

Chapter 12. Action Plan

Portland General Electric (PGE) developed the Action Plan for the 2023 Clean Energy Plan (CEP) and Integrated Resource Plan (IRP) based on the key findings of the Preferred Portfolio. The Action Plan represents the best combination of cost, risk, community benefits and emission reductions, and outlines the actions PGE proposes to undertake to maintain reliability and meet emissions targets on a planning basis.

Chapter highlights

- PGE’s Action Plan proposes a set of resource actions that we intend to take over the next four years.
- The Action Plan is built on the results of the five key components of the Preferred Portfolio that meet long-term system needs and decarbonization targets while minimizing cost and risk and maximizing community benefits.
- Customer resource actions include acquiring forecasted quantities of ‘cost-effective’ energy efficiency and demand response.
- The pursuit of Community-Based Renewable Energy (CBRE) resources is a cost-effective way to maximize community benefits.
- The energy action conducts one or more Request for Proposals (RFP) for non-emitting energy resources targeting one fifth of the remaining energy need after the addition of EE and CBRE resources.
- A capacity action conducts one or more RFPs targeting the remaining resource adequacy needs in 2026 after contributions from CBRE and other energy resources as well as bilateral contracts.
- PGE will pursue all options to mitigate congestion on the South of Alston (SoA) flowgate
- The Bethel-Round Butte transmission provides the best alleviation of near-term transmission constraints.

12.1 Key components of the Preferred Portfolio

PGE's 2023 IRP shows near-term actions can be taken that position PGE to meet critical long-term reliability and decarbonization goals. This CEP and IRP present an estimation of system need, an identification of available supply-side options and the analysis of portfolios, all of which explore the challenges and uncertainties in long-term resource planning. The combined analysis resulted in a Preferred Portfolio, which contains a set of incremental resource options found to be the best combination of long-term costs, risks and community benefits. The Preferred Portfolio meets customer needs through five core components: customer resource additions, CBRE additions, energy additions, capacity additions and transmission expansion. These components in the Preferred Portfolio through the Action Plan window are detailed in the following sections.

12.1.1 Customer resource additions

The Preferred Portfolio includes the following customer resource additions:

- All cost-effective EE (forecasted by the Energy Trust of Oregon (ETO))
- All customer DR additions (forecasted by the Distribution System Plan (DSP) Part 2)

These forecasted quantities of EE and DR provide an important method to decarbonize. The energy and capacity these resources provide are especially critical given the market constraints PGE faces as we work toward the emissions targets in 2030 and beyond. While results from portfolio analysis suggest additional quantities of EE could be a cost-effective manner to meet system needs, the near-term cost pressure and risk of resource non-procurement led their maximum additions in the Preferred Portfolio to be limited to the cost-effective levels displayed in **Table 69**.

Table 69. Cumulative customer resource additions³²⁰

	Reference Case					Low need					High need				
	2026	2027	2028	2029	2030	2026	2027	2028	2029	2030	2026	2027	2028	2029	2030
Energy Efficiency (MWa)	90	120	150	183	216	90	121	153	186	221	90	120	150	181	212
Summer Demand Response (MW)	183	199	211	218	228	278	282	287	287	294	126	141	155	166	177
Winter Demand Response (MW)	137	149	158	167	174	183	188	192	199	205	92	104	115	126	134

12.1.2 Community-based renewable energy additions

The portfolio analysis in this IRP included both CBRE resources and contractual transmission constraints. Combined, the economic conditions suggest that while proxy CBRE resources evaluated are generally higher cost than utility-scale proxy resources, their location on-system makes them an effective means in portfolio analysis to reduce cost and risk. **Table 70** summarizes the cumulative of CBRE resources in the Action Plan window.

Table 70. Cumulative CBRE resource additions³²¹

	2026	2027	2028	2029	2030
CBRE Additions (MW)	66	85	110	132	155

³²⁰ Demand response estimates are comprehensive of all existing and incremental PGE DR programs.

³²¹ CBRE additions are equal in each need future

12.1.3 Energy additions

To meet House Bill (HB) 2021’s 2030 emissions target, PGE has estimated the Reference Case need to acquire 905 megawatt average (MWA) of incremental generation. The Preferred Portfolio has identified a set of proxy resources that can plausibly be added between now and 2030 given market economics and transmission constraints. This set of resources, displayed in **Table 71**, takes advantage of technological and geographic diversity to meet system needs at the lowest combination of cost and risk.

