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November 3, 2021

Via Electronic Filing

Public Utility Commission of Oregon
Attention: Filing Center
201 High Street SE, Suite 100
P.O. Box 1088
Salem, OR 97308-1088

Re: **UM XXXX – In the Matter of Portland General Electric Company, Investigation into Proposed Green Tariff**

Dear Filing Center:

Enclosed for filing in a newly assigned docket is the Joint Petition of Portland General Electric Company and QTS Investment Properties Hillsboro, LLC to Increase Green Tariff Customer Supply Option Capacity. This document is being filed by electronic mail with the Filing Center.

Thank you for your assistance.

Sincerely,

Loretta Mabinton
Associate General Counsel

LM:dm
[Enclosure]

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM XXXX

In the Matter of PORTLAND GENERAL ELECTRIC COMPANY, Investigation into Proposed Green Tariff.	**JOINT PETITION OF PORTLAND GENERAL ELECTRIC COMPANY AND QTS INVESTMENT PROPERTIES HILLSBORO, LLC TO INCREASE GREEN TARIFF CUSTOMER SUPPLY OPTION CAPACITY**

Pursuant to ORS 756.518, ORS 758.568, OAR 860-001-0390, and Public Utility Commission of Oregon (Commission or OPUC) orders,[1] Portland General Electric Company (PGE) and QTS Investment Properties Hillsboro, LLC (QTS) hereby jointly petition (Petition) the Commission to authorize additional renewable energy capacity in the Customer Supply Option (CSO) of PGE's Green Energy Affinity Rider (GEAR) Tariff by an additional 250 nameplate capacity megawatts (MW). Such an increase is in the public interest, implements Governor Brown's directive to the Commission to exercise its broad statutory authority to reduce greenhouse gas emissions, attracts new business providing economic benefits to Oregon, and is consistent with the Commission's conditions for voluntary renewable energy tariffs (VRET), including Condition 4 which allows PGE to offer VRET programs of up to 300 average MW (aMW). In filing Petition, PGE and its customer, QTS, request approval of a total program size of 750 MW for PGE's GEAR.[2] In support of this petition PGE and QTS state:

1. PGE is an Oregon corporation that provides electric service to retail customers in Oregon, is a public utility in the state of Oregon under ORS 757.005, and is subject to the Commission's jurisdiction with respect to its prices and terms of electric service to retail customers in Oregon;
2. PGE's principal place of business is 121 SW Salmon Street, Portland, OR 97204;

[1] See: UM 1953, Order No. 19-075 and Order No. 21-091.

[2] Assuming a blend of solar and wind project capacity factors (30%), 300 aMW is equivalent to approximately 1000 MW of VRET nameplate capacity.

3. QTS is a subsidiary of QTS Realty Trust, LLC., a Delaware limited liability company, and a leading provider of data center solutions across a diverse footprint spanning more than 7 million square feet of owned mega scale data center space throughout North America and Europe. Through its software-defined technology platform, QTS delivers secure, compliant infrastructure solutions, robust connectivity, and premium customer service to leading hyperscale technology companies, enterprises, and government entities;
4. QTS's principal place of business is 12851 Foster Street, Overland Park, KS 66213;
5. PGE and QTS respectfully request that the Commission complete its review and issue an order with respect to this Petition no later than December 17, 2021, for the reasons discussed herein;
6. Communications regarding this filing should be addressed to:

Portland General Electric Company
Attn: Loretta Mabinton
Managing Assistant General Counsel
121 SW Salmon Street, 1WTC1301
Portland, OR 97204
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QTS Investment Properties Hillsboro, LLC
c/o Kenneth Kaufmann, Attorney
1785 Willamette Falls Drive, Suite 5
West Linn, OR 97068
Phone: (503) 230-7715
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In addition, PGE and QTS request that all information requests regarding the Petition be sent to the following:

Portland General Electric Company
121 SW Salmon Street, 1WTC0306
Portland, OR 97204

pge.opuc.filings@pgn.com

QTS Investment Properties Hillsboro, LLC
12851 Foster Street
Overland Park, KS 66213

Legal@qtsdatacenters.com

I. Introduction

7. PGE's green energy program is offered under tariff Schedule 55, GEAR. QTS offers co-location data center services to a diversified set of third-party clients from a variety of industries at its 92-acre location in Hillsboro. QTS is a new load direct access (NLDA) customer of PGE. QTS plans to use its existing allocation in the NLDA program to serve part of QTS's load with renewable energy. The 250 MW of new renewable resources requested in this Petition will support the remainder of the QTS's client's new load and be served using PGE's supply service as a Cost of Service customer.

