



Coalition of Eastside Neighborhoods
for Sensible Energy

May 27, 2021

Energize Eastside in East Bellevue

Executive Summary

“Energize Eastside” is Puget Sound Energy’s 2013 proposal to install a new transformer and 16 miles of higher-voltage transmission lines through residential neighborhoods in Bellevue, Newcastle, Renton, and Redmond. The cost is likely to exceed \$200 million. PSE says the purpose of the project is to avoid rolling blackouts on a very cold or very hot day if multiple equipment failures hobble the Eastside grid.

Is the project needed?

NO. PSE justifies the project by assuming an unlikely scenario of coincident crises that lead to system overloads. But such a scenario has never happened. Given PSE’s extreme assumptions, the chance of this kind of overload is one-in-a-million for at least 20 years.

Does the project reduce greenhouse gas emissions?

NO. Currently most of PSE’s electricity is generated by burning coal and gas. While the state’s Clean Energy Transformation Act requires PSE to transition to renewable energy resources in coming years, the Energize Eastside transmission lines would not connect customers to new sources of clean energy. Even as we electrify our economy, peak demand can be kept at reasonable levels by using smart energy technologies and policies. This approach would retain thousands of urban trees which absorb carbon and provide many other benefits.

Is the project safe?

The project increases safety risks due to higher voltages, a narrow utility corridor, and the proximity of two petroleum pipelines. Energize Eastside would require new holes to be excavated within feet of the 50-year-old pipelines. Minor damage to a pipeline could spark a liquid fuel fire that the Bellevue Fire Department categorizes as “catastrophic.” Bellevue does not have the ability to extinguish such a fire.

Why would PSE pursue such a costly project?

The state of Washington provides a 9.8% annual return on investment for utility infrastructure projects, motivating PSE to put more “steel in the ground.” Who pays? PSE’s customers. For a \$200 million project, customers would pay \$20 million per year, possibly for 50 years or more.

What is prudent action for EBCC?

Energize Eastside is an expensive, outdated, risky project that harms our communities and the environment. **CENSE asks council members to reject PSE’s permits to build the project.**

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Know your utility

It is difficult to understand Energize Eastside without understanding the motivations of the company promoting it. Many residents are inclined to give PSE the benefit of the doubt. They say, “PSE is just a local company, right? Isn’t Energize Eastside necessary to prevent devastating blackouts? Doesn’t PSE want what’s best for their customers?”

The answers are: no, no, and no.

PSE’s motivations

Before 2009, PSE was wholly owned by American shareholders. That changed soon after Congress and the George W. Bush administration rescinded a key provision of the Public Utility Holding Company Act of 1935.¹ The old law made foreign ownership of American utilities extremely difficult. Just a year after Bush signed the Energy Policy Act of 2005, Australian and Canadian investors announced their intent to buy PSE. When Washington’s Utility and Transportation Commission approved the sale in 2009, PSE became the first foreign-owned utility west of the Mississippi.²

PSE’s investors aren’t celebrating the company’s financial performance since the acquisition. Revenues have been declining for at least a decade, and the COVID-19 pandemic exacerbated that trend. The graph below shows PSE’s revenues as reported in annual 10-K reports to the SEC, adjusted for inflation:

