Washington
DSM Advisory Group
July 27, 2023

(revisions made during the meeting highlighted in yellow)






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Agenda

Nancy Goddard

- Follow-ups from last meeting
- Distribution Efficiency
- Production Efficiency
  - Thermal
  - Wind
- Draft ten-year conservation potential, revised four-year target, and two-year target
- NEI progress: EE and Resiliency
- Competitive Procurement Framework: 2024-2025
- 2022-2023 DSM Forecast

- Updates
  - Clean Energy Implementation Plan, Equity Advisory Group
  - Wrap-up

Follow-ups from last meeting

Nancy Goddard

Response to Jade's question about lighting projects at Hermiston (What is the estimated kWh and how big is the lift to quantify?):

- C.W. Franz talked with Perennial Power about the energy savings from lighting upgrades in 2022-23. From their documents, they have a total of 176 MWh/yr that are currently replaced with more being done as time allows. These numbers are easy to quantify and verify.
- Using the WA allocation of 7.5%, the Washington share of the 176 MWh/yr is 13.2 MWH/yr
- Plan to include in the 2023 DSM annual report as production efficiency savings

Rest of follow-ups from June 29th meeting emailed to the DSM Advisory Group on July 10, 2023

Tree planting conservation - condition 10c (no updates since the last meeting)

- Revisit once IRP selections complete
  - Tree planting conservation was selected
- Including a request for Tree Planting Conservation in the upcoming Home Energy Savings Program Delivery RFP

Distribution Efficiency

Shaun Akers






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Volt/VAR Reduction Projects for 2022-2023

2022-2023 Biennium (update on projects presented at 9/2/2021 meeting)

Projects Completed:

Wiley Substation feeder 5Y380 New Field Voltage Regulator Bank

- Installed new voltage regulator to address voltage concerns.
- **Project reported in 2022 DSM Annual Report.** Total cost $82,093.
- **Annual efficiency savings verified to be 24.6 MWh**.

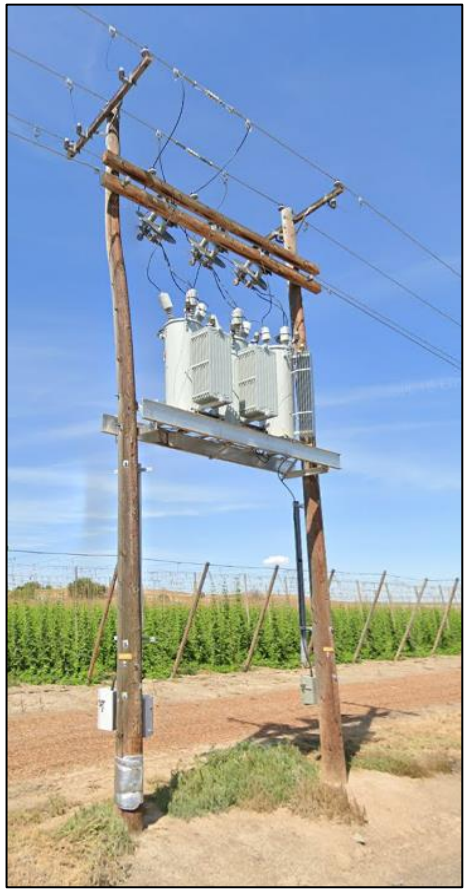
Grandview Substation feeder 5Y303 Var Management

- Replaced existing capacitor banks with switched capacitor banks.
- Installed three additional switched capacitor banks.
- **Project to be reported in 2023.** Total cost was $33,097.
- **Annual efficiency savings verified to be 244 MWh.**

Projects In Progress (moved to 2024-2025 Biennium):

Wiley Substation feeder 5Y164 Reconductor and Voltage Optimization

- Replace 3,400 feet of #6 steel mainline with 4/0 AAC.
- Install voltage regulator bank.
- **Project re-scheduled to be complete end of year 2025**. Total cost $366,500.
- **Annual efficiency savings expected to be 227 MWh.**



→ Total Verified Annual Savings for 2022-2023: **268 MWh**

2024-2025 Biennium Volt/VAR Reduction Study Timeline

October 1, 2022

Use CYME to screen all 142 Washington circuits for VAR flow, PF and SCADA

November 15, 2022

Provide list of circuits within range in 2023 Annual Conservation Plan

February 1, 2023

Using CYME, conduct detailed analysis on selected circuits

March 30, 2023

Report results of circuit analysis with optimal solution and MWh savings

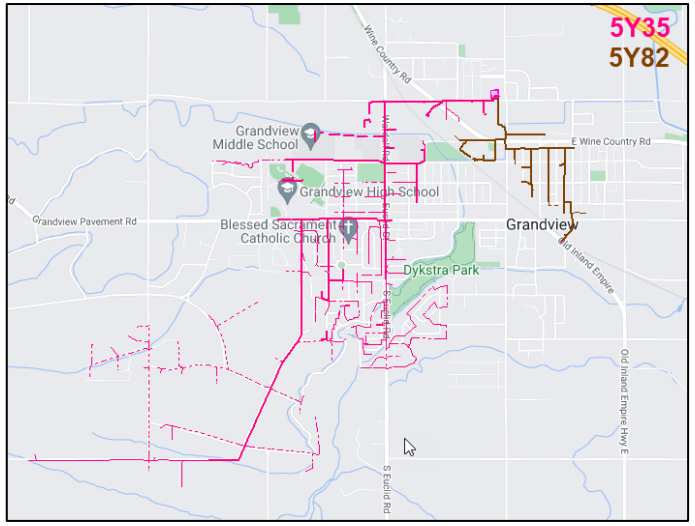
May 1, 2023

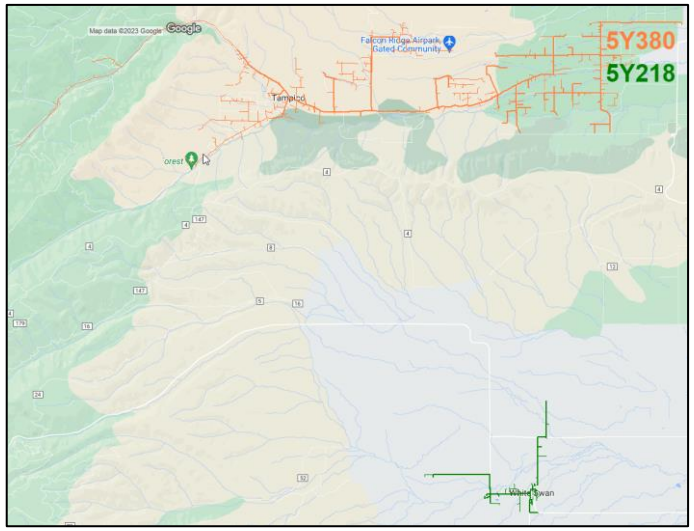
Estimate costs of implementation and conduct economic analysis