8. Approval of this Petition will allow the QTS campus to add additional buildings to be served with renewable energy, growing utility cost of service load by approximately 60 aMW. Between load served through NLDA and Cost of Service supply options, the total combined campus load is expected to reach approximately 150 aMW within 4 years.[3] QTS has committed to procuring 100% of its energy from renewable sources by 2025.

9. A significant number of QTS's potential co-location clients have identified climate change as one of the most urgent issues impacting the world today and thus are trying to do their part to minimize energy, emissions, and water impacts of their operations. Their corporate sustainability objectives range from achieving a net zero carbon footprint to 100% renewable energy supporting operations, preferably from new renewable energy projects that are on the same electric grids as the data centers. QTS has reviewed PGE's GEAR program and understands that one of its primary purposes is to allow large customers, like QTS and its clients, to achieve these goals on a faster pace than the utility otherwise would, while also bringing benefits to the broader utility system.

10. For example, one QTS client, Facebook, is finalizing contracts to lease data center services from the fully expanded QTS campus in Hillsboro. To meet Facebook's sustainability goals of its energy consumption supported with 100% of renewable energy, QTS plans to use its allocation of NLDA and PGE's GEAR offering. However, to fully support Facebook's anticipated energy usage, QTS's participation under PGE's GEAR offering will require approximately 250 MW of new renewable resources.[4] The 250 MW nameplate capacity request was developed using the projected load of the facilities that Facebook will lease from QTS under PGE Cost of Service tariffs. Without the additional renewable energy capacity requested in this Petition, QTS and Facebook will not have a viable path to securing sufficient renewable energy to support their operations with 100% renewable energy. Obtaining an expedited Commission decision on this Petition is the best path to inform QTS and Facebook on whether they can meet their business needs and corporate sustainability commitments. At this stage, neither QTS, QTS's client Facebook, nor PGE have explored or identified any specific renewable energy resource projects that could meet the need. QTS and Facebook will consider and evaluate the possibility of energy storage associated with an eligible renewable resource.

[3] For the avoidance of doubt, this petition is not seeking any modifications to the NLDA program.
[4] The expected load from this arrangement would cause QTS' cost-of-service load to average well over 10 aMW, a requirement for participation in the CSO.

II. Background

Creation of PGE's GEAR

11. In April 2018, PGE filed for Commission approval to offer nonresidential customers a green tariff program to allow those customers desiring to go further and faster than Oregon's Renewable Portfolio Standard (RPS) mandates, to have their loads served with renewable energy.[5] In its filing, PGE included testimony from PGE CEO Maria Pope and a number of mayors from around its service territory.[6] PGE's testimony spoke to its desire to advance a clean energy future and decarbonize the grid while offering nonresidential customers increased choice in energy supply. PGE's green tariff proposal was prepared in close collaboration with municipal and commercial customers. Six city mayors testified in support of PGE's proposal, noting their own climate action, sustainability, and environmental plans and commitments, and that PGE's offering is a means to help achieve the cities' goals.

12. The design of the Green Tariff has participating customers supplementing their PGE cost-of-service (including all relevant riders, supplemental schedules, and regulatory adjustments) with the ability to procure renewable energy from new renewable resources to move to 100% renewable energy for their respective energy consumption.[7] This basic design promotes voluntary participation; drives additionality; offers a product that is consistent with customer preferences; and avoids cost shifting to non-subscribing customers. Other design features include crediting subscribing customers for the energy and capacity benefits delivered to PGE's system from the renewable energy resource(s) and charging the subscribers for the cost of the PPA plus cost of service and program costs.

