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September 19, 2023

via electronic filing

Public Utility Commission
Attn: Filing Center
P.O. Box 1088
Salem, OR 97308-1088

Re: UE 416 – In the Matter of Portland General Electric Company, Request for a General Rate Revision: NRDC/NWEC file amended Opening and Rebuttal

Dear Filing Center:

The Natural Resource Defense Council and the NW Energy Coalition ("NWEC," together "NRDC/NWEC") submit the attached amended Opening and Rebuttal Testimony in the above-referenced docket pursuant to the Ruling[1] granting NRDC/NWEC's motion to add Lauren McCloy as a sponsor of its Opening and Rebuttal testimony.[2] Changes to the Opening and Rebuttal Testimony are shown in redline.

Please let me know if you have any questions or concerns.

Respectfully submitted,

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Enclosure

[1] UE 416, In the Matter of Portland General Electric Company, Request for a General Rate Revision; and 2024 Annual Power Cost Update, Ruling (Sept. 11, 2023), https://edocs.puc.state.or.us/efdocs/HDA/ue416hda11744.pdf. (Disposition: Motion to add Lauren McCloy as Sponsor of Opening and Rebuttal Testimony Granted).
[2] UE 416, In the Matter of Portland General Electric Company, Request for a General Rate Revision, Motion to add Lauren McCloy as a Joint Sponsor of Natural Resource Defense Council and NW Energy Coalition's Opening and Rebuttal Testimony (Sept. 6, 2024), https://edocs.puc.state.or.us/efdocs/HAO/ue416hao14573.pdf.

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UE 416

In the Matter of	)
	)
PORTLAND GENERAL ELECTRIC COMPANY,	)
	)
Request for a General Rate Revision.	)
	)

OPENING TESTIMONY OF

RALPH CAVANAGH AND LAUREN MCCLOY

ON BEHALF OF THE

NATURAL RESOURCES DEFENSE COUNCIL

AND THE

NW ENERGY COALITION

June 13, 2023

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I. Background and Qualifications

Q. Mr. Cavanagh, ~~P~~please state your name, address, and employment.

A. My name is Ralph Cavanagh. I am the Energy Co-Director for the Natural Resources Defense Council, 111 Sutter Street, 21st Floor, San Francisco, CA 94104.

Q. Please outline your educational background and professional experience.

A. I am a graduate of Yale College and Yale Law School, and I joined NRDC in 1979, with an initial focus on Northwest energy policy that has not wavered over the ensuing decades. I have been a member of the faculty of the University of Idaho's Energy Executive Course since 1996, and I have held appointments as a Visiting Professor of Law at Stanford and UC Berkeley and as a Lecturer on Law at Harvard, teaching a total of five full semester courses on energy law and policy. From 1993 – 2003, I was a member of the U.S. Secretary of Energy's Advisory Board, and from 2008 – 2012, I served on the U.S. Department of Energy's Electricity Advisory Committee and the Executive Committee of the Northwest Energy Efficiency Taskforce (NEET). Since 1998, I have been a board member (and former chair and vice chair) of the Portland-based Bonneville Environmental Foundation. I have received the Champion Award from the Women's Council on Energy and the Environment (2022), the Charles Percy Award for Public Service from the Alliance to Save Energy (2019), the Art Rosenfeld Lifetime Achievement Award from the California Efficiency and Demand Management Council (2017), the Crystal Award for Distinguished Contribution from the University of Missouri's Financial Research Institute (2015), the Mary Kilmarx Award for Good Governance, Clean Energy and the Environment from the National Association of Regulatory Utility Commissioners (2007), the Heinz Award for Public Policy (1996) and the Bonneville Power Administration's Award for Exceptional Public Service

(1986). I published my first article on ways to break the link between utilities' financial health and their retail electricity sales more than three decades ago.[1] My curriculum vitae is attached as Exhibit NRDC-NWEC/101.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the Natural Resources Defense Council and the NW Energy Coalition as an expert on energy efficiency, affordable approaches to economy-wide electrification and decarbonization, and mechanisms for "decoupling" utilities' recovery of authorized revenues from their retail energy sales volumes.

Q. What is the purpose of your testimony in this proceeding?

A. My testimony centers on the critical importance of energy efficiency to Oregon's electrification and decarbonization initiatives, and the consequent need to reinstate a business model for PGE called "revenue decoupling," which removes the linkage between the utility's financial health and its electricity sales. I have reviewed the revenue decoupling proposal that PGE has advanced in this proceeding, and I recommend that the Commission accept the proposal, which is largely identical to the version that existed from 2009 – 2022, except for one significant improvement (replacing a "hard cap" on annual rate true ups with a "soft cap," which provides the same insurance against volatility in rates while eliminating an anomaly that partially defeated the fundamental purpose of revenue decoupling and created an incentive for parties to game the forecast used in the rate case to predict PGE's electricity sales). In addition, my testimony responds to the Commission's finding a year ago that "continued examination is warranted to consider the role for decoupling as TE [transportation electrification] acceleration moves from the pilot phase to a larger scale, and

[1] R. Cavanagh, Responsible Power Marketing in an Increasingly Competitive Era , 5 Yale Journal on Regulation (1988).

broader electrification initiatives are implemented in the context of continuing energy efficiency."[2]

Q. What materials have you reviewed in preparation for this testimony?

A. The most important are the company's Direct Testimony in support of its decoupling proposal (PGE Exh. 1300) and its proposed decoupling Tariff (PGE Exh. 1306), along with the record and decision from the company's last General Rate Case (UE 394), in which NRDC and NWEC were intervenors.

II. Summary of Testimony

Q. Please summarize your testimony.

A. In two lines buried deep in a Partial Stipulation filed in PGE's 2022 General Rate Case,[3] seven parties proposed a fundamental change in PGE's institutional incentive structure, reinstating a long-discredited commodity-based business model that the Commission had eliminated in 2009 after extensive testimony and deliberation. Pressed subsequently for a justification, the parties fell back on contentions previously rejected by the Commission or manifestly inconsistent with current Oregon law and policy.

While the Commission ultimately accepted that Partial Stipulation, it expressly declined to reach a judgment on the continuing merits of "revenue decoupling," which first emerged in Oregon a quarter century ago as a straightforward way to break the linkage between utilities' financial health (reflected their recovery of Commission-authorized costs) and their retail sales of electricity and natural gas. Instead, the Commission looked ahead to a

[2] Oregon PUC, Order No. 22-129, p. 17 (April 25, 2022).
[3] https://edocs.puc.state.or.us/efdocs/HAR/ue394har142447.pdf. See p. 4, section 7a.

"meaningful opportunity for the Commission and other stakeholders to engage on important policy issues related to decoupling."[4] This proceeding creates that opportunity.

I conclude that sustained and accelerating improvements in energy efficiency are critical to affordable decarbonization of Oregon's economy, including its transportation sector. I also demonstrate that, without revenue decoupling, conservatively projected five-year energy efficiency investment programs and policies throughout PGE's service territory would automatically yield more than $125 million in financial losses to the utility, regardless of the cost-effectiveness of the resulting electricity savings.[5] Both annual and cumulative losses would increase significantly in future years as electrification accelerated across transportation and other end uses of energy.

The Commission can close this unintended chasm between shareholder and customer interests by adopting an upgraded version of PGE's previous decoupling mechanism. This action would reinstate a key feature that the Commission approved in 2009 (with support from NRDC and NWEC), before a subsequent amendment introduced a destabilizing flaw. The upgrade combines strong customer protections with improved assurances that PGE will ultimately be made whole for any shortfalls in authorized cost recovery caused by unanticipated downward fluctuations in electricity sales (even as customers will be made whole for any PGE windfalls resulting from unanticipated upward fluctuations in those sales).

[4] Oregon PUC, Order No. 22-129, p. 17 (April 25, 2022).
[5] In 2008, when I last performed this calculation, PGE's projected five-year cumulative losses from the same level of annual electricity savings were $60 million.

