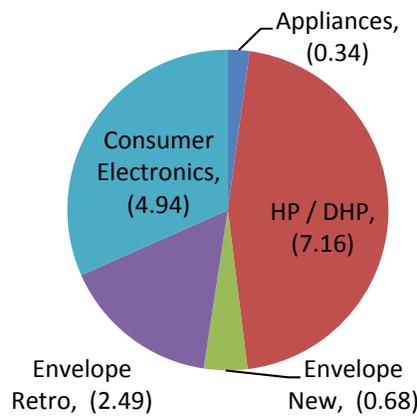
Residential Potential. The residential potential in the Mid-Term Assessment is 70.5 aMW, an 18% change from the 2010 analysis. Figure 2-10 illustrates the annual conservation potential under the Mid-Term Assessment by measure, compared to the total residential potential in the 2010 IRP.

Figure 2-10
**Comparison of Total Residential Potential – Scenario 3
 2010 IRP vs. Mid-Term Assessment (aMW)**



Certain measures such as heat pump, weatherization, appliance and consumer electronics (residential desktop computers) that were considered cost effective under the set of avoided costs in the 2010 IRP no longer meet the cost-effectiveness threshold under the Mid-Term Assessment. Consumer electronics comprises about one-third of the reduced potential in Scenario 3 as detailed in Figure 2-11.

Figure 2-11
**Residential Conservation Potential Changes – Scenario 3
 Mid-Term Assessment (aMW)**



Commercial Potential. The reduction in commercial potential is 1.2 aMW, and primarily associated with unitary HVAC equipment measures in small commercial applications.

Industrial Potential. The industrial potential in the Mid-Year Assessment remains unchanged from the 2010 analysis.

3 PROGRESS REPORT

3.1 PROGRESS TOWARD INITIATIVE 937 REQUIREMENTS

Figure 3-1 shows the District's revised Initiative 937 renewable resource requirement as of January 1, 2012, based on the revised load forecast, new target conservation level, and revised resource assumptions:

Figure 3-1
Mid-Term Assessment
Progress toward Initiative 937 Requirements (aMW)

| | 2012 | 2016 | 2020 |
|---|-------------|-------------|-------------|
| Load after New Conservation (Target) | 778 | 817 | 872 |
| Initiative 937 Target as Percentage of Load | 3% | 9% | 15% |
| Initiative 937 Requirement (in aMW) | 23 | 74 | 131 |

To date, the District has procured approximately 68 aMW of eligible renewable resources. These include:

- White Creek Wind Power Purchase Agreement
- Wheat Field Wind Power Purchase Agreement
- Hay Canyon Wind Power Purchase Agreements
- Hampton Lumber Mill Power Purchase Agreement
- Klickitat PUD Landfill Gas Power Purchase Agreement
- Solar Express Program
- Incremental Hydro from the Woods Creek Hydroelectric Project

In addition, BPA recently advised that for Fiscal Year 2012, the allocation of renewable energy credits (RECs) to the District associated with the Regional Dialogue Power Contract is 4.88 aMW, bringing the total to 73 aMW.

The 2012 IRP effort will explore the least cost resource portfolios and alternatives for achieving Initiative 937 compliance beyond the 2012 period.

3.2 BIENNIAL CONSERVATION TARGETS FOR 2012/13 AND 10-YEAR POTENTIAL ASSESSMENT

Establishing Conservation Targets

The Washington Administrative Code (WAC) 194-37-070 provides utilities three options for determining conservation potential to set biennium savings targets, including:

- **Conservation calculator option.**
Calculation of a utility's pro rata biennial conservation targets based on its share of regional annual megawatt-hour retail sales using the Northwest Power and Conservation Council (NPCC) utility target calculator.
- **Modified conservation calculator option.**
Uses the NPCC utility target calculator, with adjustments for measure availability and customer characteristics specific to the utility's service area.
- **Utility specific analysis.**
Establishment of a 10-year conservation potential using an analytical methodology consistent with the NPCC procedures.

In establishing the 2012-2013 biennial targets, the District used the utility specific analysis option just as it did for the 2010-2011 biennium. This method provides an estimate of conservation potential based on the best available information and considers the unique characteristics of the utility service area.

The District's biennial target for 2012-2013 is based on the results of the utility specific analysis performed under the Mid-Term Assessment for Scenario 2. Consistent with the Initiative 937 rules, the utility's biennial target must be no less than the pro-rata share of the 10-year conservation potential. The 10-year conservation potential estimate developed under the Mid-Term Assessment for the period 2012-2021 also reflects the savings achieved during the 2010-2011 biennium.

The assessment of conservation potential extends beyond the 10-year period considered for this biennium. Figure 3-2 below shows annual savings potential for the 13-year period

under the 2011 CPA; the 10-year period projected for the 2012-2013 biennium is highlighted.