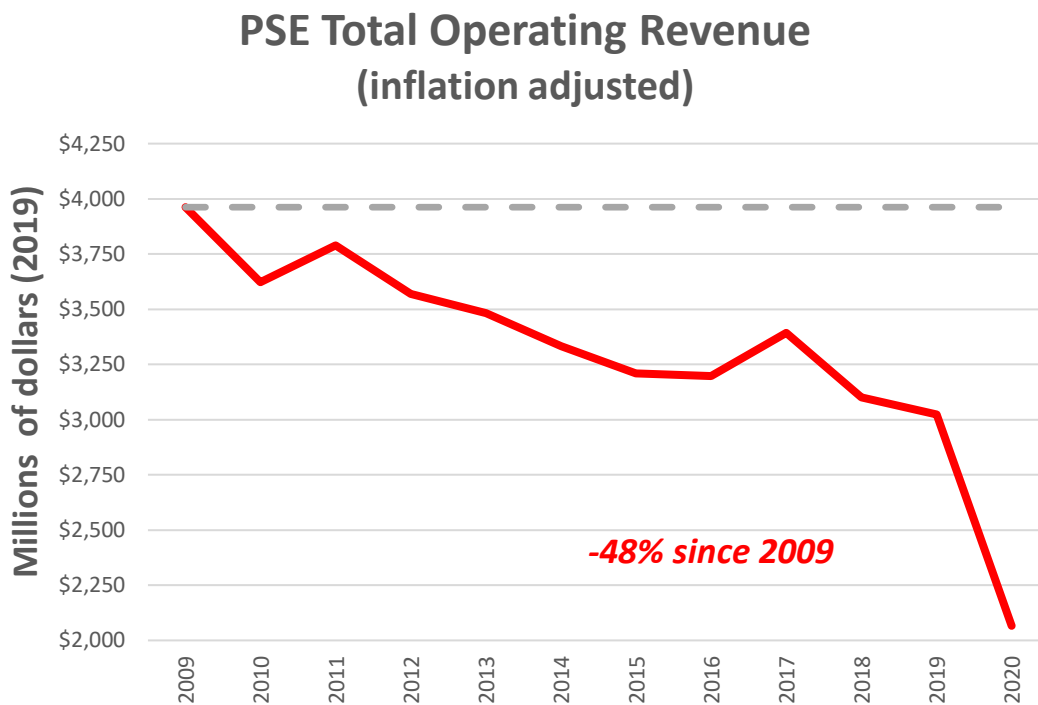


Figure 1 – Revenue has declined since PSE was sold to investors in 2009

¹ <https://www.everycrsreport.com/reports/RL33739.html>

² <https://www.naturalgasintel.com/7-4b-deal-to-privatize-puget-sound-energy-gets-final-ok/>

PSE’s customers have been reducing consumption to save money and lessen environmental impacts. PSE can’t boost revenues by encouraging customers to consume more of its main products, electricity and natural gas. The company can’t increase profits by cutting costs or increasing prices, because PSE is a state-regulated monopoly.

However, PSE does have an effective way to increase revenues, as noted by renowned energy analyst David Roberts:³

[A] utility makes money not primarily by selling electricity, but by making investments and receiving returns on them. If it builds more power plants and power lines, it makes more money.

In the early 20th century, Washington offered utilities an attractive annual return of nearly 10% to build generation plants and transmission lines. The government wanted every community in the state to have electricity. Even after that goal was reached, the incentives were never changed. The high rate of return is funded through rate increases approved by the state’s Utility and Transportation Commission (UTC). High returns and relatively low risks make utilities like PSE an attractive investment for risk-averse investors like pension funds.

The size of the infrastructure revenue opportunity surprises observers the first time they learn about it. If Energize Eastside is built for a cost of \$200 million, PSE can recover about 10% of that cost every year for the lifetime of the project – 50 years or more. The revenue would be about \$20 million per year. In 50 years, that would total over ONE BILLION dollars. Even PSE customers living far from the Eastside would pay that cost.

Another surprise is that PSE has already spent \$90 million on Energize Eastside, even though the company hasn’t secured all the permits it needs to begin construction.⁴ If PSE doesn’t complete the project, this expense can’t be levied on customers. The expense would fall to its investors. That may explain why PSE continues to pursue the project, even though the previously predicted need for the project has evaporated, and attractive technologies to power the Eastside’s energy future have become cost effective.

7	Eastside Transmission Project	88,876,253
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Figure 2 – Federal reporting shows total cost of Energize Eastside to date

³ Entertaining overview of utility infrastructure incentives: <https://grist.org/climate-energy/utilities-for-dummies-how-they-work-and-why-that-needs-to-change/>

⁴ Costs expended on Energize Eastside to date are reported in PSE’s annual Form 1 report to the Federal Energy Regulatory Commission. See <https://elibrary.ferc.gov/eLibrary/filedownload?fileid=15772184>, page 216

PSE's methods

Energize Eastside's 16-mile transmission lines cross the jurisdictions of four cities as well as the East Bellevue Community Council. Under most circumstances, a regional energy project would be evaluated and approved by the state's Energy Facility Site Evaluation Council (EFSEC). EFSEC "provides a 'one-stop' siting process for major energy facilities in the State of Washington... EFSEC also manages an environmental and safety oversight program of facility and site operations."⁵ Once EFSEC approves the project, no local government can impede its construction.

Instead of asking EFSEC to evaluate the project, PSE employed a political and marketing campaign driven by land use codes and political pressure rather than a technical case based on hard facts.

This approach would require PSE to apply for five local permits (one for the north part of Bellevue, which requires additional approval from the East Bellevue Community Council, one for the south end of Bellevue, and one each from Newcastle, Renton, and Redmond).

The downside of PSE's chosen strategy is the expense and burden placed on city staff and councils to evaluate a very large and complex infrastructure project. Many people assume the UTC will provide a final review of Energize Eastside, but that is incorrect. The UTC's authority is confined to deciding whether PSE can raise rates to pay for Energize Eastside **after it is built** – after damage to communities and the environment has already occurred. The UTC has rarely denied PSE recovery of its infrastructure investments.

Why would PSE choose this piecemeal permitting approach, which has taken years, when a much shorter review by EFSEC based on the technical merits of the proposal would have settled the question once and for all?