III. Revenue Decoupling for Utilities: Structure, History, and Purpose

Q. What is revenue decoupling?

A. Revenue decoupling is a simple system of periodic true-ups in electricity rates, designed to correct for any disparities between the company's realized revenues and the revenue requirement approved by the Commission in a general rate case. It is designed to ensure the utility receives that authorized revenue requirement: nothing more and nothing less. The true-ups either restore to the company or give back to customers the revenues that are under- or over-recovered as a result of unanticipated fluctuations in retail electricity sales. The first revenue decoupling mechanism was proposed in rate case testimony more than four decades ago by a distinguished consumer advocate named William Marcus.[6]

Q. Why is revenue decoupling needed?

A. Affordable, equitable, and reliable electricity service in a decarbonizing economy depends vitally on harnessing the full capacity of cost-effective energy efficiency (likely half or more of the total solution in aggregate). Yet traditional state utility regulation typically has treated utilities as commodity providers whose financial health is tied directly to sustained growth in retail kilowatt-hour sales. Well-established regulatory principles accommodate a straightforward solution to this business model dilemma, which replaces rate caps with revenue caps through a "revenue decoupling" mechanism. The alternative is to create a conflict of interest between utilities and their customers, by guaranteeing that even the most cost-effective electricity savings inflict automatic financial penalties on utilities.

Q. How many U.S. states and utilities have instituted revenue decoupling?

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[6] See W. Marcus, *California Energy Commission Staff Report on PG&E's Financial Needs*, Application No. 60153 (April 21, 1981, Revised July 1981), cited and summarized in R. Cavanagh, Graphs, Words and Deeds, MIT Innovations (Fall 2009), at 89, n. 14.

A. The most recent survey results of which I am aware appear in my latest (2021) Electricity Journal article on energy efficiency and decarbonization:

> In total, 43 investor-owned electric utilities are now decoupled, accounting for about 36% of total revenues for the sector. They serve 41% of all IOU customers, up from a little less than 25% at the end of 2013. These decoupled electric utilities serve 42.3 million electric customers (i.e., accounts) and represent some $84.3 billion in annual revenue and 815 terawatt hours of annual demand. Over 30 publicly-owned utilities are also decoupled, including the Los Angeles Department of Water and Power and Long Island Power Authority, representing about 19% of public power customers and revenues.[7]

Q. Please summarize evidence that decoupling mechanisms are associated with improved energy efficiency results.

A. In a 2011 assessment by the Consortium for Energy Efficiency, seven of the ten states with the highest per-capita investment in electric energy efficiency programs[8] and eight of the ten states with the highest per-capita investment in natural gas energy efficiency programs[9] had decoupling mechanisms in place for at least some of their utilities or had adopted decoupling as state policy. Four years later, the American Council for an Energy Efficient Economy (ACEEE) concluded in a nationwide assessment that utilities in states "with decoupling had much higher energy efficiency spending and savings" than

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[7] See R. Cavanagh, Energy Efficiency and Decarbonization: Priorities for Regulated Utilities, The Electricity Journal (January 2021). These data were compiled by my colleague Amanda Levin, NRDC's Policy Analysis Director, and the cited totals were current as of December 1, 2020.
[8] The states were California, Connecticut, Idaho, Massachusetts, New York, Oregon, and Vermont. See Consortium for Energy Efficiency, *State of Efficiency Program Industry Report*, Table 6, January 12, 2011, http://www.cee1.org/ee-pe/docs/Table%206.pdf.
[9] The states were California, Massachusetts, Minnesota, New Jersey, New York, Oregon, Utah, and Wisconsin. See Consortium for Energy Efficiency, *State of Efficiency Program Industry Report*, Table 9, January 12, 2011, http://www.cee1.org/ee-pe/docs/Table%209.pdf.

those in the rest of the nation; the ratios were on the order of three to one, favoring decoupling, for both expenditures and savings.[10]

<u>IV. The History of Revenue Decoupling in Oregon</u>

Q. Please review the history of revenue decoupling in Oregon.

A. "The [Oregon Public Utilities] Commission first considered decoupling [in the early1990s] as a means to make regulatory policy more compatible with least-cost planning,"[11] and went on during that decade to experiment with revenue decoupling for both PGE and PacifiCorp.[12] In 2002, the Commission adopted the first decoupling mechanism for Northwest Natural Gas; an independent evaluation concluded, in March 2005, that the mechanism was "effective in altering Northwest Natural's incentives to promote energy efficiency" and should be retained, although the authors recommended removing some complex features that were not relevant to the mechanism's primary purpose.[13] The Commission issued an order in August 2005 adopting a stipulation that simplified and extended the mechanism.[14] Oregon's other major gas distributor, Cascade Natural Gas, secured its first decoupling mechanism when the Oregon Commission approved a May 18, 2006 tariff filing.[15] The Commission approved a revenue decoupling mechanism for PGE in January 2009.[16]

[10] M. Molina & M. Kushler, Policies Matter: Creating a Foundation for an Energy Efficient Utility of the Future (June 2015), pp. 15 – 16 (utilities in states with decoupling dedicated an average of 3.8 percent of revenues to energy efficiency investment and achieved annual savings equivalent to 1.4 percent of retail sales; the comparable figures for utilities in states without decoupling were 1.4 percent and 0.5 percent, respectively.
[11] Oregon PUC, Order No. 02-633 (Sept. 12, 2002), p. 5.
[12] See <u>id.</u> and Oregon PUC, Order No. 98-191 (May 5, 1998). .
[13] D. Hansen & S. Braithwait, <u>A Review of Distribution Margin Normalization as Approved by the Oregon Public Utilities Commission for Northwest Natural</u> (March 2005), pp. 67-68.
[14] Oregon PUC, Order No. 05-934 (UG 163, August 25, 2005).
[15] The filing, numbered CNG/O05-10-01, was approved by the Commission on May 23, 2006.
[16] https://apps.puc.state.or.us/orders/2009ords/09-020.pdf, (January 2009).

Q. What was the basis for the Commission's decision to adopt revenue decoupling for PGE in 2009, despite opposition from some parties?

A. The Commission's 2009 decision summarized and resolved a debate similar in many respects to the one initiated by the Partial Stipulation in 2022:

"[W]hile the parties do not disagree that relying on volumetric charges to recover fixed costs creates a disincentive to promote energy efficiency, they contend that decoupling is unnecessary because, with the ETO [Energy Trust of Oregon] running energy efficiency programs in PGE's service territory, the Company has limited influence over customers' energy efficiency decisions. We find this position unpersuasive, because PGE does have the ability to influence individual customers through direct contacts and referrals to the ETO. PGE is also able to affect usage in other ways, including how aggressively it pursues distributed generation and on-site solar installations; whether it supports improvements to building codes; or whether it provides timely, useful information to customers on energy efficiency programs. We expect energy efficiency and on-site power generation will have an increasing role in meeting energy needs, underscoring the need for appropriate incentives for PGE.

Staff also argues that [revenue decoupling] would create a disincentive for customers to improve their energy efficiency because the SNA [annual true-up] would increase rates and reduce the bill savings. We believe that the opposite is true: an individual customer's action to reduce usage will have no perceptible effect on the decoupling adjustment, and the prospect of a higher rate because of actions by others may actually provide more incentive for an individual customer to become more energy efficient."[17]

[17] Id. at pp. 27-28.

V. The Continuing Public Interest in Revenue Decoupling for PGE

Q. Has anything changed that might alter the Commission's 2009 conclusions about revenue decoupling for PGE?

A. No. Oregon's strengthened clean energy goals will require extensive electrification, but it would be wrong to assume that this removes the need to shift utilities away from a business model linked to commodity sales, or that the value of end-use efficiency is somehow diminished as electrification increases.[18] For example, a recent assessment of untapped energy efficiency potential in electric vehicles demonstrates the cost-effective potential to more than triple fleet average miles/kWh.[19] With revenue decoupling eliminated, PGE would lose money with every efficiency upgrade in its customers' electric vehicles, or any other efficiency improvements in its service territory's buildings or industry. By contrast, PGE would profit automatically from reductions in efficiency or slowdowns in the installation of cost-effective distributed generation. It is not in the public interest automatically to penalize cost-effective utility investment in (and other support for) reduced customer electricity needs, or to reintroduce a utility incentive to resist progress in efficiency and distributed generation.

Q. What underpins your conviction that energy efficiency is crucial to the success of affordable decarbonization and electrification?