13. While not part of the original proposal, during the Commission's Phase 1 process, PGE agreed to include a second option called the Customer Supply Option (CSO) available to nonresidential customers with loads of 10 aMW or more. The Commission concluded Phase 1 and allowed both options—the PGE Supply Option (PSO) and CSO to be offered for a total of 300 MW of nameplate renewable energy projects. The CSO is distinguished from the PSO as

[5] Prior activity in the Green Tariff docket involved a 2014 Commission investigation into whether utilities offering green tariffs (voluntary renewable energy tariffs) were in the public interest. The Commission adopted a set of conditions to inform the development of utility proposals and when no utility proposals were submitted, the Commission closed the UM 1690 docket. See Order No. 15-405 and Order No. 16-251 for further information.

[6] See UM 1690, PGE's Direct Testimony and Exhibits, filed April 13, 2018; Mayors from the cities of Portland, Milwaukie, Hillsboro, Salem, Gresham, and Beaverton all submitted testimony. PGE also included support letters from Adobe and US Bank as PGE Exhibits 101 and 102, respectively.

[7] UM 1690, PGE's Exhibit 200 contains PGE's proposed design for the green tariff. Note that after PGE filed its proposal, the Commission opened a new docket, UM 1953, to consider the proposal.

it allows a customer or group of customers to select the renewable energy project to serve its load(s), subject to minimum requirements.[8]

14. Pending its Phase 2 process with the planned Commission review of the original green tariff conditions, the Commission approved[9] the following design features for PGE's first tranche of the GEAR:
    - The importance of minimizing potential for negative impacts to cost of service customers and protecting the competitive market;
    - Procurement to be through Power Purchase Agreements (PPA);
    - Two options for customers: a PSO and a CSO, with the latter available to customers with loads of 10 aMW or greater;[10]
    - The subscribing customer pays all Cost of Service rates and is charged a subscription based on the procured resource cost and the cost of the risk adjustment;
    - A risk adjustment fee that accounts for undersubscription risk or the risk of the subscription period not matching the PPA term;
    - The subscribing customer receives fixed credits for energy and capacity, and the credits cannot exceed the customer costs associated with electricity supply such that it would result in a net savings to the subscribing customer;
    - The capacity credit calculation is based on the capacity value from PGE's IRP; and
    - PGE's IRP to consider system impacts of adding significant new resources not already incorporated into planning processes (e.g., conducting sensitivity analysis).

Phase 2 Approval, Revised Conditions and Process for Future Program Expansion

15. After the first tranche of capacity filled quickly, PGE proposed to expand the program another 200 MW nameplate capacity, ultimately agreeing to split it equally between the CSO and the PSO. PGE's proposal did not increase the already approved 300 aMW VRET program size, and PGE's overall GEAR remained lower than the VRET program size. PGE's GEAR design did not change. In addition to considering PGE's proposal to expand the program, the Commission also reviewed the original VRET conditions, and then applied them to PGE's proposal. The Commission found that PGE's proposal complied with the conditions and approved the second tranche of 200 MW, split evenly between the CSO and PSO.[11]

[8] See ADV 1264, PGE's Amended Compliance Filing of Advice No. 21-11, filed August 31, 2021. PGE's tariff update to Schedule 55 in response to the Commission's Phase 2 Order (Phase 2 Order) – Order 21-091. PGE included distinctions between the CSO and PSO in the updated tariff. Pursuant to the Commission ruling on August 10, 2021, the tariff became effective on September 1, 2021.
[9] Order No. 19-075.
[10] PGE's tariff Schedule 55 includes the essential terms and conditions for its green tariff, now called the GEAR.
[11] Order No. 21-091.

16. PGE's Schedule 55 compliance tariff filing (Advice 21-11, Amended Compliance Filing dated August 31, 2021) is effective. The proposed changes to Schedule 55 were the result of the Commission orders and a desire to clarify program components.