Table 71. Cumulative energy additions by type in Preferred Portfolio (MW)

	Reference					High					Low				
	2026	2027	2028	2029	2030	2026	2027	2028	2029	2030	2026	2027	2028	2029	2030
Wind	227	627	901	1,172	1,334	403	803	1,136	1,228	1,440	29	429	660	1,128	1,128
Solar	0	0	0	490	756	58	58	58	929	1215	0	0	0	69	529
Hybrid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CBRE	66	85	110	132	155	66	85	110	132	155	66	85	110	132	155
Contract Extension	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200

12.1.4 Capacity additions

While the energy additions described previously do contribute capacity to the system, to maintain resource adequacy additional resources are needed. **Table 72** displays the total dispatchable capacity additions in the Preferred Portfolio depending on Need Future, while **Table 73** depicts the capacity contribution of each resource type.

Table 72. Cumulative incremental dispatchable capacity (MW) in Preferred Portfolio

	Reference					High					Low				
	2026	2027	2028	2029	2030	2026	2027	2028	2029	2030	2026	2027	2028	2029	2030
4-hr Batteries	232	232	232	232	264	503	503	503	503	503	176	176	176	176	288

Table 73. Approximate capacity contributions by resource type (MW) in Preferred Portfolio³²²

	Reference				
	2026	2027	2028	2029	2030
Storage	157	157	157	157	157
Wind	95	162	268	293	498
Solar	0	0	0	77	127
Hybrid	0	0	0	0	0
CBRE	32	41	53	65	75
Tx Market Access	33	33	33	33	198
Contract Extension	200	200	200	200	200

12.1.5 Transmission expansion

Incorporating contractual transmission limitations into portfolio analysis highlights an insufficient capacity of the existing transmission system to meet PGE’s system needs. Declining emission targets increase the need for non-GHG-emitting resources. Those resources are generally located in areas that currently lack sufficient transmission capability to move energy to PGE’s load. To maintain reliability while meeting emissions targets, additional transmission options are needed. PGE evaluated two types of proxy resource additions: improvements that enable additional resources with PGE’s historical geographic area of investigation (located in Oregon, Washington and Montana) and additions that provide access to resources farther away (Wyoming and Nevada). Portfolio analysis demonstrated that the alleviation of the SoA constraint on BPA’s system is the most cost-effective manner to meet system needs. Further, the option of regional expansion offers an effective means to access non-emitting energy and capacity. **Table 74** displays the quantities of transmission expansion in the Preferred Portfolio.

³²² The capacity contribution of NV and WY Tx expansion each show up in two locations. Capacity contribution from the associated VERs are accounted for in solar and wind, respectively. Capacity contribution from market access is accounted for in Tx market access. When combined, the ELCC of each Tx expansion proxy is 100 percent.

Table 74. Cumulative transmission additions in Preferred Portfolio

	Reference					High					Low				
	2026	2027	2028	2029	2030	2026	2027	2028	2029	2030	2026	2027	2028	2029	2030
SoA	0	400	400	400	400	0	400	400	400	400	0	400	400	400	400
Wyoming	44	44	44	44	206	100	100	100	100	312	0	0	0	0	0
Desert SW	0	0	0	0	49	58	58	58	58	205	0	0	0	0	0

12.2 Action Plan

PGE’s 2023 CEP and IRP Action Plan builds on the key components from the Preferred Portfolio highlighted previously. The five actions detailed in the following sections encompass a set of low-risk, near-term actions that provide the best combination of cost, risk, and community impacts while meeting system need and positioning the company on a pathway to meet HB 2021 emissions targets in 2030 and beyond.

12.2.1 Customer resource action

Customer participation continues to be a critical piece in achieving long-term decarbonization at the lowest cost to customers. PGE will pursue the incorporation of the quantities contained in the cost-effective forecasts of both Energy efficiency (EE) and Distributed energy resources (DERs). These non-emitting resources will provide both energy and capacity to the system.

- Action 1A. Acquire all cost-effective EE

PGE plans to acquire all cost-effective energy efficiency, which is currently forecast to be a cumulative 150 MWa through 2028.

- Action 1B. Incorporate customer additions

We plan to enroll distributed flexibility resources that customers choose to provide. By 2028, this is currently forecast to be a total enrollment of:³²³

- 211 MW of summer demand response (Low: 173 MW, High: 343 MW)
- 158 MW of winter demand response (Low: 127 MW, High: 234 MW)

12.2.2 CBRE action

PGE plans to conduct an RFP for CBRE resources. While the proxy CBRE resources modeled in the IRP presents a higher cost resource than more traditional utility-scale resources, both the inclusion of an rCBI credit and the reflection of existing contractual transmission constraints generate results that suggest distribution-connected CBRE resources are part of the least-cost and -risk set of resource additions. The project evaluation and scoring in this CBRE RFP will be guided by the developing Community benefits indicators (CBI) performance metrics and community feedback received from the Community Learning Labs.