A. In a retrospective look at energy resource contributions to meeting the needs of a growing US economy since 1970, the Bipartisan Policy Center determined that energy efficiency had surpassed all other resources *combined*, including fossil fuels, nuclear power and renewable

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[18] For an extensive rebuttal to such contentions, see https://www.nrdc.org/experts/max-baumhefner/are-efficiency-and-electrification-policies-conflict.
[19] See AB Lovins, Reframing Automotive Fuel Efficiency, SAE Mobilius (April 16, 2020) [https://saemobilus.sae.org/content/13-01-01-0004]

energy.[20] This is consistent with decades of Northwest energy efficiency progress reports by the Northwest Power and Conservation Council.[21] And forward-looking assessments are united in concluding that these energy efficiency advances, impressive by any measure, must accelerate dramatically to achieve decarbonization. For example:

- ***The International Energy Agency's June 2023 Energy Efficiency Report:***
  The IEA's latest findings reaffirm "the critical role that energy efficiency can play in improving living standards and energy security – and in accelerating the clean energy transition toward reaching net zero emissions by 2050. This means ramping up annual energy efficiency progress from 2.2% today to over 4% annually by 2030 in a move that would create jobs, expand energy access, reduce energy bills, decrease air pollution, and diminish countries' reliance on fossil fuel imports – among other social and economic benefits."[22]
- ***The American Council for an Energy Efficiency Economy's "Halfway There" Report***:
  According to ACEEE, energy efficiency can slash US energy use and greenhouse gas emissions by about 50% by 2050, getting us halfway to our national climate goals. "We can achieve almost all these savings, worth more than $700 billion in 2050, by dramatically scaling up government policies and [utility] programs."[23]
- ***Evolved Energy's 350 ppm Report for the United States***:

[20] Bipartisan Policy Center, *America's Energy Resurgence* (2013), p. VIII ("[O]ver the last four decades, energy savings achieved through improvements in energy productivity have exceeded the contribution from all new supply resources in meeting America's growing energy needs.")
[21] The relevant section of the Council's website is at https://www.nwcouncil.org/energy/energy-topics/energy-efficiency/#:~:text=Through%20energy%20efficiency%2C%20the%20current,million%20tons%20less%20carbon%20dioxide.&text=Includes%20all%20generating%20resources.
[22] The report is available at https://www.iea.org/reports/energy-efficiency-the-decade-for-action.
[23] American Council for an Energy Efficient Economy, *Halfway There: Energy Efficiency Can Cut Energy Use and Greenhouse Gas Emissions in Half by 2050* (September 2019).

This report concludes that achieving decarbonization in line with 1.5-degree warming rests on four key strategies or "pillars", including energy efficiency, with the energy intensity of the entire economy needing to drop 60% below today's level by 2050.[24]

Q. Is electrification a central part of decarbonization too?

A. Certainly. Decarbonization requires extensive electrification, but this does not reduce the need to shift utilities away from a business model linked to commodity sales. Nor does it result in the value of end-use efficiency being diminished as electrification increases.[25] The opposite is true. For example, the iconic energy efficiency expert Amory Lovins's assessment of untapped potential in electric vehicles demonstrates that fleet average miles/kWh can more than triple through cost-effective design improvements, resulting in dramatic reductions in the need for costly grid upgrades to accommodate transportation electrification.[26] In general, "energy efficiency gains create more headroom in the electricity system to electrify vehicles and buildings."[27] This further reinforces the case for revenue decoupling, given the importance of electricity's affordability and reliability to Oregon's clean energy transition.

Q. Does eliminating revenue decoupling encourage utilities like PGE to press ahead faster with the displacement of polluting fuels with low-carbon electricity?

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[24] Evolved Energy Research, *350 PPM Pathways for the United States* (May 2019), available at https://docs.wixstatic.com/ugd/294abc_95dfdf602afe4e11a184ee65ba565e60.pdf

[25] For an extensive rebuttal to such contentions, see https://www.nrdc.org/experts/max-baumhefner/are-efficiency-and-electrification-policies-conflict.

[26] See AB Lovins, Reframing Automotive Fuel Efficiency, SAE Mobilius (April 16, 2020) [https://saemobilus.sae.org/content/13-01-01-0004] concluding that "efficiency gains achievable by integrative design of whole light-duty vehicles can be severalfold larger, yet cheaper, than those predicted by canonical incremental technology-by-technology analyses. This means that US and international efficiency standards rest on overly conservative analyses; electrification can be cheaper and faster than conventionally assumed; and the efficiency potential predicted by groups like the US National Research Council and assumed in climate-mitigation assessments need major revision, aided by evaluation processes that better assess whole-vehicle design and early signals from concept vehicles."]

[27] The quote is from my colleague Max Baumhefner, who heads NRDC's vehicle electrification initiatives (source cited in note 25 above).

A. No. The most affordable and reliable ways to speed displacement of polluting fuels involve promoting efficient end uses of electricity, not trying to maximize retail electricity sales. PGE needs to stretch its clean electricity supplies to serve much more of Oregon's economy without overstressing its grid and generation systems, and for that goal, eliminating revenue decoupling creates the wrong incentive.

Q. What is the magnitude of the financial disincentives to energy efficiency gains that a restoration of decoupling would avoid for PGE?

A. To illustrate the need to restore decoupling for PGE, consider a highly conservative estimate of efficiency gains from incentives and standards equivalent to one percent of residential electricity use annually. Without revenue decoupling, every lost kilowatt-hour of sales brings with it an automatic reduction in non-fuel cost recovery, since most of those costs are embedded in PGE's volumetric electricity rates, as they should be. By PGE's own reckoning, lost margins associated with those reduced sales would equal about $8.5 million in the first year.[28]

And the losses get much worse in the context of multi-year programs. Consider a five-year effort that achieves annual savings equivalent to one percent of residential load in the initial year, with each subsequent year adding new electricity savings equivalent to the savings achieved during the previous year, and all savings persisting through at least the end

[28] For the data underlying this calculation, in PGE's direct filing, see file named "2024 Ratespread Final for Filing.xlsx" in Exhibit 1300, non-confidential work papers. Methodological notes:

- Locate the tab "SNA." Cell B24 in that worksheet is the total fixed price for residential.
- Locate the tab "Table 1" and find cell I14. It provides the annual MWh for residential.
- Take 1% of the residential annual MWh.
- Multiply that amount times the total fixed price above. The result provides the estimated lost margins for 1% of residential load, (about $8.5 million).

The calculation is conservative, since it is limited to the residential sector, and growing EV penetrations will continuously raise the annual MWh residential consumption base from which lost margins going forward should be calculated.

of the five-year period. The first year impact on fixed cost recovery is then about $8.5 million, followed by $17 million dollars in the second year (as an equal amount of savings is added), and so on: **after five years, the cumulative "lost margins" from these steady-state residential efficiency gains would be some $127.5 million**,[29] with that total continuing to escalate in succeeding years as initial electricity savings persisted (with some gradual erosion) and more savings were added. Note that the utility would absorb these losses even as customers collectively gained by substituting less costly energy efficiency for more costly electricity resources. Even if PGE were to respond by filing more frequent rate cases, it could not recoup losses incurred in the interval between OPUC decisions, and the stream of losses would recommence as soon as each rate case order was issued.[30] The result is a "throughput addiction" that creates a conflict of interests between utility shareholders and customers.

Q. Why should PGE not be required to absorb the losses of efficiency gains when electrification provides a greater source of revenue in the first place?

A. When utilities automatically suffer financial harms as a result of even the most cost-effective end-use efficiency gains, the result is a conflict of interest between customers and shareholders that impedes clean energy progress. Customers are the primary losers when utilities add generation and grid assets that could have been avoided by less expensive energy efficiency improvements.

Q. Are these conflicts of interest limited to cost-effective energy efficiency improvements?

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[29] The cumulative minimum loss figure is the sum of $8.5 million + $17m + $25.5m + $34m + 42.5m = $127.5m.

[30] The Oregon Commission recognized as much in the 2009 order establishing revenue decoupling for PGE:

> Even with frequent rate cases, however, PGE would still lose the margins from energy conservation activities until rates could be reset, and the load forecast in a rate case does not include any savings beyond the test year. Even for savings recognized in the load forecast, the disincentive for energy efficiency remains because, once rates are set, the Company loses margin if those savings actually occur.

See Order No. 09-020, note 16 above, at p. 28.

A. No. Adding distributed generation, such as solar photovoltaic on the customer's side of the meter, reduces retail kilowatt-hour sales and has adverse effects on utilities' cost recovery that are identical (per kWh of lost retail sales) to those described above. The Commission recognized as much in its 2009 decoupling order for PGE.[31]

Q. How does revenue decoupling remove these conflicts of interest?

A. Revenue decoupling makes utilities financially indifferent to retail electricity sales, by ensuring that they recover authorized costs (no more and no less), regardless of any disparities between electricity sales predicted in the most recent rate case and those actually experienced. Efficiency gains and distributed generation additions no longer have any effect on utilities' opportunity to recover authorized costs, even as customers are protected from paying for utility cost recoveries in excess of unauthorized levels as electrification accelerates.