17. Given the compliance work that was in process, PGE has not yet opened the customer queue process, in which customers make nonbinding expressions of interest in the program with identified loads.[12]

18. In addition to reviewing conditions and making changes, the Commission directed PGE to address the impact of procuring the additional tranche 2 capacity of 200 MW of nameplate renewable energy capacity on its overall resource planning[13]. The Commission also noted a desire to revisit the crediting methodology in the future.[14]

19. The Commission's Phase 2 Order made the following changes to the conditions:
    - Condition 1: Added storage resources, in conjunction with RPS-compliant resources, as eligible to be included in a green tariff offering;
    - Condition 2: Removed the ability of a subscribing customer to allow retirement of the renewable energy certificate (REC) to the utility or developer and retaining the retirement of the REC by or on behalf of the subscribing customer;
    - Condition 3: Changed the operation date of the renewable energy resource project from 2015 to ensure that the renewable energy resource is operational no earlier than one year prior to the resource being included in the program;
    - Condition 4: Retained the program size for PGE of 300 aMW of load[15];
    - Consolidated Conditions 5 and 6 into one condition to respond to the desire to meet customer choice and provide assurance that a new VRET program would not adversely affect the ability of other resource providers to fairly participate in meeting market demand. The Commission set forth the new condition as follows:

      > "VRET offerings, as customer choice products, can impact the competitive retail market for some customer segments even when differentiated from direct access offerings. The utility bears the burden of proof to demonstrate that a VRET offering does not unfairly undermine Direct Access Programs."[16]

[12] With the Commission's acceptance of PGE's Schedule 55, Advice 21-11, Amended Compliance Filing dated August 31, 2021, PGE has begun the process to open the queue for tranche 2.
[13] Order No. 21-091 at 14-15.
[14] *Id.* at 14.
[15] Assuming a blend of solar and wind project capacity factors (30%), 300 aMW is equivalent to approximately 1000 MW of VRET nameplate capacity. The Commission has already authorized 500 MW through the GEAR program. This filing is requesting 250 MW of nameplate capacity, for a total of 750 MW.
[16] Order No. 21-091 at 11.

- Condition 7 regarding utility ownership of the underlying green tariff resource, remains the same. The Commission clarified that if the resource were owned by the utility, the utility must account for green tariff assets separately from the general rate base; the green tariff assets may not be commingled with other assets in rate base that are serving non-green-tariff customers.[17]
- Changed Condition 8 to clarify that it is the Commission's intent to examine green tariff program impact on long-term costs and risks to nonparticipating customers and to review the program's impact on the overall portfolio for cost shifting or increased future cost risk.
- Retained Condition 9 as written providing Commission oversight of green tariff offerings. Commission oversight includes ensuring that the green tariff offering is consistent with Commission conditions and the public interest. It is in the context of Condition 9 that the Commission notes its agreement with the Staff proposal for expanding the program, namely, PGE's filing for expansion would be discussed and decided upon in a public meeting no later than 90 days after its submission to the Commission.[18] The 90 days was identified as reasonable to provide adequate time for Staff and stakeholder review to approve an expansion of the program or determine that more examination is necessary.

III. REQUEST FOR EXPANSION OF GEAR BY 250 MW

20. PGE and QTS request that the Commission issue an order on this Petition within 90 days of the date of the Petition. The 90 days was identified as reasonable to provide adequate time for Staff and stakeholder review. We understand the review is for consistency with Commission conditions and the public interest, including an examination of PGE's analysis of the expansion's effect on its IRP and its current and planned portfolio of resources.

21. Should QTS or Facebook modify their growth plans or decide not to site at the co-location facility in Hillsboro, petitioners will inform the Commission to the extent the 250 MW of new renewables nameplate requested is no longer needed. PGE and QTS understand that the approval of all or some of the additional 250 MW may be rescinded as it is intended to meet the needs of this particular QTS client. For clarity, PGE will continue to have 100 MW already authorized in the CSO available to other customers.

22. Both PGE and QTS agree that given the size of QTS's load, requesting a 250 MW CSO expansion was the exact circumstance that was envisioned during the proceeding[19] where a

[17] Order No. 21-091 at 12.
[18] *Id.* at 16.
[19] PGE's Exhibit 700/Wenzel-Halley at 21-23, filed April 15, 2020.

customer with significant load, climate goals, and a need to move quickly would seek a waiver from the Commission. In addition, this preferred approach preserves the 100 MW of nameplate capacity for other interested CSO customers who have been waiting for the launch of this phase.