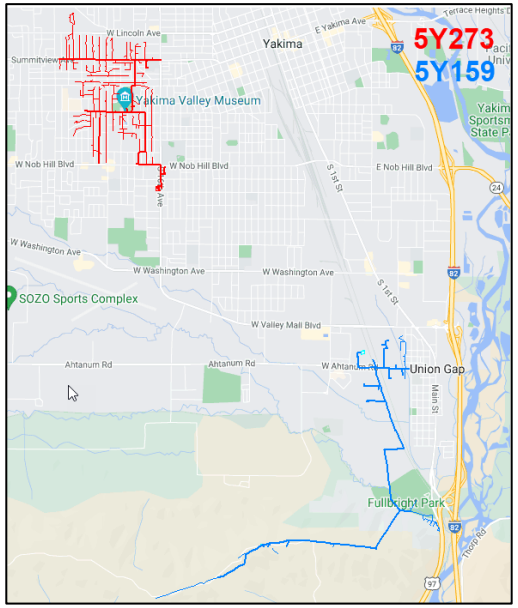
July 1, 2023

Provide forecasted costs and savings for year 2024-2032

2024-2025 Biennium Volt/VAR Reduction Study Overview







Overview of Pacific Power - Washington Volt/VAR Study

- Reviewed 142 distribution circuits based on:
  - ✓ VAR flow
  - ✓ Power factor (0.95 or less)
  - ✓ SCADA availability
- Additional Factors
  - ✓ Total kW losses (Magnitude and duration)
  - ✓ Total Loading (MWh)

- 6 circuits met criteria. Using CYME these circuits were analyzed for distribution efficiency savings:
  - Grandview 5Y82
  - Grandview 5Y351
  - White Swan 5Y218
  - Wiley 5Y380
  - Nob Hill 5Y273
  - Union Gap 5Y159

2024-2025 Biennium Volt/VAR Reduction Study Results

Summary of results:

Voltage Optimization (Voltage reduction at substation):

- Only Voltage Optimization
  - 5Y82
- With installation of new line voltage regulating device
- With reconductor of existing line to larger conductor
  - 5Y273 and 5Y351

Phase Balancing:

- Only Phase Balancing
- With installation of new line voltage regulating device

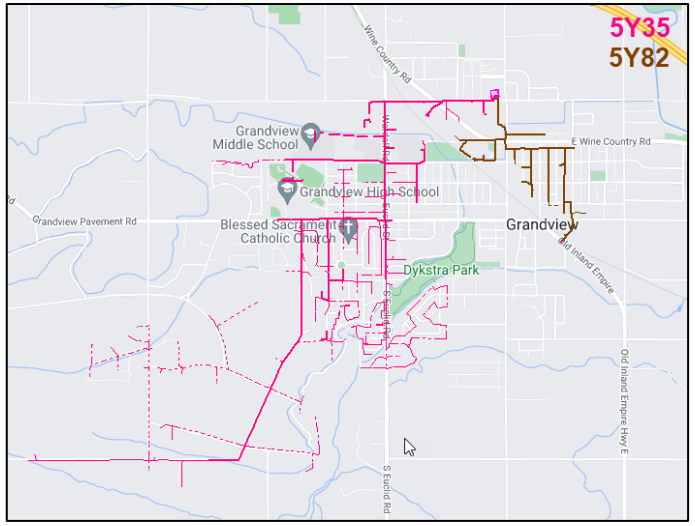
VAR Management:

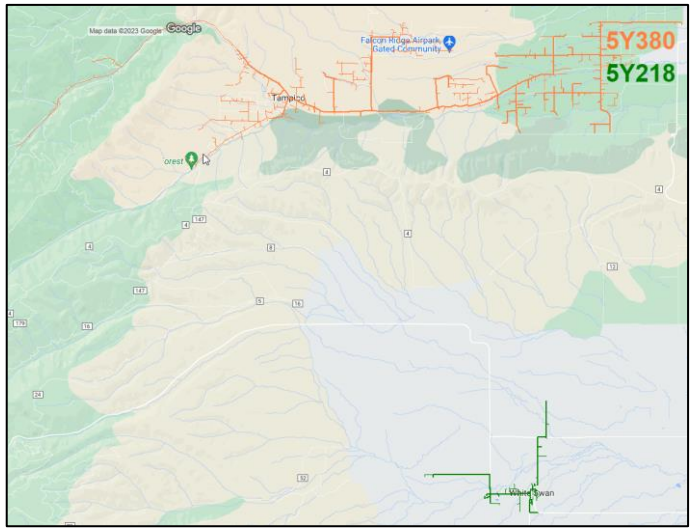
- Only VAR Management (Installation of capacitor banks)
  - 5Y218
- With installation of new line voltage regulating device
  - 5Y159

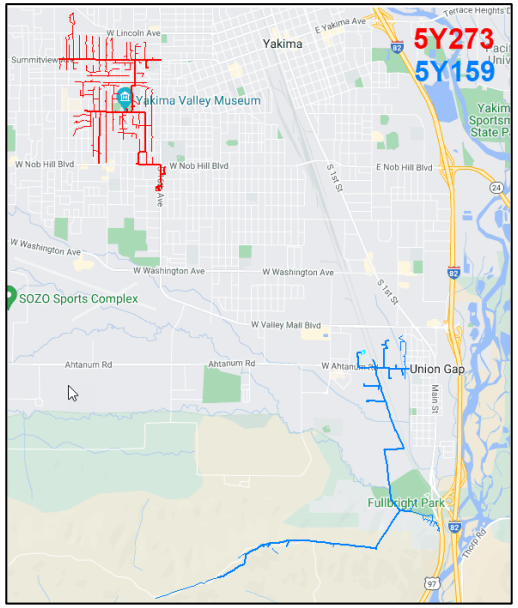
Circuit	Reductions in line loss	Reduction in Power Consumption	Projected Annual Savings (MWh)	Optimal Solution
5Y273	18.96%	0.5%	86	Reconductor with Volt Optimization
5Y218	1.67%	0.1%	1	VAR Management
5Y351	10.13%	0.77%	186	Reconductor with Volt Optimization
5Y380	N/A	N/A	0	No Solution
5Y82	0.14%	0.02%	2	Volt Optimization
5Y159	8.37%	0.1%	4	Var Management with Volt Optimization

Maximum Possible Annual Savings: 279 MWh

2024-2025 Biennium Volt/VAR Reduction Construction Cost







Overview of Pacific Power - Washington Volt/VAR Construction Cost Estimate

- Reviewed 5 projects that modeling found solutions that provided distribution efficiency savings and created scope of work for each solution
- Estimated cost of each solution's scope of work using Pacific Power 2023 block building tool
  - High level, +/- 50% estimate
  - Including labor and material based on 2023 dollars, the solution's estimated costs are:

    - Grandview 5Y82 - $111,398
    - Grandview 5Y351 - $863,066
    - White Swan 5Y218 - $45,153
    - Nob Hill 5Y273 -$272,834
    - Union Gap 5Y159 - $251,768

2024-2025 Biennium Volt/VAR Reduction Economic Screening Results

Summary of Results:

Each project was screened using PacifiCorp's generic model:

- Projects assumed constructed and in service on 1/1/2025
- Projects analyzed based on cost to construct, operate, and maintain
- Savings based on modeled distribution efficiency gains per year from in service date through 2032
- Two economic screenings analyzed, passing either allows project to move forward:
  - Yakima local energy price
  - Washington Schedule 37 Avoided Cost
  - Economic ratio >= 1.0 pass, Economic ratio < 1.0 fail
- None of the potential projects passed economic screening for 2024-2025.