VI. The Unexpected 2022 Proposal to Eliminate PGE's Revenue Decoupling Mechanism

Q. Describe the origins of the 2022 proposal to eliminate revenue decoupling for PGE.

A. In PGE's 2022 General Rate Case filing, the utility initially proposed to extend its revenue decoupling mechanism with the same modification proposed in the pending rate case. When other parties balked at the modification, PGE offered termination instead. NRDC and NWEC were not parties to the proceeding at that point. The other parties (the "settling parties") swiftly agreed to termination, which was unsurprising, since (as they acknowledged in their 2022 joint testimony) none of the settling parties had wanted PGE to have a revenue decoupling mechanism in the first place.

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[31] See id. at p. 27.

Q. What rationales did the parties to the 2022 stipulation ultimately offer for eliminating revenue decoupling?

A. Initially, the settling parties provided none. When pressed by NRDC and NWEC, which subsequently intervened to oppose the proposal to terminate PGE's revenue decoupling mechanism, the settling parties offered three rationales.[32] First, they argued that Oregon doesn't need revenue decoupling because it has an independent Energy Trust of Oregon administering energy efficiency programs.[33] But the Commission had squarely addressed that contention in its initial order adopting decoupling in 2009:

> *We find this position unpersuasive, because PGE does have the ability to influence individual customers through direct contacts and referrals to the ETO. PGE is also able to affect usage in other ways, including how aggressively it pursues distributed generation and on-site solar installations; whether its supports improvements to building codes; or whether it provides timely, useful information to customers on energy efficiency programs. We expect energy efficiency and on-site power generation will have an increasing role in meeting energy needs, underscoring the need for appropriate incentives for PGE.*[34]

Without explaining how their Energy Trust of Oregon rationale is more compelling now than when the Commission decisively rejected it in 2009, the settling parties went on to contend that Oregon had recently strengthened its statutory mandate that PGE "plan for and pursue all available energy efficiency resources that are cost effective, reliable and feasible."[35]although statutory mandates to prioritize "cost-effective energy efficiency" in

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[32] UE 394, Supplemental Joint Testimony in Support of a Partial Stipulation (March 2022).
[33] Id. at p. 4: 20.
[34]See Order No. 09-020 (Jan. 22, 2009), p. 27.
[35] Supplemental Joint Testimony, note 30 above, p. 4: 12-13.

Oregon date back to 1980.[36] The settling parties also asserted, without explanation, that "[t]his binding language removes the disincentive to invest in energy efficiency that decoupling was meant to help eliminate."[37]

Q. Can a statutory mandate by itself "remove" a potent financial disincentive?

A. No. While a statutory mandate is certainly important, its effectiveness depends on many other factors that influence utility and customer behavior, including the utility's financial interests. A mandate to save energy *combined* with financial disincentives to succeed means that the utility is likely to do the bare minimum, drag its feet, and/or pursue less effective energy efficiency programs and investments.

Q. What about the relationship between revenue decoupling and decarbonization of the transportation sector?

A. The Oregon legislature made certain in SB 1547 that PGE would propose "programs to accelerate transportation electrification,"[38] while also including provisions affording the utility a robust financial incentive to comply fully. The statute authorizes "a return of and a return on an investment made by an electric company" on programs to accelerate transportation electrification that "(s)hall be recovered from all customers of an electric company in a manner that is similar to the recovery of distribution system investments."[39] CUB and PGE, along with NRDC and NWEC, were prominent supporters of SB 1547 prior to its enactment in 2016.[40]

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[36] See, e.g., section 4 of the Pacific Northwest Electric Power Planning and Conservation Act of 1980, 16 USC 839b.
[37] Supplemental Joint Testimony, note 30 above, p. 4:14-15.
[38] SB 1547, section 20 (3).
[39] Id., section 20(5)(a).
[40] See, e.g., https://www.nrdc.org/experts/max-baumhefner/oregon-votes-plug-its-cars-renewable-energy.

Q. Do you believe that revenue decoupling would make it harder to achieve transportation electrification in PGE's service territory?

A. No. On the contrary, revenue decoupling would enhance PGE's investment in transportation electrification, by helping to ensure that such investments benefit all customers. PGE and other utilities justify their transportation electrification initiatives partly on the grounds that widespread EV charging will put downward pressure on everyone's rates and bills, regardless of whether they own EVs, and NRDC and NWEC agree.[41] But decoupling is crucial to making that promise come true, by automatically returning revenues in excess of authorized levels to all utility customers in the form of lower rates and bills when electricity sales grow as electrification advances. The argument (from the settling parties in last year's GRC record) that "[r]emoving decoupling is an administratively simple method of keeping the electric charging revenues with the company" in essence means that PGE should be permitted to keep throughput-related windfall gains that otherwise would be returned to all customers.[42] In sum, maintaining decoupling allows PGE to push rates and bills down with transportation electrification, avoid automatic penalties if vehicle efficiency improves, and earn a return on prudent investments to accelerate transportation electrification.

VII. The Commission's Discussion of Revenue Decoupling in its 2022 Rate Case Order

Q. As you noted earlier, the Commission approved a settlement eliminating the decoupling mechanism in PGE's 2022 general rate case. In approving the settlement, did the Commission accept the rationales put forward by the settling parties?

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[41] See, e.g., https://www.nrdc.org/bio/miles-muller/electric-vehicles-are-driving-rates-down (documenting that "[b]etween 2012 and 2021, in three of the utility service territories with the most EVs in the United States, EV customers have contributed more than $1.7 billion in net-revenue to the body of utility customers").
[42] Supplemental Joint Testimony, note 30 above, p. 8: 5-6.

A. No. The Commission accepted none of those rationales: "We reach this determination, however, without accepting the stipulating parties' arguments that decoupling mechanisms are ill-suited to provide incentives for electric utilities going forward." [43] The Commission further noted its "disappointment at the lack of meaningful opportunity for the Commission and other stakeholders to engage on important policy issues related to decoupling before the stipulating parties agreed to terminate the mechanism.[44]

The Commission then "direct[ed] PGE, in opening testimony in its next GRC, to more fully justify why the Commission should not implement a decoupling mechanism to incent electric efficiency even within a context of policy-driven electrification."[45]

VIII. PGE's 2023 Decoupling Analysis and Proposal

Q. Did PGE's 2023 GRC testimony "more fully justify why the Commission should not implement a revenue decoupling mechanism to incent electric efficiency even within a context of policy-driven electrification," as the Commission requested in its April 2022 GRC order?

A. PGE responded briefly through witness MacFarlane. First, he revived the observation that the Energy Trust of Oregon has extensive independent involvement in delivering electricity savings to Oregonians.[46] I agree, but as noted above, the Commission considered and rejected that argument when it originally adopted revenue decoupling for PGE, for reasons that are at least equally valid today. Second, witness MacFarlane contended that "decoupling — in the form previously used with PGE — is not necessary to ensure policy-

[43] Order No. 22-129 (April 25, 2022), p. 17.
[44] Id.
[45] Id.
[46] PGE Exh. 1300, p. 37.

driven beneficial electrification is pursued," noting that PGE could use revenues generated by increasing electricity use to invest in transportation electrification in particular.[47]

But that is not responsive to the Commission's question, which was why it "should not implement a decoupling mechanism to incent efficiency, even within a context of policy-driven electrification."[48] On that point, the most telling single sentence in the current record is witness MacFarlane's acknowledgment that "if properly designed and compatible with other regulatory mechanisms, decoupling can be an effective tool, even in a state like Oregon, which has a unique third-party delivery structure and history of highly successful results."[49] On that point, he and I are in full accord. His testimony also indicates that PGE support for revenue decoupling in this proceeding would be contingent on adjustments in the company's current power cost adjustment mechanism,[50] a linkage on which I express no opinion in this testimony.

Q. Do you agree with PGE witness MacFarlane that changes are needed in the decoupling mechanism that was in place for PGE from 2009 – 2022?

