

**PacifiCorp  
2022-2023 Biennial Conservation Plan**

**Appendix 1**

**Conservation Forecast Adjustments made to PacifiCorp's Ten-Year  
Conservation Forecast**

## **Appendix 1 - Conservation Forecast Adjustments**

WAC 480-109-100 (2) (b) referring to a utility's ten-year conservation potential, states "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." Accordingly, in developing this projection, the Company assessed the need to adjust IRP energy efficiency selections and identified the categories of required updates described below.

The general methodology for updating 2021 IRP energy efficiency selections found in the PO2-MM-CETA portfolio for the 2022-2031 forecast period is summarized in the main body of this Biennial Conservation Plan. This process updated Unit Energy Savings (UES) assumptions from PacifiCorp's 2021 CPA, performed by Applied Energy Group (AEG), to the most current and applicable available data. A summary of the adjustment amounts by technology and year can be found in the main body of this Plan.

PacifiCorp and AEG identified two types of updates to incorporate into the adjustment analysis:

- 1. Material updates to measures based on updated RTF UES values since the time of the CPA analysis.** The RTF regularly reviews UES measures and publishes updated workbooks. AEG reviewed all recent RTF measure updates as of June 1, 2021, to identify any measures with new analysis since the time of the CPA analysis. Once all measure updates were identified, AEG determined whether changes were material by reviewing:
  - a. Whether the measure was deemed economic in PacifiCorp's IRP modeling,
  - b. The relative change in the RTF UES value, and
  - c. The total amount of potential associated with the measure.
- 2. Updates to key measures to improve alignment between target and business plan.** For this biennium, this category was specific to irrigation measures to reflect that PacifiCorp will be claiming program savings using the "Eastern Washington and Oregon" region from the RTF's analysis.

A summary of adjusted measures is provided in Table A1-1, including the version of the RTF UES workbook used to make the adjustment. indicates if an adjustment is required and the updated information primarily responsible for the change. The adjustment methodology focuses on the unit energy savings of the affected equipment and most adjustments are performed utilizing a ratio between the prior and the updated unit energy savings. Table A1-2 and Table A1-3 provide the magnitude of the adjustment by year over the forecast period at site and at generation, respectively.

**Table A1-1 RTF Adjustment Summary**

<b>Workbook to be Updated</b>	<b>Last Updated</b>	<b>Version</b>	<b>Notes</b>
Heat Pump Water Heaters	4/30/2021	5.2	DHW and Heating impacts nearly the same, but Cooling savings reduced by roughly 100 kWh/unit
Residential Single Family Weatherization	7/23/2020	4.3	Includes insulation, windows, and air sealing
Residential Multifamily Weatherization	9/18/2020	4.2	Includes doors
Residential Manufactured Home Weatherization	7/24/2020	5.4	Includes insulation
Non-Residential Refrigeration - Floating Head Pressure	9/20/2019	2.1	Primarily applies to grocery stores
Irrigation Hardware	6/16/2021	5.2	Update for new RTF analysis and change in region for program reporting