Including previously approved and funded project "Wiley Substation feeder 5Y164 Reconductor and Voltage Optimization" expected to be completed in 2025:

Total Expected Annual Savings: 227 MWh in 2025

Circuit	Projected Annual Savings (MWh)	Results of Yakima Local Energy Screening	Results of Washington Schedule 37 Avoided Cost Screening	Project Pass or Fail Economic Screening?
5Y273	86	0.22	0.27	Fail
5Y218	1	0.02	0.02	Fail
5Y351	186	0.15	0.19	Fail
5Y82	2	0.01	0.02	Fail
5Y159	4	0.01	0.01	Fail

Production Efficiency - Thermal

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Production Efficiency – WAC rule and Condition 12c

WAC 480-109-100
Energy efficiency resource standard.
(1) **Process for pursuing all conservation.**
(b) **Types.** Types of conservation include, but are not limited to:
(i) End-use efficiency;
(ii) Behavioral programs;
(iii) High-efficiency cogeneration;
(iv) Production efficiency;
(v) Distribution efficiency; and
(vi) Market transformation.

Docket UE-210830 Order 01 Attachment A	12c	Recovery through an Electric Conservation Service Rider	Recovery of costs associated with distribution and production efficiency initiatives are not funded through the Electric Conservation Tariff Rider because these programs are not customer conservation initiatives. These are company conservation programs. As such, these costs are recovered in the general rate making process over time and may be requested through a general rate case, a deferred accounting petition or other allowed mechanism. The method of cost recovery in no way diminishes its obligation as required in RCW 19.285 and WAC 480-109.

Production Efficiency

- “means investments and actions that save electric energy from power consuming equipment and fixtures at an electric generating facility.” WAC 480-109-060 (27)
- For 2022-2023 biennium:
  - Studies were updated in 2021 for Chehalis and Hermiston for any changes in operating profiles, equipment changes and escalate costs. All identified projects were evaluated using the economic models specific to generation.
  - No opportunities existed for Chehalis
  - Two Hermiston projects passed for proposal to joint owner(s) to participate which include lighting and compressed air system upgrades

Production Efficiency

- Hermiston projects were presented to the joint owners in December of 2021
  - Lighting upgrades to LED
    - Field lighting is approximately 70% complete with intent to be at 100% within the next 12-months
    - Main warehouse was completely converted in 2022
    - Raw water building is scheduled to be converted in 2023
    - Plan to report savings in 2022-2023 biennium. No other saving opportunities available after these lighting upgrades are complete.
  - Compressed Air System
    - New dew-point demand controls for the air dryers were not cost effective at this time and not approved by the joint owners

Production Efficiency

For 2024-2025, propose following approach:

- Projects need to be in generating facilities allocated to Washington:
  - Thermal (coal): Jim Bridger and Colstrip
  - Thermal (gas): Chehalis and Hermiston
- No further analysis of any projects at Bridger or Colstrip
  - 2023 IRP shows Jim Bridger and Colstrip allocations to Washington ending by 2025 meaning recovery of investments would not be possible in the reduced lifespan.
- Studies were updated in 2021 for Chehalis and Hermiston
  - New production efficiency opportunities unlikely
    - Production plant systems are established and not likely to change
  - Engineering to review 2021 identified projects to determine if the economics have changed
    - Update project estimates
    - Re-run project evaluation using the generation economic models
    - Plan to report back at the August DSM Advisory Group meeting
      - Awaiting updated avoided cost values for screening

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Production Efficiency - Wind

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Production Efficiency - Wind

- Goodnoe Hills Wind Project included in 2011 production efficiency study
  - Estimated savings was 1,500 kWH/yr (small)
- For recent biennial conservation plans, focus has been on thermal plants due to larger energy savings potential
- Questions/interest in wind last time (2022-2023 BCP), so assessment for 2024-2025 biennial is underway
- Focus is on support buildings at the wind project sites allocated to Washington
  - Examples: O&M shops/offices, storage buildings
  - Buildings are very small (~ 3,000 square feet)
  - Savings potential is likely very small (especially the 7.5% Washington share)
- Focus is on electric efficiency opportunities

Project	# buildings
Glenrock/Rolling Hills	6
Seven Mile Hill 1 and 2	1
Dunlap	1
High Plains and McFadden Ridge	1
Foote Creek Rim	1
Ekola Flats	1
TB Flats 1 and 2	5
Cedar Springs 2	2
Pryor Mountain	3
Marengo 1 and 2	3
Leaning Juniper	1
Goodnoe Hills	3
	28

Production Efficiency - Wind

Inventory of buildings

Reviewed list of wind projects with energy allocation to Washington

Identified buildings tied to the wind projects

(28 buildings)

Identified site supervisors

Assessment pre-work

Site supervisors provided input on buildings for energy efficiency opportunities

Consultant reviewed, identified buildings with possible opportunities

(12 buildings)

Remaining buildings either were already upgraded and/or had no electric efficiency opportunity

Consultant prepared spreadsheet for each site supervisor to collect additional info

Assessment

Consultant to

- Review data from site supervisors
- Estimate savings potential by measure for each building
- Prepare summary memo/report

Economic Screening

Company to estimate costs of implementation and conduct economic analysis

Share with DSM AG

Company to share results by email with DSM Advisory Group in August

(including any addition to the target from Production Efficiency – Wind)

Share with DSM AG

Company to share draft Biennial Conservation Plan with DSM Advisory Group October 2, 2023

(including section on Production Efficiency – Wind, Consultant summary memo/report as appendix)

2024-2025 Target Setting

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2024-2025 Target Setting – WAC rule and Condition 3f

Docket UE-210830 Order 01 Attachment A	3f	Prior to filing the 2024-2025 Biennial Conservation Plan, PacifiCorp must provide the following information to the Advisory Group: draft ten-year conservation potential, revised four-year target, and two-year target by August 1, 2023; draft program details, including budgets, by September 1, 2023; and draft program tariffs by October 2, 2023.

WAC 480-109-100	2	(2) Ten-year conservation potential. By January 1, 2010, and every two years thereafter, a utility must project its cumulative ten-year conservation potential.
WAC 480-109-100	2a	(a) This projection must consider all available conservation resources that are cost-effective, reliable, and feasible.
WAC 480-109-100	2b	(b) This projection must be derived from the utility's most recent IRP, including any information learned in its subsequent resource acquisition process, or the utility must document the reasons for any differences.
WAC 480-109-100	2b	(b) (cont.) When developing this projection, utilities must use methodologies that are consistent with those used in the Northwest Conservation and Electric Power Plan.
WAC 480-109-100	2c	(c) The projection must include a list of each measure used in the potential, its unit energy savings value, and the source of that value.
WAC 480-109-100	3a,b	(3) Biennial conservation target. Beginning January 2010, and every two years thereafter, a utility must establish a biennial conservation target. (a) The biennial conservation target must identify, and quantify in megawatt-hours, all available conservation that is cost-effective, reliable, and feasible. (b) The biennial conservation target must be no lower than a pro rata share of the utility's ten-year conservation potential.