IV. QTS Narrative as to Good Cause and Applicable Conditions

23. One of the cornerstones of the QTS ESG program is a goal of procuring 100% of its power from renewable energy sources by 2025. QTS is committed to minimizing its carbon footprint and utilizing as much renewable resources as possible in its operations in support of broader climate impact initiatives. QTS's environmental sustainability program focuses on balancing the costs and impact for its key stakeholders while continuing to make progress toward achieving its goal of being a good environmental steward. QTS is currently on track to achieve its 100% renewable energy goal by 2025, however, QTS recognizes that it has much work left to accomplish. QTS has and will continue to partner with its customers, peers and industry constituents to support policy change to expand the availability of cost-effective and impactful renewable energy programs. As one of the largest third-party data center providers in the world, QTS has a platform and responsibility to positively impact those around it and set an example of how successful companies can operate. This extends to its approach to environmental sustainability as well as social initiatives.

24. QTS will look for a long-term contract with an established renewable energy developer. QTS's acquisition will be consistent with the Commission's conditions set forth in Order No. 21-091:

    Condition 1 — QTS has committed to procuring 100% of its energy from renewable sources by 2025, through an annual reconciliation of RECs. QTS is committed to finding solutions that are materially impactful within the territories where it operates, and as such, this installation needs to be net-new renewables within the NW region. QTS will consider and evaluate the possibility of energy storage associated with an eligible renewable resource, which may be beneficial in the ability to more closely align renewable generation with load;

    - Condition 2 – RECs will be retired by or on behalf of QTS and its clients– RECs will not be gifted to PGE;
    - Condition 3 - QTS is committed to the principle of additionality in the resource that provides the renewable energy, meaning that the CSO resource will not become operational any earlier than one year prior to the resource being included in the GEAR program;
    - QTS plans to sign a long-term agreement that includes a fixed price for renewable energy generated in the region. QTS would like for the procurement process to be complete by the end of 2021 or early 2022;

- QTS will be both a Cost of Service, and NLDA customer, and will be procuring renewable resources for its facilities on behalf of its clients through the competitive market for the NLDA portion of the campus;
- This expansion is offered under the Commission approved GEAR design, and the Commission has found that the GEAR, as designed, does not unfairly undermine direct access (condition 5 and 6);
- This is an incremental load that will need to be supplied. Bringing renewable resources online to match this load, serves to help address the energy and capacity needs of PGE's system and ease burden on existing customers if the load were to come online without supply.

V. PGE Narrative as to Good Cause and Applicable Conditions

25. The following provides PGE's explanation that allowing QTS to participate in the CSO with 250 MW capacity, beyond the current 100 MW CSO cap, is consistent with the Commission's revised conditions and in the public interest:
    - There are no changes to the GEAR design which the Commission found consistent with the conditions and in the public interest. To incorporate changes to the conditions from the Commission order,[20] PGE has revised its GEAR Tariff, Schedule 55 to include energy storage in conjunction with an RPS eligible resource. In addition, with regard to Condition 2, RECs will be retired by or on behalf of QTS as the customer; QTS will not "gift" the RECs to PGE. Condition 3 speaks to the newness or additionality of the renewable energy generating resource and PGE has revised its tariff accordingly. QTS proposes to "bring" a resource that meets the definition of "new";
    - Condition 4 – The Commission affirmed in its Phase 2 Order that the size for PGE's GEAR was 300aMW. The equivalent amount of renewable resources at a 30% capacity factor is approximately 1000 MW. PGE's Phase 1 resulted in 300 MW and Phase 2 was approved for an incremental 200 MW, bringing the total program capacity to 500 MW. QTS is seeking an additional 250 MW. The combined total amount for the GEAR (750 MW or 250 aMW) will be under the VRET program cap for PGE;
    - Conditions 5/6 – Neither PGE nor QTS is seeking to modify the structure of the GEAR. The Commission determined through Phases 1 and 2 that PGE's GEAR did not undermine the competitive market as it did not unfairly use resources paid for by Cost of Service customers to deliver a more attractive green tariff product than direct access could offer and there is not a substantially equivalent risk proposition as direct access. The requested increase of the CSO cap, specific to QTS, within the existing approved program structure does not represent a material change that would create potential for impacts to the retail market.