**Table A1-2 RTF Adjustment by Year (MWh at Site)**

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2022-2031
<b>IRP Adjustment Total</b>	<b>313</b>	<b>378</b>	<b>452</b>	<b>519</b>	<b>596</b>	<b>660</b>	<b>671</b>	<b>642</b>	<b>605</b>	<b>525</b>	<b>5,362</b>
Water Heater <= 55 Gal	30	49	69	91	116	144	169	194	233	266	1,362
Water Heater > 55 Gal	2	3	4	5	7	8	10	11	13	15	78
Building Shell - Air Sealing (Infiltration Control)	(25)	(44)	(29)	(43)	(60)	(79)	(99)	(118)	(134)	(145)	(776)
Insulation - Ceiling Installation	12	22	28	42	60	81	104	128	149	167	794
Insulation - Ceiling Upgrade	2	2	(2)	(2)	(3)	(4)	(6)	(7)	(8)	(9)	(37)
Insulation - Floor Installation	0	1	0	0	0	0	0	0	0	0	1
Insulation - Floor Upgrade	(4)	(7)	(11)	(16)	(23)	(30)	(38)	(45)	(51)	(55)	(280)
Insulation - Wall Cavity Installation	9	16	7	10	14	19	23	28	32	35	192
Windows - High Efficiency/ENERGY STAR	(14)	(18)	(29)	(44)	(61)	(81)	(103)	(123)	(141)	(153)	(769)
Windows - Low-e Storm Addition	2	2	3	5	8	10	14	17	20	23	104
Doors - Storm and Thermal	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)
Refrigeration - Floating Head Pressure	311	367	424	483	552	605	608	569	503	392	4,815
Wheel Line - Leveler Maintenance	(0)	-	-	-	-	-	-	-	-	-	(0)
Wheel/Hand - Drain Replacement	(0)	-	-	-	-	-	-	-	-	-	(0)
Wheel/Hand - Gasket Replacement	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(4)	(5)	(4)	(48)
Wheel/Hand - Impact Sprinkler Maintenance	(0)	-	-	-	-	-	-	-	-	-	(0)
Wheel/Hand - Nozzle Replacement	(8)	(8)	(8)	(8)	(8)	(8)	(7)	(7)	(7)	(7)	(76)
Center Pivot/Linear - High P Sprinkler Replacement	1	-	-	-	-	-	-	-	-	-	1
Center Pivot/Linear - MESA Sprinkler Replacement	1	-	-	-	-	-	-	-	-	-	1
Center Pivot/Linear - LESA Sprinkler Replacement	(0)	-	-	-	-	-	-	-	-	-	(0)
Center Pivot/Linear - Upgrade High P to MESA	(0)	-	-	-	-	-	-	-	-	-	(0)
Center Pivot/Linear - Upgrade MESA to LESA	(0)	-	-	-	-	-	-	-	-	-	(0)

**Table A1-2 RTF Adjustment by Year (MWh at Generation)**

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2022-2031
<b>IRP Adjustment Total</b>	<b>336</b>	<b>407</b>	<b>486</b>	<b>558</b>	<b>641</b>	<b>710</b>	<b>721</b>	<b>691</b>	<b>650</b>	<b>564</b>	<b>5,766</b>
Water Heater <= 55 Gal	33	53	74	98	125	155	182	209	250	287	1,467
Water Heater > 55 Gal	2	3	4	6	7	9	10	12	14	16	84
Building Shell - Air Sealing (Infiltration Control)	(27)	(48)	(31)	(46)	(64)	(85)	(107)	(127)	(144)	(156)	(836)
Insulation - Ceiling Installation	13	24	30	45	65	87	112	138	161	179	855
Insulation - Ceiling Upgrade	2	2	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(40)
Insulation - Floor Installation	1	1	0	0	0	0	0	0	0	0	1
Insulation - Floor Upgrade	(4)	(7)	(12)	(17)	(24)	(32)	(41)	(48)	(55)	(59)	(301)
Insulation - Wall Cavity Installation	10	17	7	11	15	20	25	30	35	38	207
Windows - High Efficiency/ENERGY STAR	(16)	(20)	(31)	(47)	(66)	(88)	(111)	(133)	(152)	(165)	(828)
Windows - Low-e Storm Addition	2	2	4	6	8	11	15	18	22	24	112
Doors - Storm and Thermal	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)
Refrigeration - Floating Head Pressure	335	395	456	519	593	651	654	612	541	422	5,177
Wheel Line - Leveler Maintenance	(0)	-	-	-	-	-	-	-	-	-	(0)
Wheel/Hand - Drain Replacement	(0)	-	-	-	-	-	-	-	-	-	(0)
Wheel/Hand - Gasket Replacement	(5)	(6)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(52)
Wheel/Hand - Impact Sprinkler Maintenance	(0)	-	-	-	-	-	-	-	-	-	(0)
Wheel/Hand - Nozzle Replacement	(9)	(9)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(82)
Center Pivot/Linear - High P Sprinkler Replacement	1	-	-	-	-	-	-	-	-	-	1
Center Pivot/Linear - MESA Sprinkler Replacement	1	-	-	-	-	-	-	-	-	-	1
Center Pivot/Linear - LESA Sprinkler Replacement	(0)	-	-	-	-	-	-	-	-	-	(0)
Center Pivot/Linear - Upgrade High P to MESA	(0)	-	-	-	-	-	-	-	-	-	(0)
Center Pivot/Linear - Upgrade MESA to LESA	(0)	-	-	-	-	-	-	-	-	-	(0)