2023 IRP Selections

LT_13338_23I.LT.RP.20.PA1_.EP.MM.PP-D3 29 v109.9

Energy Efficiency (excluding Home Energy Report)*

Cumulative Energy Efficiency Energy (MWh) Selected by State and Year										
State	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
WA	53,112	92,825	139,678	176,285	217,245	263,078	307,593	352,688	391,869	438,353

- Energy efficiency bundles are selected on a net cost of capacity basis. To develop capacity estimates:
  - Use CPA energy (MWh) volumes and convert to capacity (MW) volumes using load shapes.
  - Adjust load shapes to align with load forecast for temperature dependent measures so that the hottest day aligns with the highest load for cooling measures and vice versa for heating measures.
  - This methodology results in slight variations between cumulative and 1st year energy efficiency. 1st year energy cannot be calculated by subtracting cumulative energy from the prior year because the hourly shapes change from year to year.

LT_13338_23I.LT.RP.20.PA1_.EP.MM.PP-D3 29 v109.9

Energy Efficiency (excluding Home Energy Report)*

1st Year Energy Efficiency Energy (MWh) Selected by State and Year										
State	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
WA	53,112	40,313	47,072	35,018	39,718	45,721	45,802	48,201	47,697	44,313

- Accounting for annual shapes of energy efficiency increases annual selections by 2% over the 10 yr period.
- Preferred portfolio in WA includes social cost of carbon and non-energy impacts.
- Totals do NOT include Home Energy Reports

HER forecast/adjustment

Pacific Power Washington (@gen kWh)			
Treatment Group Category	**2023**	**2024**	**2025**
2020 Email kWh	1,803,573	1,584,991	1,387,944
2020 Paper kWh	546,994	500,693	453,316
2021 Paper&Email kWh	788,188	654,670	536,226
2023 Expansion Wave kWh	831,074	1,795,177	1,651,206
Total kWh	**3,969,829**	**4,535,531**	**4,028,692**
2020 Email Users	16,886	14,821	13,007
2020 Paper Users	15,902	14,456	13,141
2021 Paper&Email Users	9,768	8,059	6,642
2023 Expansion Wave Users	19,207	18,099	16,724

Home Energy reports have been delivered in Washington since 2012. Savings are represented in the load forecast based on historical achievements. To avoid double counting they are only characterized as incremental in the CPA/IRP. Therefore, we add forecasted savings onto the target to reflect expected achievements.

2023 Expansion wave taking effect in August 2023 with 2024 being the first full year for that cohort.

NEEA forecast/adjustment

Pacific Power's Share		NEEA Reported Savings Estimate (aMW) 2024	2025	Total
Total for NEEA's Portfolio		**0.51**	**0.65**	**1.16**
Program Measures		**0.35**	**0.39**	**0.74**
Residential	Total	0.33	0.38	**0.71**
	Ductless Heat Pumps	0.06	0.08	**0.14**
	Extended Motor Products	0.02	0.02	**0.03**
	Heat Pump Water Heaters	0.06	0.08	**0.14**
	Manufactured Homes	0.00	0.00	**0.01**
	Refrigerators/Freezers	0.04	0.04	**0.08**
	Clothes Washers	0.06	0.06	**0.12**
	Clothes Dryers	0.03	0.03	**0.06**
	Room Air Conditioners	0.00	0.00	**0.00**
	Televisions	0.06	0.06	**0.12**
	Air Cleaners	TBD	TBD	**TBD**
	Home Audio	TBD	TBD	**TBD**
Commercial	Total	0.02	0.02	**0.04**
	Extended Motor Products	0.01	0.01	**0.03**
	High Performance HVAC	0.00	TBD	**0.00**
	Luminaire Level Lighting Controls	0.00	0.01	**0.01**
Codes & Standards		**0.16**	**0.25**	**0.42**
Residential	Total	0.10	0.14	**0.24**
	Residential New Construction	0.09	0.14	**0.23**
	Consumer Products (Standards)	0.00	0.01	**0.01**
Commercial	Total	0.07	0.11	**0.17**
	Commercial New Construction	0.05	0.10	**0.15**
	Commercial Products (Standards)	0.01	0.01	**0.03**
Industrial	Total	0.00	0.00	**0.00**
	Industrial Products (Standards)	0.00	0.00	**0.00**

NEEA forecast provided on 6/14/2023.

Increase in savings compared to prior biennium are primarily from the recently adopted WA energy code.

No adjustments needed as all savings from NEEA were confirmed to be using the latest Power Plan baselines in alignment with CPA.

RTF Adjustments and IRP Selections

Summary of RTF Adjustments (MWh at Generator)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2024-33
Total Residential Adjustments for Targeted Measures	(278)	(301)	(190)	(42)	(59)	(74)	(87)	(96)	(99)	(96)	**(1,322)**
Total Non-Residential Adjustments for Targeted Measures	(2,115)	(2,208)	(2,299)	(2,277)	(2,155)	(3,005)	(3,573)	(3,472)	(3,412)	(3,256)	**(27,772)**
Overall RTF Adjustment	(2,393)	(2,509)	(2,489)	(2,319)	(2,213)	(3,079)	(3,660)	(3,567)	(3,512)	(3,352)	**(29,094)**
RTF Adjustment as % of Total WA IRP Selections	-6%	-5%	-7%	-6%	-5%	-7%	-8%	-7%	-8%	-8%	**-7%**

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2024-33	10-year Avg
Washington - First Year EE from 2023 IRP	40,313	47,072	35,018	39,718	45,721	45,802	48,201	47,697	44,313	43,396	437,252	43,725
Behavioral Programs (HER)	4,536	4,029	3,578	3,179	2,823	2,508	2,228	1,979	1,758	1,561	28,178	2,818
RTF Adjustments (Total)	(2,393)	(2,509)	(2,489)	(2,319)	(2,213)	(3,079)	(3,660)	(3,567)	(3,512)	(3,352)	(29,094)	(2,909)
NEEA Adjustments	-	-	-	-	-	-	-	-	-	-	-	-
Adjusted Energy Efficiency Forecast	**42,455**	**48,592**	**36,108**	**40,578**	**46,331**	**45,230**	**46,769**	**46,108**	**42,559**	**41,605**	**436,336**	**43,634**

Pro-Rata share or average 10-year annual potential for 2024-2025 is equal to 87,267 MWh

Two-year potential is 91,047 MWh.

Other Adjustments

High efficiency Co-generation

- Using reciprocating engines for cost screening as this technology is cheaper and includes 98% co-gen of potential.
- Costs are derived from Appendix C – Washington Co-Generation Levelized Costs in 2022 Private Generation Study.
- Levelized cost is $91.33/MWh in 2024 with 10 year potential equal to 130 MWh and 25 MWh in the biennial period based on CPA combined heat and power and private generation reciprocating engines.
- Levelized cost bins vary for selections by year and are dependent on capacity contributions, but all measures at this levelized cost were selected. Therefore, we include high efficiency Co-generation in our target.