[20] UM 1953, Order No. 21-091.

- Condition 7 – PGE acknowledges and supports the Commission's position that the necessary accounting safeguards must be in place to ensure that utility ownership does not impact Cost of Service customers. PGE also reaffirms that under the CSO the selection of the resource is solely the customer's choice, and QTS understands that it has that choice.
- Condition 8 – Similar to Conditions 5/6, neither party is seeking to modify the structure of the GEAR as part of this Petition. PGE also notes that the scenario set forth in this Petition is unique in that it is associated with load that is not part of the current system, whereas the GEAR, thus far, has primarily served to address existing load. This is an important distinction because the QTS incremental load brings benefits in the form of added Cost of Service load that can place downward rate pressure on customer prices, given that there is more load over which to spread fixed costs. The incremental QTS load is new load on PGE's system that presents an important value to the system for optimization of generation development, purchases and operation that will occur when it takes generation, transmission, and distribution service from PGE. This will help ensure that QTS will pay the costs associated with the mandates and responsibilities placed on PGE, and Cost of Service customers for transforming the electric system and benefiting the system. In its review of Condition 8, the Commission noted the importance of evaluating GEAR resources in utility resource planning to evaluate potential cost shifting;
- PGE is submitting with this Petition, an IRP sensitivity analysis of the proposed CSO expansion (Attachment 1). The IRP sensitivity analysis demonstrates that the cumulative impact of both the addition of the 200 MW from Phase 2 and 250 MW under this Petition, combined with an increase in load of 60 aMW, reduce PGE's net market shortage by approximately 52-124 aMW, and reduce PGE's capacity need by 18-65 MW as a result of the 450MW of GEAR resources. PGE remains an energy net market purchaser and its capacity need remains at or above 270 MW in 2025, indicating that the additional GEAR capacity does not result in over-procurement compared to PGE's energy and capacity needs;
- PGE notes that it is not proposing a change in the crediting methodology given that this proposed expansion is still within the overall program cap. QTS is interested in the price certainty brought by known and fixed pricing;
- This Petition is in the public interest as it brings new load onto PGE's system, offers customer choice in resource selection, allows the new cost of service load to be served by a new renewable energy resource, and does not result in cost shifting from the participant to nonparticipating customers;
- This Petition furthers Oregon's clean energy policies most recently set forth in Oregon House Bill 2021 and Governor Brown's Executive Order 20-04, which have set aggressive

targets to acquire resources to reduce greenhouse gas emissions.[21] PGE now has both a near-term need for greenhouse gas emissions reductions by 2030, as well as the long-term need to eliminate greenhouse gas emissions by 2040. Ensuring that this new large cost of service load can be served with 100% renewable resources will help PGE better achieve these near and long-term emissions reductions targets.

VI. CONCLUSION

26. WHEREFORE, PGE and QTS respectfully request that the Commission issue an order approving the expansion of PGE's GEAR program, by 250 MW, by December 17th, 2021 which assumes consideration of this Petition by the Commission at its public meeting no later than December 14, 2021.

Dated this 16th day of September, 2021

Respectfully submitted,



Loretta I. Mabinton
Managing Assistant General Counsel
Portland General Electric Company



Kenneth Kaufmann
Attorney for
QTS Investment Properties Hillsboro, LLC

[21] HB 2021 is Available at:
https://olis.oregonlegislature.gov/liz/2021R1/Downloads/MeasureDocument/HB2021/Enrolled
Executive Order No. 20-04 is available at:
https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf

Attachment 1

Background

In support of the joint petition of QTS and PGE to increase the cap on the Customer Supply Option (CSO) for PGE's Green Energy Affinity Rider (GEAR) tariff program, and consistent with the Commission's requirement set forth in Order No. 21-091, PGE is providing this estimated impact analysis that approximates how increasing the CSO cap by 250 MW could impact PGE's energy and capacity needs. This analysis includes 60 aMW of new load to PGE's system from QTS, 100 MW of PGE Supply Option and 100 MW of CSO resources previously approved in Order No. 21-091, and a total of 250 MW of CSO resources to meet the QTS load identified in the petition. This estimated impact analysis also includes the 300 MW from the first tranche of the GEAR and the extension of PGE's purchase of the Confederated Tribes of Warm Springs owned portions of the Pelton and Round Butte projects. If the petition is granted and a GEAR-eligible resource is identified by QTS to PGE, an additional analysis will be required to further refine the capacity and energy impacts and determine the respective capacity and energy credit values. Consistent with PGE's IRP sensitivity analysis submitted on August 2, 2021 addressing the 200 MW of GEAR Phase 2, this estimated impact analysis illustrates that the incremental 60 aMW of new load and the 250 MW of requested incremental GEAR capacity do not materially alter PGE's energy and capacity needs.

	Installed Capacity (MW)	Capacity Contribution* (MW)	Generation (aMW)	2030 Avoided RPS (aMW)
Gear Phase 2 (100 MW PSO + 350 MW CSO)	450	18 – 65 MW	52 – 124 aMW	0

**Capacity contribution and generation vary depending on the resource type. PGE analyzed procuring 450 MW of Oregon Solar and with an approximately 24.5% capacity factor and 450 MWs of a gorge wind resource with an approximately 40.8% capacity factor.*

The above table is a summary of the approximate contributions of 450 MW of solar or wind resources procured under an expanded GEAR Phase 2 cap. These resources are anticipated to reduce both energy and capacity needs, but not in an amount significant enough to address the total need for either capacity or energy. Because the requirements of the GEAR do not allow the renewable energy certificates to be counted toward PGE's RPS compliance obligation, there is no avoided RPS impact.

Energy Assessment

The table below is an update to Table 5 from PGE's IRP update and provides a summary of PGE's 2025 net market position, in aMW, prior to the addition of the 100 MW from GEAR Phase 2 PGE Supply Option, 100 MW from GEAR Phase 2 Customer Supply Option, and 250 MW from this petition. Positive values represent a net market shortage. The addition of the 450 from GEAR Phase 2 combined with an increase in load of 60 aMW are estimated to reduce the below net market shortage by approximately 52-124 aMW. As this analysis reveals, PGE remains a net market purchaser.

	2019 IRP	11/19 Needs Assessment Update	IRP Update	IRP Update – New Baseline*	Estimated Net of GEAR Contribution
Reference Case	580	527	595	472	348-420
10th Percentile	446	285	428	305	181-253
90th Percentile	915	848	887	764	640-712

**New Baseline is constructed from the IRP update with the addition of the 138MW GEAR tranche 2 resource and the extension of PGE's purchase of 100% of the output from the Pelton and Round Butte projects. Once a GEAR resource or an RFP resource is identified and procured, PGE will update its needs assessment using its latest modeling.*

Capacity Assessment

The table below is an approximated update to PGE's 2025 capacity need assessment. This assessment is based on the IRP Update – New Baseline and reflects 60 aMW of additional load from QTS and 450 MW of new resources (from GEAR Phase 2 and this Petition). The estimated contribution is approximately 18-65 MW. The assessment assumes procurement of an Oregon solar or gorge wind resource; both use proxy information from the 2019 IRP. In either the all solar or all wind case, PGE's capacity need is reduced by the 450MW of GEAR resources but remains at or above 270 MW in 2025.

	Installed Capacity (MW)	Estimated Capacity Need (MW)	Estimated Capacity Contribution (MW)
Baseline with Load Addition*		335	
Solar GEAR Resource	450	317	18
Wind GEAR Resource	450	270	65

**Baseline with Load Addition is constructed from the IRP update with the addition of the 138 MW GEAR tranche 2 resource and the extension of PGE's purchase of 100% of the output from the Pelton and Round Butte projects, and it assumes an additional 60 aMW of new need from the QTS COS load. Once a GEAR resource or an RFP resource is identified and procured, PGE will update its needs assessment using its latest modeling.*