- Action 2: Initiate a CBRE-focused RFP

PGE will conduct a CBRE RFP targeting 66 MW of CBRE resources to come online by 2026 and additional RFP(s) as necessary to support a trajectory towards achieving PGE’s goal of 155 MW of CBRE resources by 2030 155 MW in 2030. PGE should continue to pursue federal and state grant opportunities that may help to reduce the costs of CBRE projects and work with customers and communities to develop future potential CBRE programs.

12.2.3 Energy action

Under HB 2021’s 2030 carbon emissions targets a significant amount of incremental non-emitting generation will be necessary. The energy action is focused on PGE procurement of sufficient resources to meet projected energy needs.

- Action 3: Conduct one or more energy RFPs

PGE will conduct one or more RFPs to add sufficient non-emitting resources to meet the emissions targets established in HB 2021. The current Reference Case 2030 energy need is 905 MWa; PGE will target acquiring one fifth of that need (181 MWa) each year in the Action Plan (2026-2028), for a total of 543 MWa through 2028. While the customer actions (EE and DR) are reflected in these forecasts, the CBRE resources targeted previously will contribute to these acquisition targets, reducing the total need up to a forecasted 29.6 MWa (to approximately 875 MWa, or approximately 175 MWa per year). PGE will update energy

³²³ Demand response values include existing programs.

needs as new information about load growth, resource acquisitions and any applicable changes to policy become available throughout the CEP/IRP and RFP processes.

12.2.4 Capacity action

Maintaining resource adequacy will be critical as we make progress on decarbonization. This action seeks to provide sufficient capacity to the system to ensure reliability.

- Action 4a: Pursue capacity opportunities in the bilateral market
- Action 4b: Conduct one or more capacity RFPs

The 2023 CEP and IRP forecasts significant capacity needs in 2028: 624 MW and 614 MW are needed in the summer and winter, respectively. Elevated and reduced projections of load growth, electrification, DER adoption and market access suggest this need could grow to 786 MW and 864 MW or shrink to 435 MW and 359 MW in the summer and winter. Like the energy action, the cost-effective EE and DER targets in the customer action are already incorporated in this need. While the CBRE and other energy resources described previously could help meet this need, resource additions beyond the CBRE and energy actions are required to maintain resource adequacy. This action will focus on meeting those resource adequacy needs. PGE will pursue the procurement of these resources in a staged approach, first acquiring any beneficial opportunities in the bilateral market, and second by conducting one or more RFPs to meet any remaining capacity needs through the Action Plan window. Similar to the energy action, PGE will update capacity needs throughout the CEP/IRP and RFP processes as new information on both generation supply and demand becomes available.

12.2.5 Transmission expansion action

Assessing the projected growth in demand compared with the characterization of the existing transmission system emphasizes that PGE cannot wait take action to address the transmission concerns described above. Delay could significantly increase projected cost and risk to PGE customers and the energy system. PGE will undertake a multi-phase approach to explore all potential options and pursue those that allow us to reliably decarbonize at the lowest cost and risk.

- Action 5A: Pursue options to alleviate congestion on the SoA flowgate

As discussed in **Section 11.4.2, Transmission portfolios**, the alleviation of the transmission constraints imposed by the SoA flowgate would provide the most effective way to increase the existing transmission system's ability to meet PGE system needs. This action will help enable PGE to add the required off-system non-emitting capacity proposed in the previous actions.

- Action 5B: Explore options to upgrade the Bethel-Round Butte line (from 230 to 500 kV)

As outlined in **Section 9.4.3, Bethel to Round Butte upgrade for future load service**, upgrading the Bethel-Round Butte transmission infrastructure would alleviate transmission congestion and enable critical incremental direct access to solar and wind resource-rich parts of Oregon, and create connections with neighboring transmission providers and western markets.