Draft Target Summary

Updated Draft Biennial Target (MWH/yr at generation)

Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2024-2033 Cumulative
Adjusted Energy Efficiency	37,920	44,563	32,529	37,400	43,508	42,723	44,542	44,130	40,802	40,044	408,159
Home Energy Reports	4,536	4,029	3,578	3,179	2,823	2,508	2,228	1,979	1,758	1,561	28,179
High-Efficiency Co-Generation	12	13									25
Distribution Efficiency	-	244									
Production Efficiency TBD											
Total	**42,468**	**48,849**	**36,107**	**40,579**	**46,331**	**45,231**	**46,770**	**46,109**	**42,560**	**41,605**	**436,607**
										Draft 2024-2025 Target	**91,317**

Updated Draft CEIP Target (MWH/yr at generation)

Category	2022	2023	2024	2025
Washington - first year Energy Efficiency from the IRP Preferred Portfolio	34,003	37,231	40,313	47,072
Behavioral Programs (HER)	4,414	(182)	4,536	4,029
RTF adjustments (total)	335	407	(2,393)	(2,509)
Adjusted Energy Efficiency Forecast - annual	38,752	37,456	42,468	48,849
Adjusted Energy Efficiency Forecast - Pro-rata	50,579	50,579	40,828	41,073
Decoupling commitment - five percent	2,529	2,529	2,123	2,442
Annual Target	53,108	53,108	44,591	51,292
2022-2025 target				**202,099**

NEI Progress: Building Resiliency

Peter Schaffer






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Condition 11a - Non-Energy Impacts Research

11) Equitable Distribution of Nonenergy Benefits

a) During this biennium, PacifiCorp must continue to demonstrate progress towards identifying, researching, and properly valuing nonenergy impacts. The nonenergy impacts considered must include the costs and risks of long-term and short-term public health benefits, environmental benefits, energy security, and other applicable nonenergy impacts. In consultation with the Company's conservation, equity, and resource planning advisory groups, nonenergy impacts and risks must be included in the next Biennial Conservation Plan and Conservation Potential Assessment.

Non-Energy Impacts

Non-energy impacts (NEIs)
the accounting for impacts of energy efficiency beyond energy savings, for example, water savings, reduced replacement costs, and health and safety costs.

Pacific Power, in conjunction with other WA IOUs, hired a contractor (DNV) to conduct a literature review on non-energy impacts. These quantified NEI values are applied to current (and future) measures in our portfolio.

Currently, NEIs make up approximately **15%-20%** of overall portfolio value in cost-effectiveness valuation.

Estimated Non-Energy Impacts for CEIP Targets

Program (2022-2026)	NEI ($)
Low Income Weatherization	$495,672
Home Energy Savings	$9,160,974
Home Energy Reports	$0
Wattsmart Business	$17,586,509
Northwest Energy Efficiency Alliance	$1,021,151
Total Conservation	**$28,264,306**

Step 1: Define Resilience Events and Build Weather Files

APEX ANALYTICS

Boise, Idaho weather assumptions used for each outage event (45 events)

9 WEATHER SCENARIOS	5 OUTAGE DURATION EVENTS				
	Short: 6-12 hours (Daily high or low)	Medium: 12-36 hours (Daily average)	Long: 36-72 hours (3-day average)	Extended: 72+ hours (5-day average)	Extended Rolling Blackouts (5-day average)
Hottest Weather (1% annual occurrence)	111	94	91	90	90
Extremely Hot (10% annual occurrence)	108	91	88	87	87
Very Hot (90% annual occurrence)	99	84	81	79	79
Typical Summer	88	73	73	73	73
Mild Weather (average daily temperature 55-70)	75	65	65	65	65
Typical Winter	25	33	32	32	32
Very Cold (90% annual occurrence)	11	21	23	25	25
Extreme Cold (10% annual occurrence)	-12	-1	1	3	3
Coldest Weather (1% annual occurrence)	-25	-16	-13	-11	-11

Used Larson/Sharp extreme weather files as starting point to build weather file.

Apex Analytics' Resilience Valuation Tool

- Formed for the Regional Technical Forum
- Is the first iteration of quantifying resilience benefits for energy efficiency
- Released February 2023
- Tailored version will be used by Pacific Power to reflect our Washington service area.

NEIs: Building Resilience

Building Resilience

the ability for buildings to prepare for, mitigate, and recover from the negative occupant and/or physical impacts of infrequent—but extreme—events (e.g., extreme weather and/or electricity grid outages)

- *Preservation of health and safety (heat/cold stress)*
- *Preservation of property (freezing pipes)*

NEIs: Building Resilience Approach

- Applies to efficiency measures that don't require power. For example, insulation or windows.

- Examines resilience within a home, instead of only grid resilience or non-residential buildings

- Cost based approach which assess the value of maintaining comfort by estimating the avoided cost of having to supply backup power.

Energy Inefficient

An inefficient home requires more energy to maintain temperature during outage versus an efficient weatherized home.

NEIs: Cost Based Approach

- Define a backup system with costs for providing the same services during an event (e.g., heating, cooling, etc.)
  - Original RTF analysis used diesel generators.
- Assume that energy efficiency offsets increased backup generation system size. Compare large battery serving large existing load to a smaller battery half the size, serving less load.
- Avoided cost is represented by the difference in generator cost divided by the total kWh use during an outage on annual basis.

GENERAC

21.6 kWh Generac PWRcell energy storage system

(No reviews yet) Write a Review

SKU: GPC-21.6kWh-Generac
MPN: A0000391219
AVAILABILITY: SHIPS 2 - 3 WEEKS
SHIPPING: $750.00 (Fixed Shipping Cost)

$23,000.00

QUANTITY: 1

ADD TO CART ADD TO WISH LIST

GENERAC

14.4 kWh Generac PWRcell energy storage system

(No reviews yet) Write a Review

SKU: 14.4kWh-Generac
MPN: A0000391219
AVAILABILITY: SHIPS 2 - 3 WEEKS
SHIPPING: $600.00 (Fixed Shipping Cost)

$18,000.00

QUANTITY: 1

ADD TO CART ADD TO WISH LIST

NEIs: Building Resilience Steps

Step 1	Define resilience events using Pacific Power data and weather files.
Step 2	Estimate annual resilience event hours.
Step 3	Estimate avoided cost of backup electricity.
Step 4	Estimate building impacts for average event.
Step 5	Calculate annual resilience benefits on a **per kWh or per home basis for WX and insulation measures.**

Red text indicates areas of change from the Apex/RTF model

NEIs: Building Resilience Results

Potential Applications:

Consider applying to whole home on a per home basis and blown insulation measures on a per kWh basis.

Results:

For a package of weatherization measures we assume a value of $240 per home. For a single weatherization measure such as insulation, we assume a value of $0.18 per kWh of savings.

RTF values were higher per home ($295) but less per kWh ($0.03/kWh) because they assumed more kWh savings for whole home weatherization and lower avoided cost.

Future Work:

Should we include these NEIs in the biennial conservation cost-effectiveness analysis?

Competitive Procurement Framework

Nancy Goddard






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Competitive Procurement Framework

- First framework in the 2022-2023 Biennial Conservation Plan
- Following the framework now
  - Home Energy Savings/Wattsmart Business re-procurement
- For 2024-2025 Biennial Conservation Plan
  - Revisit framework in consultation with the DSM Advisory Group
- Propose
  - Update contract list
  - Add Craft3 to exemption list
  - Other minor updates
  - Send redline version to DSM AG and request comments
    - Send early (now)? Or just once with 10/2/2023 draft BCP?
- Any feedback on this proposal?