A. Yes. Witness MacFarlane points out accurately that the Commission amended the original PGE mechanism (which PGE, NRDC, and NWEC had all supported) to provide a "hard cap" of two percent on the annual true-ups in rates that are needed to break the linkage between recovery of authorized costs and unanticipated fluctuations in sales. That two percent "hard cap" was and remains a disruptive anomaly in terms of national practice with decoupling, since it means that revenue losses in excess of that amount cannot be made up in future years, which partially restores the utility's "throughput addiction." A "hard cap"

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[47] Id., p. 38.
[48] Order No. 22-129 (April 25, 2022), p. 17.
[49] PGE Exh. 1300, p. 37: 10-13.
[50] Id.

also introduces incentives for parties in rate cases to manipulate the retail sales forecasts used to set rates.[51] Witness MacFarlane contends, and I agree, that:

> A 2% limiter without a carryover creates an imbalance of risk and benefits between PGE and its customers. Good regulatory policy should provide a fair opportunity for PGE to recover prudently incurred fixed costs as approved by the Commission when it sets rates. In short, it should result in an alignment of interests on the key inputs in ratemaking. Instead, the asymmetric limiter creates an incentive for non-utility parties to propose increases to the load forecast in rate cases which, if adopted by the Commission, work in conjunction with the limiter to effectively deny recovery of the fixed cost portion of the Commission-approved revenue requirement.[52]

Q. For purpose of revenue decoupling, what is the difference between a "hard cap" and a "soft cap?"

A. In the context of revenue decoupling, a "hard cap" means that any annual surcharges may not exceed a fixed percentage (the cap), and the utility loses the unrecovered balance (there is typically no cap on annual rebates to customers). A "soft cap," on the other hand, allows any unrecovered amounts to be carried over to subsequent years for recovery, subject to the soft cap applicable to those years.

Q. What changes to the revenue decoupling mechanism does PGE propose?

A. Along with a change from a "hard cap" to a "soft cap," PGE proposes to raise the annual limit on decoupling adjustments from two percent to three percent. Otherwise, PGE

[51] If the retail sales forecast is set at unrealistically high levels, the two percent hard cap means that the utility is less likely to recover its authorized costs in practice. By contrast, full decoupling under a "soft cap" makes the sales forecast essentially irrelevant to utility prospects for recovering authorized costs.
[52] PGE Exh. 1300, p. 35 (11-17).

proposes to leave the previously adopted mechanism unchanged, including its treatment of weather-related fluctuations in electricity sales, which the mechanism would continue to exclude.[53]

Q. Do you support the PGE proposal, including those changes in the previously adopted mechanism?

A. Yes. It is important to emphasize that raising the annual cap on true-ups, and converting it to a "soft cap," does not by itself increase PGE's authorized revenue requirement or rates; it simply reduces the likelihood that unrecovered balances of authorized costs will accumulate over time as a result of sales fluctuations. Revenue decoupling itself does not create a surcharge on utility bills, and annual true ups can go either up or down. Decoupling mechanisms often make provision for annual upward rate adjustments of at least three percent, and many have not capped annual true-ups.[54] Even so, across the U.S., the overwhelming majority of upward adjustments associated with decoupling for electric utilities have been less than two percent.[55]

Q. Please summarize your conclusions and recommendations.

A. This testimony responds to the Commission's recent invitation for assistance with a reassessment of the need for revenue decoupling in an era of economy-wide electrification and decarbonization. My aim has been to demonstrate that revenue decoupling, and the obstacles to energy efficiency progress that it removes, are more important now than ever.

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[53] Id., p. 41.

[54] See Pamela Morgan, A Decade of Decoupling for US Energy Utilities: Rate Impacts, Designs and Observations (February 2013). Morgan's comprehensive survey documents more than 270 annual true-ups in excess of 2 percent across the nation under decoupling mechanisms over a decade (p. 5), although most true-ups were either less than that or negative. Morgan notes (p. 12) that over the decade ending in 2013, very few electric revenue decoupling mechanisms (5) had any caps on annual true ups.

[55] Id. (85 percent of annual true-ups for electric utilities' decoupling mechanisms were +/- 2 percent).

The Commission should restore revenue decoupling for PGE in the manner described in the company's testimony.

Q. Mr. Cavanagh, ~~D~~does this conclude your opening testimony?

A. Yes.

Q. Ms. McCloy, please state your name, address, and employment.

A. My name is Lauren McCloy. I am the Policy Director for the NW Energy Coalition (NWEC), and my business address is 811 1st Ave., Suite 305, Seattle, WA 98104.

Q. Please outline your educational background and professional experience.

A. I have over nine years of climate and energy policy experience. As Director for the NW Energy Coalition, I support and guide the Coalition's policy work in Washington, as well as Oregon, Idaho, and Montana, and also our work on regional and federal issues, including regional planning, markets, and federal infrastructure funding. Previously, I worked as a Senior Policy Advisor to Governor Jay Inslee, where I led and managed a broad range of issues in support of the Governor's energy priorities. Prior to serving in that role, I was the Legislative Director for the Washington Utilities and Transportation Commission ("UTC" or "Commission"), where I served as the Commission's liaison to the state legislature and the Governor's office, coordinated the UTC's legislative activities, and advised Commissioners on energy policy and legislative issues. Before joining the UTC's policy staff, I worked as a Compliance Investigator in the UTC's Consumer Protection Division. My background and first-hand experience are the basis for my experience and qualifications to testify as an expert on the issues raised in my testimony. I completed Utility Regulation 101 training with the National Regulatory Research Institute in 2015 and Rate Spread and Rate Design training with EUCI in 2016. I have a B.A. from the University of North

Carolina at Chapel Hill and an M.S. in International Development from Tulane University Law School. My Curriculum Vitae is attached.

Q. Ms. McCloy, did you assist Mr. Cavanagh in the preparation and writing of this testimony.

A. Yes.

Q. Ms. McCloy, if I were to ask you the same questions as I asked Mr. Cavanagh would your answers be the same?

A. Yes, they would.

Q. Ms. McCloy, does this conclude your testimony?

A. Yes.

Exhibit NRDC-NWEC/101: CURRICULUM VITAE FOR RALPH CAVANAGH

Employment:

- Natural Resources Defense Council (1979 – present):
  Co-Director, Energy Program. Over more than four decades at NRDC (with occasional academic interludes) I have focused on helping to achieve a successful US and global clean energy transition, with special emphasis on the crucial role of economy-wide energy efficiency improvements.
- Judicial law clerk to Judge Wilfred Feinberg, U.S. Court of Appeals, Second Circuit (1977-1978)
- Attorney Advisor, U.S. Department of Justice, Office for Improvements in the Administration of Justice (1978-1979)

Board Memberships:

- Energy Engineering Board, National Research Council of the National Academy of Sciences (1987 – 1993)
- Electric Power Research Institute (EPRI), Advisory Board (1991 – 1997)
- U.S. Secretary of Energy's Advisory Board (SEAB) (1993 – 2003)
- U.S. Department of Energy's Electricity Advisory Committee (2008 – 2012)
- Bipartisan Policy Center (2007 – present)
- Bonneville Environmental Foundation (1998 – present)
- Sustainability Advisory Council, Pacific Gas & Electric Company (2018 – present)
- Advisory Board Chair, UC Davis Energy & Efficiency Institute (2006 – present)

Awards:

- Administrator's Award for Exceptional Public Service, Bonneville Power Administration (1986)
- Headwaters Award, Northwest Energy Coalition (1991)
- Heinz Award for Public Policy (1996)
- Lifetime Achievement in Energy Efficiency Award, California's Flex Your Power Campaign (2003)
- Yale Law School's Preiskel-Silverman Fellowship (2005)
- Mary Kilmarx Award for Clean Energy and the Environment, National Association of Regulatory Utility Commissioners (2006)
- Crystal Award for Distinguished Contributions, Financial Research Institute of the University of Missouri (2017)
- Art Rosenfeld Lifetime Achievement Award, California Efficiency and Demand Management Council (2017)
- Charles Percy Award for Public Service, Alliance to Save Energy (2019)
- Champion Award, Women's Council on Energy and the Environment (2022)

Education and Teaching Appointments:

Yale College (BA 1974) & Yale Law School (JD 1977)

Visiting Professor of Law at Stanford (1983, 1990, 1996) and UC Berkeley (1996)
Lecturer on Law, Harvard Law School (1984-1985)
Faculty Member, Energy Executives Course, University of Idaho (1996 – present)

CONTACT INFORMATION:
Tel. 650-407-7995, E-mail rcavanagh@nrdc.org

Publications

ARTICLES

The Pacific Northwest is Praying for Rain, The Amicus Journal 31 (Summer 1980)

Minimizing Energy Costs: A Model Power and Conservation Plan, Earthwatch Oregon 10 (September/October 1982)

Recycling Our Electric Utilities, Stanford Lawyer 22 (Fall 1984)

Least-Cost Planning Imperatives for Electric Utilities and Their Regulators, Harvard Environmental Law Review 299 (1986)

Reaffirming the Conservation Ethic, Forum for Applied Research and Public Policy 82 (Spring 1987) [with David Goldstein]

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Responsible Power Marketing in an Increasingly Competitive Era, 5 Yale Journal on Regulation 331 (Summer 1988)