Figure 3-2
**Snohomish PUD’s Annual Potential – Mid-Term Assessment
 2010 through 2022 (aMW)**

| Year | Savings Potential (aMW) |
|--------------|--------------------------------|
| 2010 | 7.1 |
| 2011 | 7.2 |
| 2012 | 8.1 |
| 2013 | 8.9 |
| 2014 | 8.8 |
| 2015 | 8.4 |
| 2016 | 8.8 |
| 2017 | 9.1 |
| 2018 | 9.5 |
| 2019 | 9.7 |
| 2020 | 9.9 |
| 2021 | 9.9 |
| 2022 | 9.8 |
| Total | 115.1 |

| |
|------|
| Sum |
| 91.1 |

Most of the District’s conservation potential is discretionary, that is, it is available over a broad time horizon. Achievement above the identified potential in earlier years diminishes the remaining potential in later years. This is significant as the District achieved higher savings than the indicated potential for the 2010-2011 period. This higher savings achievement was the result of accelerated program activity, driven in part by state, federal, and regional BPA initiatives.

Figure 3-3
Achievements over the 2010-2011 Biennial Target (aMW)

| Year | Savings Potential | Actual Savings³ | Overachievement 2010-2011 |
|-------------|--------------------------|-----------------------------------|----------------------------------|
| 2010 | 7.1 | 9.9 | 2.8 |
| 2011 | 7.2 | 9.7 | 2.5 |
| | | | 5.3 |

While the District cannot carry over its additional savings from one biennium to the next, it is important to reflect the overachievement in describing the remaining 10-year potential and establishing conservation targets for the next biennium. Whereas the analysis identifies conservation potential of 91.1 aMW over the next 10 years, the accelerated achievements above the potential identified in the first two years of the planning horizon is deducted to determine the District's net 10-year potential. Figure 3-4 below shows the calculation of net conservation potential, the pro-rata share of the conservation potential⁴, the annualized bus bar savings target, and the target adjusted to site-based savings.

Figure 3-4
**Initiative 937 Target Calculation for Snohomish PUD
 Mid-Term Assessment (aMW)**

| | |
|--|-----------------|
| 10 Year Conservation Potential, 2012 - 2021 | 91.1 aMW |
| <i>Less 2010/2011 Overachievement</i> | <u>-5.3 aMW</u> |
| Net 10 Year Conservation Potential, 2012-2021 | 85.8 aMW |
| Pro-Rata Share (20% of 10 year potential) | 17.2 aMW |
| Annual Target (Bus bar) | 8.6 aMW |
| Annual Target (Site-Based) | 8.0 aMW |

³ The District reports actual conservation savings at the site level, or the level that the customer realizes. For purposes of resource planning, staff has calculated savings at the bus bar based on the NPCC's transmission and distribution loss factor of 7.625%.

⁴ There has been considerable discussion on the interpretation of "pro-rata" in the law and Initiative 937 rules as it relates to the biennial target being no less than the 20% pro-rata share of the 10-year conservation potential. Staff believes this interpretation conflicts with other provisions requiring consistency with the NPCC methods. The NPCC uses deployment rates that consider a ramping up of savings achievement over time, based on infrastructure development and technology availability.

As a result of the revised analysis for the Mid-Term Assessment, staff proposes the District set its biennium target for compliance with Initiative 937 for the 2012-2013 period, at 17.2 aMW. The biennium target for 2012-2013 is recognized to be at the portfolio level, to preserve the District’s ability to capture market opportunities in any sector when and where they may become available.

The proposed target can be compared to the NPCC target calculator. Currently, two versions of the calculator exist. One is associated with the Council’s *Fifth Power Plan*, which assessed conservation potential for the period 2005 through 2024; the other is the *Sixth Power Plan* calculator which is based on the conservation potential for the period 2010 through 2029. Each calculator determines the conservation potential or an annual target, based on a load-based share of the regional potential. The figure below shows the 10-year potential based on the NPCC calculators and the resulting biennium targets (pro-rata share):

Figure 3-5
**Results of NPCC Target Calculator
 for Snohomish PUD (aMW)**

| Target Calculator Version | 10 Year Conservation Potential (2012-2021) | Pro-Rata Share (20% of 10-Year Potential) | Annual Target |
|----------------------------------|---|--|----------------------|
| Fifth Power Plan (v1.8) | 58.9 | 11.6 | 5.8 |
| Sixth Power Plan | 133.7 | 26.8 | 13.4 |

Staff’s proposed biennium target of 17.2 aMW, reflective of bus bar savings, falls between the two levels determined using the Council’s target calculators. The 2012-2013 biennial target as proposed is a robust, yet reasonable, estimate of the conservation potential that the District can capture with a high degree of certainty over the next two years.

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4 CONCLUSION

Staff completed the Mid-Term Assessment to adjust conservation potential and target levels to reflect known changes in the planning environment. Upon approval by the Board, these figures will be submitted to the Washington State Department of Commerce on January 1, 2012.

Staff incorporated the best available information and assumptions affecting load growth, impacts to the planning environment in which the District operates, and changes in resource assumptions in developing a new set of avoided costs, which served as the basis for conducting a conservation potential assessment for the 13-year planning horizon (2010 through 2022). The methodologies used in the Mid-Term Assessment are consistent with those used in the 2010 IRP.

The Mid-Term Assessment identified a 10-year conservation potential estimate of 85.8 aMW for the 2012-2021 period, with a 2012-2013 Biennial Conservation Target of 17.2 aMW, or 8.6 aMW per year. The 2012 Initiative 937 renewable target of 3% of loads translates into a requirement of 23 aMW of eligible renewable resources. The District's current portfolio of eligible resources exceeds this amount.

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