WAC 480-107-065	3a	A utility must acquire conservation and efficiency resources through a competitive procurement process as described in this rule unless the utility is implementing a competitive procurement framework for conservation and efficiency resources as approved by the commission. (a) **As part of that process, a utility may develop, and update each biennium, a competitive procurement framework for conservation and efficiency resources in consultation with its conservation advisory group**, as described in WAC 480-109-110. The utility may file its first competitive procurement framework for conservation and efficiency resources with the utility's 2022-2023 biennial conservation plan.
WAC 480-107-065	3b	(b) The competitive procurement framework for conservation and efficiency resources must: (i) Define the specific criteria that the utility will use to determine the frequency of competitive bidding for conservation and efficiency resource programs, in whole or part; (ii) Address appropriate public participation, outreach, and communication of evaluation and selection criteria; (iii) Enhance or, at minimum, not interfere with the adaptive management of programs; (iv) Include documentation of support by the advisory group; and (v) Be filed as an appendix to the utility's biennial conservation plan, as described in WAC 480-109-120.
WAC 480-107-065	3c	(c) The competitive procurement framework for conservation and efficiency resources may: (i) Exempt particular programs from competitive procurement, such as low-income, market transformation, or self-directed programs; and (ii) Consider if and when to use an independent evaluator.

Reference:
Competitive Procurement Framework
2022-2023 Biennial Conservation Plan Appendix 6

Appendix 6 - Competitive procurement framework for Washington Conservation and Efficiency Resources

November 1, 2021 FINAL

Provided for review and comment to DSM AG in August 2021
Final version filed as appendix to biennial conservation plan

Background:

This framework is provided as required by WAC 480-107-065. Acquisition of conservation and efficiency resources, and is consistent with the rule. The rule text is included for reference below following the framework.

Acquisition of Washington conservation and efficiency resource(s) in sufficient quantities to achieve EIA targets and the specific targets for energy efficiency described in PacifiCorp's Clean Energy Implementation Plan requires on-going relationships with customers, trade allies, distributors, contractors, professional associations and other market actors. Third party delivery contractors performing this work for the company in Washington (in addition to other Pacific Power states) benefit from a reasonable level of contractual continuity as they develop and maintain these relationships. Contractual continuity enables adaptive management of program delivery. Most importantly, continuity is critical for customers who require knowledgeable and timely response to project related needs. Both customers and implementation team rely on trusted relationships to maintain implementation schedules and continued participation.

Contractual continuity needs to be proactively balanced with the need for innovation, best pricing and opportunities for new providers. The company has a robust procurement process that provides services to ensure business units such as Customer Solutions can effectively manage these multiple objectives. In some cases, pricing, delivery and innovation may be enhanced by contracting for delivery across multiple Pacific Power states. A robust and competitive procurement process typically requires nine months from RFP & bidder list development to contract execution.

This framework is specific to delivery contracts with reportable energy savings and does not include support services including but not limited to marketing, energy education, on bill repayment services, or advisory group facilitation/support.

Frequency of competitive bidding for conservation and efficiency resource programs, in whole or part:

Third party delivery contracts for conservation and efficiency resources in Washington follow company guidance for duration; they are typically, five-year contracts with a three-year minimum term and an option for one two-year extension provided performance is acceptable during the first three years. Delivery contracts are intended to be I be re-bid no less frequently than every five years. They may be re-bid more often. Start/end dates

for contracts are staggered when possible to minimize potential delivery disruption. The current delivery contracts and end dates are listed below.

- Bidgely - Home Energy Reports - December 31, 2022
- Resource Innovations (formerly Nexant) - Home Energy Savings, Wattsmart Business commercial trade ally engagement/incentive processing, small business - March 31, 2024
- Cascade Energy - Wattsmart Business industrial/ag trade ally management/incentive processing - March 31, 2024
- Cascade Energy - Wattsmart Business managed accounts – May 31, 2024.

Further detail on the scope of these contracts is provided in our annual reports.

Re-procurement for current contracts will commence ahead of and are intended to be complete prior to the end dates listed. As part of the biennial framework update, current contracts and end dates will be reviewed and updated as required.

Unsolicited proposals received outside of a conservation RFP

Proposals received by the company outside of a conservation RFP process, including through an all-source RFP, will be evaluated provided, at a minimum they a) are additive to (not duplicative of or displace) current delivery activities; b) contain an integration plan with existing offers and c) are economic or cost-effective additions to the current program portfolio.

Public participation, outreach, and communication of evaluation and selection criteria

The company will establish or modify a current web page for public engagement and post a notice prior to releasing competitive procurement solicitations seeking public comment on general proposal evaluation and selection criteria. The company will review and incorporate comments as appropriate.

Respondents to a conservation RFP must be registered in the company procurement system. Public participation and outreach prior to the release of RFP will be focused on having new bidders register in this system. DSM AG members may encourage bidders to register in the system.

Company outreach may include queries to third parties such as ESource for a current list of providers delivering similar services. This information will be compared with current list in the procurement system and non-listed firms may be invited to register.

Company outreach may also include providing the DSM AG with the key components of an upcoming RFP for review and comment ahead of the formal release of the RFP.

The RFP will describe bid evaluation and selection criteria and information related to these criteria will be requested from bidders to ensure the best possible responses.

Criteria weighting or additional metrics with the potential to reduce competitiveness of proposals (as determined by the company's DSM group and procurement group) will not be provided in the RFP.

Support from DSM Advisory Group:

This framework will be provided to the DSM AG during the biennial planning process (odd numbered years) with a request for comment. Comments will be reviewed by the company and incorporated into the version filed as part of the biennial conservation plan. Comments received and their disposition in an easily trackable (comments, responses and redlines in MS word) will be provided to demonstrate DSM AG participation and support.

Current and Planned Exemptions:

Recognizing the unique nature of services provided and the absence of alternative providers, the company will continue their current practice of exempting a) contracts with community action agencies delivering low-income services, and b) Northwest Energy Efficiency Alliance's delivery of market transformation services. The practice of exempting these providers will be reviewed with each biennial procurement framework update. The default will be to continue these exemptions for additional biennial periods UNLESS changed in consultation with the DSM AG.