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Poolco versus Bilateral Markets, Public Utilities Fortnightly (January 1, 1995)

Energy Efficiency Solutions: What Commodity Prices Can't Deliver, Annual Review of Energy and the Environment (1995)

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Energy Distribution Monopolies: A Vision for the Next Century, The Electricity Journal 13 (August/September 1998) (with Puget Sound Energy CEO Richard Sonstelie)

Congress and Electric Industry Restructuring: Environmental Imperatives, The Electricity Journal 11 (July 1999)

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Revisiting "the Genius of the Marketplace": Cures for the Western Electricity and Natural Gas Crises, The Electricity Journal 11 (June 2001)

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Graphs, Words and Deeds; Commissioner Rosenfeld and California's Energy Efficiency Leadership, MIT Innovations Journal 81 (Fall 2009)

Finding Common Ground Between Consumer and Environmental Advocates, Electricity Policy.com (2013) (with John Howat of the National Consumer Law Center)

Cavanagh and Faruqui Rate Energy Efficiency's Record and Prospects, Public Utilities Fortnightly 36 (December 2019) (with Ahmad Faruqui)

Energy Efficiency and Decarbonization: Priorities for Regulated Utilities, The Electricity Journal (January 2021)

Why the Retirement of a California Nuclear Power Plant Should Proceed as Planned, Bulletin of the Atomic Scientists (March 10, 2022)

BOOK CHAPTERS

The Role of Conservation Resources in Competitive Bidding Systems for Electricity Supply, in J Plummer & S Troppman eds, Competition in Electricity: New Markets and New Structures (March 1988)

Public Interest Law Firms, in The Encylopedia of the Environment 420 (1994)

Climate Change, in California Environmental Law and Land Use Practice (2007) (with Michael R. Barr)

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The Death Spiral Fallacy: Robust Prospects for Cleaner Electricity Grids, in The Evolving Electric Power Industry 89 (Edison Electric Institute, June 2015)

Rehabilitating Retail Electricity Markets: Pitfalls and Opportunities, in Future of Utilities/Utilities of the Future, F. Sioshansi ed. (2016) (with Amanda Levin)

Environmentally Preferred Approaches for Recovering Electric Utilities' Authorized Costs of Service, in Future Electric Utility Regulation, Lisa Schwartz ed. (June 2016)

OP EDS

Energy Department: Nuclear Wolf in Sheep's Clothing, Christian Science Monitor (January 24, 1984)

Electricity Shopping Can Be a Bad Deal, New York Times (June 12, 1994)

The State's Electricity Markets Need to be Mended, Not Ended, Los Angeles Times (October 18, 2000)

State is on the Right Energy Track, San Jose Mercury News (Feb. 1, 2001)

California Overcomes an Electricity Crisis, The Electricity Journal 92 (January/February 2002)

The Meaning of the Blackout, The Electricity Journal 93 (October 2003)

Power to the People: Surviving the Long Hot Summer, San Francisco Chronicle (May 18, 2003)

How We Learned Not to Guzzle, New York Times (September 13, 2013)

Good News on Energy, New York Times (November 24, 2014)

Why is America Wasting So Much Energy?, New York Times (Nov. 7, 2017 (with Terry Sobolewski, Chief Customer Officer, National Grid)

Reactors at Diablo Canyon are No Cure for Blackouts, Los Angeles Times (Aug. 18, 2022)

Exhibit NRDC-NWEC/101: CURRICULUM VITAE FOR LAUREN MCCLOY

Lauren Craig McCloy

SUMMARY OF QUALIFICATIONS

Strong research, analytical, project management, and communication skills; experience working with and managing diverse groups; knowledge of energy technologies, markets, environmental policies, programs, regulatory environment; advanced degree with coursework in economics, statistics, law and public policy; traveler and volunteer.

EDUCATION

Tulane University Law School: M.S. International Development (May 2011)
University of North Carolina-Chapel Hill: B.A. in History (Aug. 2005)

EXPERIENCE

Policy Director | NW Energy Coalition | Seattle, WA | Feb. 2021 - present
Guided the Coalition's policy staff work on priorities in the four Northwest states; Engaged directly with Governor's offices, executive agencies, state Legislators, Congressional offices, and state utility commissions on policy and regulatory issues; Collaborated with Coalition board, members, and allies on energy planning, program, and market issues throughout the region and the West.

Senior Energy Policy Advisor | Office of Governor Jay Inslee | Olympia, WA | Oct. 2017 - Jan. 2021
Advised Governor Inslee and executive team on an array of clean energy and climate policy issues; crafted and shepherded legislative and budget proposals, including the 2019 Washington Clean Energy Transformation Act; guided executive branch energy policy implementation; collaborated and engaged with stakeholders, legislators, and regional partners on energy issues; represented the administration at public events.

Legislative Director / Energy Policy Advisor | Washington Utilities and Transportation Commission (WUTC) | Olympia, WA | Jan. 2014 – Oct. 2017
Advised utility commission on an array of energy policy issues, analyzed testimony in administrative proceedings and prepared briefing materials, drafted administrative orders, staff investigation reports, and policy statements. Developed agency legislative strategy; managed development and submittal of agency request legislation and reports; testified at legislative hearings, represented UTC in development of state policy initiatives.

Compliance Investigator | WUTC | Olympia, WA | May-Dec. 2013
Conducted investigations of regulated companies to determine compliance with consumer protection rules and laws and testified at hearings.

Committee Assistant | Senate Ways & Means Committee | Olympia, WA | Jan. - May 2013
Produced member bill books and budget documents, published agendas, managed public testimony sign-in application; provided research support to committee staff.

Practice Assistant | Stoel Rives LLP, Energy Development Group | Seattle, WA | Mar. – Dec. 2012
Tracked regulatory and policy developments in the energy industry; drafted energy law newsletters, blogs, and client correspondence; prepared legal filings and presentations.

Policy Intern | Northwest SEED | Seattle, WA | Aug. 2011 - Mar. 2012
Tracked and analyzed energy legislation; drafted testimony and comments on WUTC rulemakings and reports from government agencies, created database of members and allies; executed email marketing campaigns and membership recruitment efforts.

Solar Coordinator | Alliance for Affordable Energy | New Orleans, LA | Sept. 2010 - Aug. 2011
Fulfilled the Alliance's deliverables under contract with the City of New Orleans for the U.S. Department of Energy's Solar America Cities Program.

Solar Tech / Co-owner | South Coast Solar / SSI | New Orleans, LA | Aug. 2008 - Sept. 2010
Sold, designed, and installed photovoltaic and solar hot water systems in the Greater New Orleans area.

PROFESSIONAL AFFILIATIONS

American Council on Germany: McCloy Fellow on Global Trends (2017)
National Association of Regulatory Utility Commissioners (NARUC): Vice Chair of the Staff Subcommittee on International Relations (2017)
North American Board of Certified Energy Practitioners: Certified PV Installer (2010)
Energy Efficiency Specialist: Delgado Community College, New Orleans, LA (2009)

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UE 416

In the Matter of	)
	)
PORTLAND GENERAL ELECTRIC COMPANY,	)
	)
	)
Request for a General Rate Revision.	)
	)

REBUTTAL TESTIMONY OF

RALPH CAVANAGH AND LAUREN MCCLOY

ON BEHALF OF THE

NATURAL RESOURCES DEFENSE COUNCIL

AND THE

NW ENERGY COALITION

August 22, 2023

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I. INTRODUCTION AND SUMMARY OF REBUTTAL TESTIMONY

Q. Mr. Cavanagh, ~~P~~please state your name, employer, and business address.

A. My name is Ralph Cavanagh. I am Energy Program Co-Director for the Natural Resources Defense Council, and my business address is 111 Sutter Street, 21st Floor, San Francisco, CA 94104.

Q. Have you previously filed testimony in this docket?

A. Yes. I previously filed opening testimony supporting reinstatement of the revenue decoupling mechanism that was suspended last year in UE 394, with an adjustment (a "soft cap" on annual true-ups in electricity rates) that would restore a key feature of the mechanism that the Commission originally approved in 2009.[1] This "soft cap" is needed to ensure that revenue decoupling achieves the objective of breaking the linkage between PGE's financial health and its retail electricity sales volumes.

Q. Please summarize your rebuttal testimony.

A. My opening testimony responded at length to the Commission's invitation last year in UE 394 for a reassessment of the need for revenue decoupling in an era of economy-wide electrification and decarbonization. PGE and Staff witnesses weighed in as well, and although both of these parties supported elimination of PGE's decoupling mechanism in UE 394, their positions have evolved significantly.