12.3 Request for Proposals

PGE intends to issue an all-source RFP in 2023 to procure non-emitting energy and capacity resources that can achieve commercial operations by the end of December 2025 to support capacity needs and also acquire renewable resources to further progress towards meeting HB 2021 decarbonization goals. After filing the notice and waiver in January 2023, PGE anticipates the following key milestones:

- February-June 2023: Procedural schedule set, PGE files draft RFP, review and feedback on draft RFP from stakeholders, Commission consideration of approval of draft RFP
- July/August 2023: RFP issuance to market
- December 2023: Final shortlist acknowledgement
- Q1-Q2 2024: Execute definitive agreements with bids on the final shortlist

The timeline used for past resource acquisitions is insufficient to meet the anticipated 2026 capacity need and HB 2021’s targets in a manner that achieves balance of minimizing cost and risk and maximizing benefit. Both the current planning process, which was estimated within UM 2225 to take 30 months (about 2 and a half years), and recent procurement processes, which have taken approximately 18 months (about 1 and a half years), are unwieldy when faced with a relatively short procurement window. The procurement timeline sought by PGE in UM 2274 is intended to streamline the resource procurement process while retaining robust opportunities for regulatory review and feedback.

In the last RFP, under the competitive bidding rules (UM 2166), PGE followed a “track one” approach in which the IRP was reviewed and acknowledged, the RFP scoring methodology was vetted in the IRP, and then the RFP was drafted, reviewed and approved.³²⁴ Given the anticipated 2026 capacity need, a track one schedule where the scoring and modeling methodology is vetted in the IRP is not workable to acquire resources specified in the Action Plan in a timely enough manner.

³²⁴ *In the Matter of Portland General Electric Company, 2021 All-Source Request for Proposals*, UM Docket No. 2166, Order No. 22-315 (Aug 31, 2022), available at: <https://apps.puc.state.or.us/orders/2022ords/22-315.pdf>

Instead, in UM 2274, PGE has proposed a “track two” approach in which the 2023 RFP would be reviewed in parallel with the Commission’s acknowledgement process of PGE’s 2023 CEP and IRP. PGE’s 2023 CEP and IRP docket would run in parallel with the 2023 RFP, which would culminate in anticipated Commission decisions regarding acknowledgment of the 2023 CEP and IRP, and 2023 RFP final shortlist in December 2023. While the regulatory review of the 2023 CEP and IRP, and the 2023 RFP would run in parallel, PGE anticipates that the ultimate procurement volume will align with the 2023 CEP and IRP Action Plan once PGE’s resource plans are acknowledged.

To work toward the resource volume necessary to meet the HB 2021 decarbonization targets, it is in the best interest of customers for PGE to take steps now through more nimble acquisition processes as opposed to a cadence that would lead to future procurements closer to the end of the decade when we approach compliance obligations. The preferred resource strategy in this IRP highlights that from a portfolio perspective, balancing regulatory, operational, financial and resource procurement risks point to the advantages of a linear decarbonization pathway rather than one that delays acquisition until just before the 2030 compliance window.³²⁵ Meeting this linear reduction pathway will necessitate substantial procurement of non-emitting resources throughout the decade. Layering procurement throughout the decade and achieving linear carbon reduction is also likely to provide the best opportunity to add resources that offer an optimal combination of geographic location, resource characteristics, advancements in technology and access to needed transmission rights.

12.4 Conclusion

The 2023 Action Plan and RFP are designed to reflect PGE’s values and our commitment to serving customers with low-cost and clean technologies while mitigating future risks. The Action Plan was developed by estimating system resource need using forecasts of long-term demand and projections of generation from existing and contracted assets. The difference between that estimated demand and existing supply forms the basis of our forecasted system need. To fill that need, we first evaluated all available options and their potential costs and benefits in our system. We then tailored portfolio analysis to answer the most critical questions PGE faces in long-term planning, comparing the relative performance of portfolios with various combinations of supply-side options. A Preferred Portfolio was created with the best set of incremental resource additions that met system needs while minimizing cost and risk, while maximizing community benefits. Finally, an Action Plan was created to act on the key near-term drivers of the Preferred Portfolio. Concurrently with these actions, PGE will

³²⁵ See PGE’s January 26, 2023 IRP roundtable discussion, slide 78, available at: https://assets.ctfassets.net/416ywc1laqmd/68igRlq3sE4VQ9CSEK4r5P/c6982aeef3768c5d645ba8f3716be18a/IRP_Roundtable_January_23-1.pdf

continue to work to specify sources of market purchases and accompanying emission rates, utilize funding opportunities to mitigate customer price pressure and implement transmission upgrades within PGE's Balancing Authority and connecting to BPA's system. These actions provide clarity on our priorities and become a tool for future conversation with customers, stakeholders and the Commission.