2022-2023 DSM Forecast

Nancy Goddard






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Program or Initiative	2022 PacifiCorp Washington Conservation Estimates (6/1/2023 Final Report for 2022) Gross kWh/Yr Savings @site	Gross kWh/Yr Savings @gen	Estimated Expenditures	2023 PacifiCorp Washington Conservation Estimates (Forecast) Gross kWh/Yr Savings @site	Gross kWh/Yr Savings @gen	Estimated Expenditures	2022 + 2023 Gross MWh Savings @site	2022 + 2023 Estimated Expenditures
Low Income Weatherization (114)	261,515	281,589	$ 747,702	179,524	193,304	$ 1,193,659	441	1,941,361
Home Energy Savings (118)	2,625,379	2,826,903	$ 3,629,851	3,758,817	4,047,344	$ 5,836,565	6,384	9,466,416
Home Energy Reports (N/A)	4,289,670	4,618,945	$ 137,990	3,558,528	3,831,681	$ 462,996	7,848	600,985
Total Residential Programs	**7,176,564**	**7,727,437**	**$ 4,515,543**	**7,496,869**	**8,072,329**	**$ 7,493,219**	**14,673**	**12,008,763**
Wattsmart Business (140) - Commercial	21,570,220	23,209,989	$ 6,779,816	26,521,343	28,537,496	$ 9,217,818	48,092	15,997,634
Wattsmart Business (140) - Industrial	4,727,777	5,049,975	$ 1,486,005	7,884,724	8,422,068	$ 2,740,432	12,613	4,226,437
Wattsmart Business (140) - Irrigation	552,321	594,717	$ 173,602	1,433,586	1,543,628	$ 498,260	1,986	671,862
Total Business Programs	**26,850,318**	**28,854,680**	**$ 8,439,423**	**35,839,653**	**38,503,192**	**$ 12,456,510**	**62,690**	**20,895,934**
Northwest Energy Efficiency Alliance	3,328,800	3,582,421	905,984	3,664,463	3,941,523	877,438	6,993	1,783,422
Distribution Efficiency	24,611	26,453			83,000	-	25	-
Total Other Conservation Initiatives	**3,353,411**	**3,608,874**	**$ 905,984**	**3,664,463**	**4,024,523**	**$ 877,438**	**7,018**	**1,783,422**
Be wattsmart, Begin at Home			$ 64,523			$ 70,008		134,531
Customer outreach/communication			$ 217,121			$ 282,879		500,000
Program Evaluations (& savings verification)			$ 276,541			$ 254,497		531,038
Potential study update/analysis			$ 117,239			$ 15,368		132,607
System Support			$ 70,863			$ 98,378		169,241
End use load research & RTF funding			$ 58,090			$ 65,500		123,590
Total Portfolio-Level Expenses			**804,378**			**786,629**		**1,591,007**
Total PacifiCorp Conservation	**34,051,493**	**36,608,571**	**$ 13,759,344**	**43,336,523**	**46,658,521**	**$ 20,736,359**	**77,388**	**34,495,703**
Total System Benefit Charge Conservation	**37,380,293**	**40,190,992**	**14,665,328**	**47,000,986**	**50,600,044**	**$ 21,613,797**	**84,381**	**36,279,125**
Total Conservation	**37,380,293**	**40,190,992**	**$ 14,665,328**	**47,000,986**	**50,600,044**	**$ 21,613,797**	**84,381**	**36,279,125**

July 2023 Forecast for

2022-2023

Source of 7/2023 Forecast

- Orange = from 2023 Annual Conservation Plan
- Green = 7/2023 implementer forecasts

Pac kWh

90% of 2023 ACP

- Residential kWh - 103% of savings in 2023 ACP
- Business kWh - 87% of savings in 2023 ACP
  - Significant projects cancelled
- Price increases (inflation), supply chain (long lead times) and workforce issues stemming from the pandemic continue to impact projects in both programs

Pac $

95% of 2023 ACP

Note: %'s are % of 2023 Annual Conservation Plan, not % of EIA penalty threshold

2022-2023 Forecast

	Target 2022-2023	2023 Annual Conservation Plan (11/15/2022)		July 2023 Forecast	
	Gross MWH/yr @ site	Gross MWH/yr @ site	% of Target	Gross MWH/yr @ site	% of Target
Pro-rata share of 10-year conservation potential	94,210				
EIA Target	94,210	89,647	95%	84,381	90%
Decoupling threshold	4,711				
Total Utility Conservation Goal	98,921	89,647	91%	84,381	85%
Excluded programs (NEEA)	(6,774)	(6,777)		(6,993)	
Utility Specific Conservation Goal	92,147	82,870	90%	77,388	84%
EIA Penalty Threshold (EIA target minus NEEA savings)	87,436	82,870	95%	77,388	89%
EIA penalty threshold plus decoupling	92,147	82,870	90%	77,388	84%

2022-2023 Expenditure Forecast (including NEEA):

2023 Annual Conservation Plan (ACP) $38,573,826

July 2023 forecast $37,279,125 (94% of ACP)

Adaptive Management Updates

Wattsmart Business - Managed Accounts Delivery Channel

Goal:

- Increase savings acquisition for 2023
- Build project pipeline for 2024-2025

Update on 4 of the 5 initiatives shared in March to identify opportunities and engage customers:

Initiative	Update
Refrigeration Tune-ups	• Promote project successes to like-industry customers to encourage participation • Fruit storage refrigeration energy management work continues

Application-Specific Targeted Outreach	• Cascade Energy identified **new technology** for eligibility in program
	  • **Nitrogen Membrane Panel Controls (for controlled atmosphere fruit storage nitrogen generators)**
	  • One customer has implemented (344,260 kWh),
	  • One more expected in fall 2023 (108,450 kWh) with more expected in 2024.

Revisit Cold/Inactive Leads	• Review customer meeting notes for project leads that were mentioned by customer but were not high priority at the time of meeting. Estimate benefits and advocate for upgrade in priority. • Review past projects to identify measures that were not installed or partially installed. Refresh the analysis to show updated incentive and payback.
Ongoing engagement	• Get large commercial customers involved in Energy Management

2022-2023 Forecast – Conditions 3d and 3e

Providing the forecast at DSM Advisory Group meetings to meet this condition:

Docket UE-210830 Order 01 Attachment A	3d	DSM Advisory Group	PacifiCorp must inform the Advisory Group members when its projected expenditures indicate that PacifiCorp will spend more than 120 percent or less than 80 percent of its annual conservation budget.

Events beyond PacifiCorp's reasonable control stemming from the COVID-19 pandemic continue from the 2020-2021 biennium into 2022-2023 in addition to cancellation of significant projects

Docket UE-210830 Order 01 Attachment A	3e	DSM Advisory Group	If PacifiCorp believes that an event beyond its reasonable control has occurred that may prevent it from meeting its combined EIA Penalty Threshold and Decoupling Penalty Threshold, PacifiCorp will confer with the Advisory Group members as soon as possible to determine a path forward. See RCW 19.285.040(1)(e) and RCW 19.285.060(2).

Updates

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Updates

- Clean Energy Implementation Plan, Equity Advisory Group
- Wrap-up
  - Recent filings, recent drafts, upcoming drafts due to the DSM Advisory Group
  - 2023 DSM Advisory Group meetings

Clean Energy Implementation Plan, Equity Advisory Group

Nancy Goddard/Stephanie Meeks






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Clean Energy Implementation Plan (CEIP) Engagement Series

The ***Clean Energy Implementation Plan Engagement Series*** will provide a space for joint consultation among Pacific Power's various Washington advisory groups, stakeholders, and members of the general public. Participants will have the opportunity to provide input on elements of PacifiCorp's developing CEIP, CEIP updates, Demand-Side Management activities, as well as other topics determined by PacifiCorp. We hope this addition will help foster shared understanding of complex clean energy planning topics as well as provide additional pathways for meaningful engagement and input.