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[1] NRDC-NWEC Exh. 100 (for discussion of the "soft cap" specifically, see pp. 21-23).

PGE now says that revenue decoupling mechanisms "are useful tools when used in combination with other regulatory frameworks and policies to support the achievement of important goals such as cost-effective decarbonization."[2]

Staff's opening submission includes welcome shifts from testimony that it joined in UE 394.[3] Staff now "agrees with NRDC and NWEC that PGE has incentive . . . to invest in electrification even with a decoupling mechanism in place."[4] Staff also agrees that after "eliminating decoupling PGE will have an incentive to sell more electricity,"[5] and that without decoupling errors in load forecasts once again will inappropriately become factors in driving PGE's profitability.[6] Staff opposes reinstituting decoupling, however, invoking as the "main benefit" of rescission that "general economic risk will be returned to PGE as it was before the decoupling mechanisms were adopted."[7] But my rebuttal testimony shows that revenue decoupling never in fact freed PGE from "general economic risk," nor would the reinstatement proposed by NRDC and NWEC have that effect. I also rebut staff's contentions that electricity prices by themselves provide all the impetus needed to optimize energy efficiency in the transportation sector, that PGE has no capacity to influence the efficiency of mass-produced electric vehicles, and that increased electricity use by itself can advance environmental goals.

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[2] PGE Exh. 2600 (Macfarlane), p. 18: 9-12. PGE contends, however, that revival of revenue decoupling should be linked to changes in its current Power Cost Adjustment Mechanism (PCAM). See PGE Exh. 1300 (Macfarlane), pp. 39-40. My response appears in the concluding section of this testimony.
[3] Docket UE 394, Stipulating Parties Exh. x00 (Supplemental Joint Testimony in Support of a Partial Stipulation, March 2, 2022).
[4] Staff Exh. 2000 (Stevens), p. 62: 10-11. In support of that important conclusion, Staff, NRDC and NWEC all cite the transportation electrification incentives authorized in Oregon's S.B. 1547, enacted in 2016. See id. and NRDC-NWEC Exh. 100, p. 18: 10-19.
[5] Id., p. 60:22-23.
[6] Id., p. 63: 17-19. Under revenue decoupling, by contrast, forecast errors are irrelevant to recovery of PGE's authorized costs, as demonstrated in NRDC-NWEC Exh. 100 (Cavanagh), pp. 21 – 22 & note 51.
[7] Staff Exh. 2000 (Stevens), p. 61: 2-3.

Finally, as to PGE's testimony on the relationship between revenue decoupling and the company's Power Cost Adjustment Mechanism (PCAM), I agree that increasingly extreme weather exposes PGE to greater wholesale market volatility and revenue losses that decoupling without PCAM reform could exacerbate. On balance, given both the increasing importance of these wholesale markets to reliable decarbonization of the electricity sector and the urgent need to reinstitute revenue decoupling, I agree that the Commission should reconsider the current PCAM risk allocation mechanism. However, given this proceeding's record and the lack of progress in resolving significant differences on the issue, I am not yet prepared to support any of the parties' specific proposals for adjustments in the current PCAM risk allocation formula.

II. DECOUPLING AND TRANSPORTATION ELECTRIFICATION

Q. In UE 394, just last year, the parties supporting elimination of revenue decoupling argued that it would impede transportation electrification in Oregon; what does the record show in this proceeding?

A. No party's opening testimony revived this contention from that joint submission in UE 394,[8] or suggested that revenue decoupling was somehow inconsistent with "policy-driven electrification," an issue that the Commission framed in its final UE 394 order for consideration in this proceeding.[9] PGE's reply testimony says that now the company's "view is generally consistent with those expressed by NRDC/NWEC's opening testimony regarding

[8] UE 394, Exh. x00, pp. 6-7.
[9] UE 394, Order No. 22-129 (April 25, 2022), p. 17. I address this issue at length in my opening testimony, NRDC-NWEC Exh. 100, at pp. 18-21.

the benefits of revenue decoupling and its potential to further decarbonization goals."[10] Staff now "agrees with NRDC and NWEC that PGE has incentive, through the language of SB 1547, to invest in electrification even with a decoupling mechanism in place."[11]

III. STAFF'S OBJECTIONS TO REVENUE DECOUPLING

Q. Have you reviewed the direct testimony by other parties in this case?

A. Yes.

Q. Did any of the other parties provide testimony opposing the revenue decoupling mechanism described in PGE's testimony?

A. Yes, Staff witness Stevens provided testimony in opposition to revenue decoupling.[12]

Q. Why does Staff still object to reinstating revenue decoupling for PGE?

A. Staff gives three principal reasons: (1) decoupling inappropriately shields PGE investors from "general economic risk"; (2) the Energy Trust of Oregon's role makes revenue decoupling unnecessary for Oregon's investor-owned utilities; and (3) promoting increased electricity use can advance environmental goals.[13]

Q. What is your response to Staff's contentions?

A. I disagree with each of them, as explained more fully below.

[10] PGE Exh. 2600 (Macfarlane), p. 12: 13-15. PGE also acknowledges, without contesting, NRDC's estimate that in the absence of decoupling it will suffer at least $127.5 in cumulative lost recovery of authorized revenues if its customers achieve conservatively projected end-use efficiency gains over just the next five years. Id at 18:1-6.
[11] Staff Exh. 2000 (Stevens), p. 62: 10-11.
[12] See Staff Exh. 2000 (Stevens), pp. 58-63.
[13] See id., pp. 60-63.

Q. Does revenue decoupling inappropriately shield PGE investors from "general economic risk?"

A. No. NRDC's and NWEC's proposed decoupling mechanism (like its PGE predecessor and most others in the U.S.) is framed in terms of authorized revenues per customer rather than total authorized revenues. During recessions, "general economic risk" yields fewer utility customers, resulting in lower utility revenues.[14] Caps on annual true-ups further "limit effects from extraordinary economic downturns," as the Arizona Corporations Commission concluded in rejecting an identical objection in a comprehensive policy statement on revenue decoupling.[15] It is worth noting that "general economic risk" in an era of transportation and building electrification will not necessarily yield reduced electricity sales when the economy cools. In fact, revenue decoupling will shield PGE customers from underwriting windfall utility gains as electrification accelerates, regardless of "general economic" conditions. My opening testimony reinforced this point:

> PGE and other utilities justify their transportation electrification initiatives partly on the grounds that widespread EV charging will put downward pressure on everyone's rates and bills, regardless of whether they own EVs, and NRDC and NWEC agree.[16] But decoupling is crucial to making that promise come true, by automatically returning

[14] See PGE Exh. 1300 (Macfarlane), p. 38: 8-9 (economic risks that PGE bears under per customer decoupling).
[15] Arizona Corporations Commission, Policy Statement Regarding Utility Disincentives to Energy Efficiency and Decoupling Rate Structures, p. 29 (December 2010) (Docket Nos. E-00000J-08-0314 and G-00000C-08-0314).
[16] See, e.g., https://www.nrdc.org/bio/miles-muller/electric-vehicles-are-driving-rates-down (documenting that "[b]etween 2012 and 2021, in three of the utility service territories with the most EVs in the United States, EV customers have contributed more than $1.7 billion in net-revenue to the body of utility customers").

revenues in excess of authorized levels to all utility customers in the form of lower rates and bills when electricity sales grow as electrification advances.[17]

Q. Why doesn't the role of the Energy Trust of Oregon (ETO) make revenue decoupling irrelevant for PGE?

A. As my opening testimony pointed out the Commission expressly considered and rejected this Staff contention in its 2009 order instituting revenue decoupling for PGE. ,[18] The Commission outlined numerous ways in which PGE can influence not only energy efficiency progress, but also that of distributed resources, notwithstanding the ETO's (then and now) worthy efforts:

> *We find this position unpersuasive, because PGE does have the ability to influence individual customers through direct contacts and referrals to the ETO. PGE is also able to affect usage in other ways, including how aggressively it pursues distributed generation and on-site solar installations; whether its supports improvements to building codes; or whether it provides timely, useful information to customers on energy efficiency programs. We expect energy efficiency and on-site power generation will have an increasing role in meeting energy needs, underscoring the need for appropriate incentives for PGE.*[19]

Q. Why don't you agree with Staff that PGE actions are largely irrelevant to energy efficiency progress because "a private customer's [incentive] to invest in energy efficiency is largely driven by the volumetric price of energy"?[20]

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[17] NRDC-NWEC Exh. 100, p. 19: 4-10.
[18] Id. at pp. 17-18.
[19]See Order No. 09-020 (Jan. 22, 2009), p. 27.
[20] Staff Exh. 2000 (Stevens), pp. 61: 21 - 62:1.