- Date: Thursday, August 31st
- Time: 12:30 p.m. – 4:00 p.m. (Pacific Time)
- Where: Online (Zoom)
- Who: Open to the Public

Washington Equity Advisory Group 2023 Meeting Schedule

Date / Time / Meeting Format	Proposed Agenda Topics*
January 12th, 1pm-4pm (PST) Online	Washington Rate Case; Craft3 WA Home Energy Loan Program Community Connections
February 9th, 1pm-4pm (PST) Online	Wattsmart Small Business Lighting (Utility Actions Update) Demand Response Core Concepts WA Residential Survey: Closing the Feedback Loop
March 9th, 1pm-4pm (PST) Hybrid: Perry Technical Institute (Yakima)	Transportation Electrification Washington Plan Filing, Feedback, and CBI Update Demand Response Washington Filing and CBI Update Community Spotlight
April 13th, 1pm-4pm (PST) Online	Communications Team Vision & Updates; Comms CBI Update Energy Efficiency Updates Community Connections
May 2-4 (Yakima & Walla Walla)	Local, in-person visits with the WA Equity Advisory Group
June 8th, 1pm-4pm (PST) Online	CEIP Annual Progress Report Check In; WA Survey Updates from the Communications Team and Energy Efficiency Team Community Connections
July 13th, 1pm-4pm (PST) Hybrid: Sustainable Living Center (Walla Walla)	Filed CEIP Annual Progress Report Filing & Feedback; WA Non-Energy Impacts Updates Community Connections
August	**No Meeting**
September 14th, 1pm-4pm (PST) Online	Energy Efficiency Updates (Preview Biennial Conservation Plan and program changes) Community Connections
October 12th, 1pm-4pm (PST) Hybrid: Location TBD	Energy Efficiency Updates Community Connections
November	**No Meeting**
December 7th, 1pm-4pm (PST) Online	End of the Year Survey and Reflection; 2024 Planning

***Proposed agenda topics may be subject to change**
CEIP: Clean Energy Implementation Plan
CBI: Customer Benefit Indicator

Wrap-up

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Recent Filings

	Draft to you	Comments due	Response to Comments	Filed	Approval Decision
Residential Demand Response Program Filing docket UE-220848	4/19/2023	5/5/2023	Initial response 5/8/2023	PacifiCorp filed on 5/19/2023 and requested an effective date of 6/30/2023*	Petition approved at open meeting on June 29, 2023
Low Income Weatherization program change - add smart thermostat measure (UE-230453)	April 28	May 29		June 7, 2023 Requested effective date July 14, 2023	Approved at open meeting on July 13, 2023

*In its most recent approval for C&I DR, WUTC requested PacifiCorp use the CEIP docket as the vehicle/proceeding to get new DR programs / strategy formally "approved," while working with EAG and other advisory groups in the interim to launch new offerings. The "ask" to the WUTC is that the new DR program can use the same funding vehicle.

Clean Energy Implementation Plan progress report filed on July 3, 2023, Docket UE-210829

Recent Drafts

	Draft to you	Comments requested by	Response to comments	Final due
Home Energy Savings and Wattsmart Business 7/1/2023 program change documents – request for comments	4/17/2023	April 28	5/10/2023	Website announcements posted 5/15/2023 • *State energy code implementation delayed* • *Program changes still effective 7/1/2023*

Drafts coming soon

	Draft to you	Comments requested by	Response to comments	Final due
Home Energy Savings and Wattsmart Business 1/1/2024 program change documents	9/1/2023	9/15/2023		
2024-2025 Biennial Conservation Plan and draft tariffs (if any)	10/2/2023	10/15/2023		11/1/2023

Planned 2023

DSM Advisory Group Meetings, Drafts for DSM AG Review, Filings

March

March 30:
Advisory Group meeting #1
System Benefits Charge Review (Schedule 191), Distribution Efficiency

Schedule 191 (SBC) Filing
If no change,
draft request for exception to DSM AG by Mar 31,
file by May 1

~~If change needed,~~
~~draft filing to DSM AG by May 1,~~
~~file by June 1~~

April

Apr 17:
Draft Wattsmart Business/Home Energy Savings program details to DSM AG for review (for July 1 Washington State Energy Code change)

Apr 28:
Comments on program changes due

Apr 28:
Low Inc Wx draft filing to add smart thermostats to DSM AG

May

May 1:
SBC Exemption filing

May 1:
Draft 2022 Annual Report to DSM AG

May 15:
Comments on 2022 Annual Report due

May 15:
Post notice of July 1 program changes on website

May 29:
Comments on Low Income Wx draft filing due

June

June 29:
Advisory Group meeting #2 (by July 1)
Begin 2024-2025 Target Setting
Production Efficiency - thermal

June 1:
File 2022 Annual Conservation Report and Commerce Report

July

July 27:
Advisory Group meeting #3 (by Aug 1)
Draft ten-year conservation potential, revised four-year target, and two-year target
Production Efficiency
Distribution Efficiency
NEIs
Competitive Procurement Framework

July 3:
File CEIP Progress Report

July 1:
Wattsmart Business, Home Energy Savings changes effective

BCP: *Biennial Conservation Plan*
CEIP: *Clean Energy Implementation Plan*
DSM AG*: Demand-side Management Advisory Group*

Planned 2023

DSM Advisory Group Meetings, Drafts for DSM AG Review, Filings

August

August 31:
Advisory Group meeting #4 (by Sept 1)
Draft program details, program budgets (2024-2025)

Preview Utility Actions

Preview 2024 program changes

Note: This meeting will include all advisory groups and the public (and CEIP engagement topics)

September

Advisory Group meeting #5
Preview Biennial Conservation Plan

Sept 1:
Program change documents to DSM AG

Sept 15:
Comments on program change docs due

October

Oct 2:
Draft 2024-2025 Biennial Conservation Plan (BCP) and draft tariffs (if any) to DSM AG

Oct 15:
Comments on draft BCP due

November

Nov 1:
File 2024-2025 Biennial Conservation Plan

Nov 15:
Home Energy Savings and Wattsmart Business program changes for 2024 announced on website

December

Advisory Group meeting #6
Draft 2024 Communications Plan

BCP: *Biennial Conservation Plan*
CEIP: *Clean Energy Implementation Plan*
DSM AG*: Demand-side Management Advisory Group*

2023 DSM Advisory Group Meetings

	Key Topics	Updates
#1 *March 30* *1:30-4:30pm*	• System Benefits Charge Review • 2022-2023 DSM Forecast • Procurement: Delivery Contracts (Home Energy Savings, Wattsmart Business) • Distribution Efficiency • Preview: 7/1/2023 program changes	• Home Energy Reports • Demand Response • CETA: Equity Advisory Group • CEIP: Utility Actions/Customer Benefit Indicator Metrics • Pilots • Wrap-up
#2 *June 29* *1-4pm*	• 2024-2025 Target Setting • Production Efficiency - thermal • 2022 Annual Report • 2022-2023 DSM Forecast and adaptive management • Clean Energy Implementation Plan (CEIP) • CEIP Progress Report – energy efficiency CBI metrics, utility actions	• CETA: Equity Advisory Group • Demand Response • Procurement: Delivery Contracts (Home Energy Savings, Wattsmart Business) • Wrap-up
#3 *July 27* *1-4pm*	• Distribution Efficiency • Production Efficiency – thermal and wind • Draft ten-year conservation potential, revised four-year target, and two-year target • NEI progress: EE and Resiliency • Competitive Procurement Framework – 2024-2025 • 2022-2023 DSM Forecast	• Clean Energy Implementation Plan, Equity Advisory Group • Wrap-up
#4 August 31 12:30-4pm	• Draft program details, program budgets (2024-2025) • Preview of planned program changes for 2024 (condition 5b) • Preview of Utility Actions • 2022-2023 DSM Forecast	
#5 September	• Draft 2024-2025 Biennial Conservation Plan • 2022-2023 DSM Forecast	
#6 December	• 2024 communications and outreach plan • 2022-2023 DSM Forecast	

Thank you






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