A. Certainly electricity prices give customers an incentive to save electricity, but literally decades of accumulated evidence show that these prices by themselves will not elicit anything close to all cost-effective energy efficiency. Although "[t]he efficiency of practically every end use of energy can be improved relatively inexpensively,"[21] "customers are generally not motivated to undertake investments in end-use efficiency unless the payback time is very short, six months to three years . . . The phenomenon is not only independent of the customer sector, but also is found irrespective of the particular end uses and technologies involved."[22]

Q. What accounts for these market barriers to cost-effective energy efficiency progress?

A. There are many explanations for the almost universal reluctance to make long-term energy efficiency investments, regardless of electricity costs.[23] People who will not pay the electricity bills often make decisions about efficiency levels, such as landlords or developers of commercial office space. Many buildings are occupied sequentially by very temporary owners or renters, each unwilling to make long-term improvements that would mostly reward subsequent users. And sometimes what looks like apathy about efficiency merely reflects inadequate information or time to evaluate it, as everyone knows who has rushed to replace a broken water heater, furnace or refrigerator. Market failures like these mean that volumetric electricity prices alone are a grossly insufficient incentive to exploit even the

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[21] U.S. National Academy of Sciences Committee on Science, Engineering and Public Policy, Policy Implications of Greenhouse Warming, p. 74 (1991). Subsequent reviews of energy-efficiency opportunities and barriers appear in National Research Council, Energy Research at DOE: Was It Worth It? (September 2001) and World Business Council for Sustainable Development, Energy Efficiency in Buildings: Transforming the Market, pp. 12 & 20 (2010).
[22] National Association of Regulatory Utility Commissioners, Least Cost Utility Planning Handbook, Vol. II, p. II-9 (December 1988). This NARUC handbook was foundational for the early development of state policy on energy efficiency resource development, and its principles remain influential to this day.
[23] An extensive early assessment appears in U.S. Congress, Office of Technology Assessment, Building Energy Efficiency, at pp. 73-85 (1992).

most inexpensive savings. Energy policy in Oregon and nationally have recognized as much since the enactment of the Northwest Electric Power Planning and Conservation Act in 1980.[24]

Q. Do you agree with Staff that promoting increased electricity sales can "advance environmental goals – not hinder them"?

A. No. An unfocused incentive for PGE to promote increased electricity sales will undercut environmental (and other societal) goals. Substituting decarbonized electricity for fossil fuels can advance environmental goals, but my opening testimony shows that energy efficiency is an essential complement to such substitutions, and that wasteful electricity use is a barrier to affordable decarbonization.[25] And crucially, as my opening testimony notes, "[i]t is not in the public interest automatically to penalize cost-effective utility investment in (and other support for) reduced customer electricity needs, or to reintroduce a utility incentive to resist progress in efficiency and distributed generation."[26]

In a 2018 Report to the Legislature, this Commission cited the Regulatory Assistance Project on this point: "while electrification does present opportunities for utilities (primarily through the provision of new services to customers), a focus on load growth risks not achieving the significant benefits that are possible through beneficial electrification. … [Decoupling] can help states ensure that as utilities propose electrification initiatives they are not being given an incentive to promote measures just for the purpose of growing load."[27]

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[24] 16 USC section 839. Section 3(19) of the Act included the first statutory characterization of energy efficiency as a potential electricity system resource.
[25] NRDC-NWEC Exh. 100, pp. 11-14.
[26] Id. at p. 11: 13-16.
[27] See Oregon Public Utility Commission, SB 978: Actively Adapting to the Changing Electricity Sector, Appendix D, p. 41 (2018).

In sum, while electrification is indeed an important means to achieving environmental ends, Oregon cannot electrify its economy cleanly or affordably without doubling down on its progress in energy efficiency acquisition. Revenue decoupling remains fundamental to that objective.

Q. Respond to staff's contention that, without decoupling, PGE would still want electric vehicles to be efficient.

A. Staff reasons that, without decoupling, "PGE has an incentive to increase sales. Whether this comes from an efficient compact or inefficient truck, PGE will be better off."[28] Unfortunately, however, in the absence of revenue decoupling, PGE will be ***much*** better off with the inefficient trucks, which on average use at least three times as much electricity per mile as efficient alternatives.[29]

There are also broader equity issues to consider here. The Commission should be mindful that, without decoupling, greater than anticipated increases in systemwide electricity use by EVs would create no rebates for those who cannot currently afford such vehicles – customers with low to moderate incomes. By contrast, rebates associated with electrification and decoupling ultimately could help these customers afford EVs of their own.

Q. Staff says that "PGE has little to no control over the efficiency of mass-produced EVs."[30] What is your response?

A. Staff might, with the same apparent plausibility, contend that a utility of PGE's size has little or no control over the efficiency of mass-produced electric appliances. Yet over the past four

[28] Staff Exh.2000 (Stevens), p. 63:3-5.
[29] NRDC-NWEC Exh. 100, p. 13: 8-10 & n. 26. For data on the impact of cumulative efficiency gains or losses on PGE's revenue recovery, see NRDC-NWEC Exh. 100, pp. 14 – 15 (absent revenue decoupling, five years of electricity savings equivalent to one percent of residential households' annual consumption would generate $127.5 million in losses to PGE).
[30] Staff Exh. 2000 (Stevens), p. 63:2.

decades, PGE has worked effectively with partners across the region (and nation) to transform the market for a wide spectrum of "mass-produced" devices, by incentivizing design improvements, promoting retail sales of efficient products, and supporting regularly updated state and federal efficiency standards.[31] As a result, cost-effective regionwide savings since 1978 now exceed 7,500 average megawatts, the equivalent consumption of five Seattle-sized cities.[32] That record is likely the strongest rebuttal to staff's assertion.

Q. Does revenue decoupling provide benefits beyond removing a barrier to utility investments in cost-effective energy efficiency?

A. Yes. By eliminating what I have elsewhere called "throughput addiction," revenue decoupling creates a transformational shift in the utility business model. This is important both to energy efficiency progress (in all its dimensions) and to the evolution of distributed electricity resources. The Commission recognized as much in 2009, highlighting the growing need for "distributed generation and on-site solar installations" as an important part of the rationale for revenue decoupling. [33]

IV. PGE'S PROPOSED LINKAGE OF REVENUE DECOUPLING AND PCAM REFORM

Q. Do you have a recommendation on the need to address PCAM reform?

A. I agree that increasingly extreme weather exposes PGE to greater wholesale market volatility and to revenue losses that decoupling without PCAM reform could exacerbate. On balance,

[31] Two of the most important of those partners are the Energy Trust of Oregon (https://www.energytrust.org/) and the Northwest Energy Efficiency Alliance (https://neea.org/), which have helped PGE punch well above its weight in influencing product design, marketing, and efficiency progress more generally.
[32] This is the authoritative current estimate of the Northwest Power and Conservation Council: https://www.nwcouncil.org/energy/energy-topics/energy-efficiency/
[33] See Order No. 09-020 (Jan. 22, 2009), p. 27.

given both the increasing importance of these markets to reliable decarbonization of the electricity sector and the urgent need to reinstitute revenue decoupling, I agree that the Commission should reconsider the current PCAM risk allocation mechanism. However, given this proceeding's record and the lack of progress in resolving significant differences on the issue,[34] I am not yet prepared to support any of the parties' specific proposals for adjustments in the current PCAM risk allocation formula.

Q. Does this conclude your testimony?

A. Yes.

Q. Ms. McCloy, please state your name, address, and employment.

A. My name is Lauren McCloy. I am the Policy Director for the NW Energy Coalition (NWEC), and my business address is 811 1st Ave., Suite 305, Seattle, WA 98104.

Q. Have you previously filed testimony in this docket?

A. Yes. I previously filed opening testimony as a joint sponsor with Mr. Cavanagh supporting reinstatement of the revenue decoupling mechanism.

Q. Ms. McCloy, did you assist Mr. Cavanagh in the preparation and writing of this rebuttal testimony?

A. Yes.

Q. Ms. McCloy, if I were to ask you the same questions as I asked Mr. Cavanagh would your answers be the same?

A. Yes, they would.

Q. Ms. McCloy, does this conclude your testimony?

A. Yes.

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[34] For a summary of the wide gulf separating the positions of PGE, Staff and CUB on this issue, see PGE Exh. 2600 (Macfarlane) at pp. 21-22.