To sell Energize Eastside to the public and local decision makers, PSE was attracted by the claims of PRW Communications, a PR firm specializing in the approval of controversial utility projects. PSE hired Mark Williamson, chairman of PRW to deploy overtly political techniques described in this summary on the PRW website:

⁵ <https://www.efsec.wa.gov/>

PRW'S PROCESS

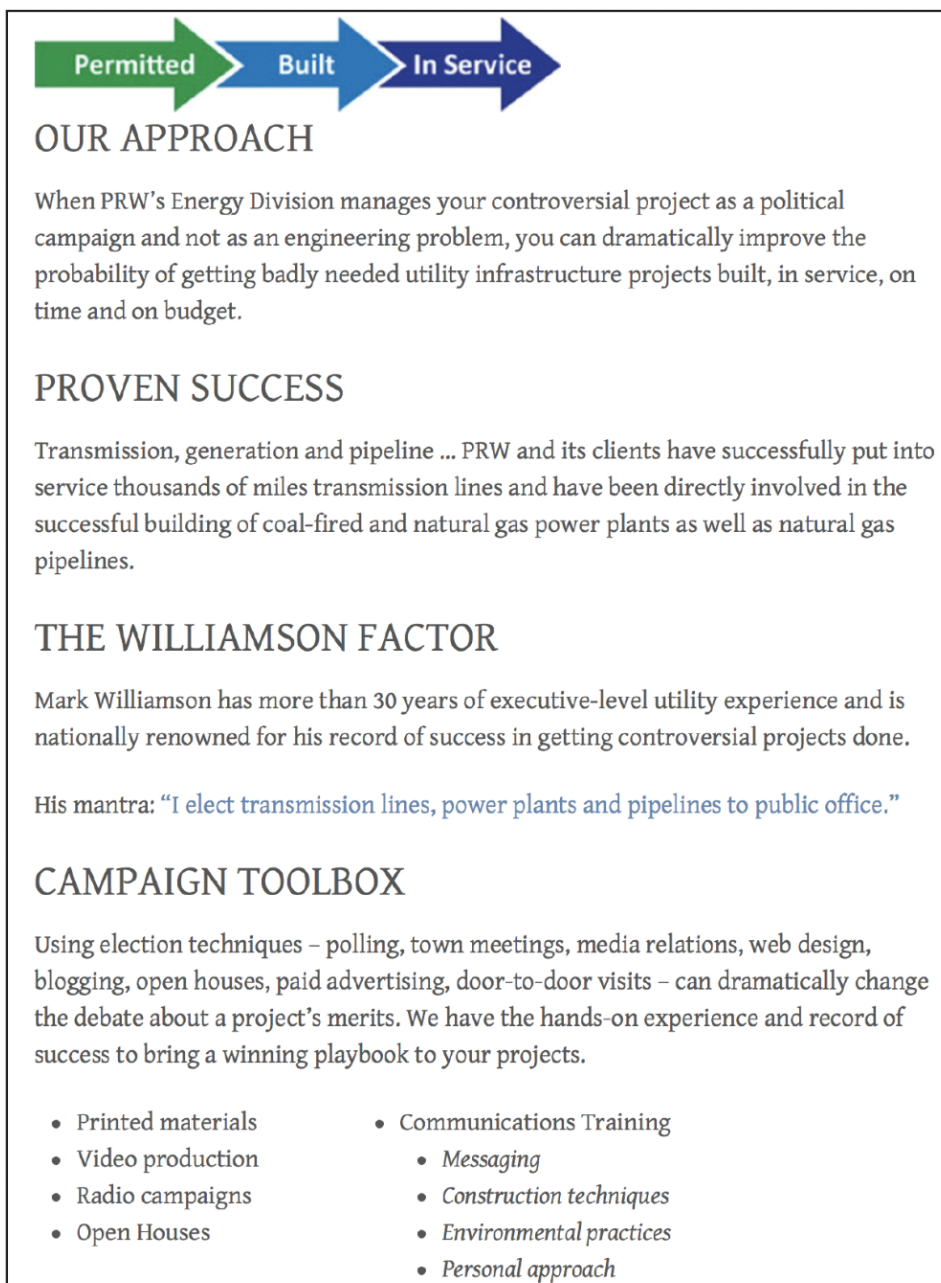


Figure 1 – The Energize Eastside marketing strategy is described on PRW's website

In 2014, PSE unleashed all the tools in Williamson's toolbox: printed materials, radio campaigns, and open houses. The public meetings became opportunities for PSE to market its project to skeptical residents rather than engaging with the community and answering reasonable questions.

For years, Eastside residents have been barraged by advertisements in Eastside newspapers featuring health care providers and emergency responders expressing concern about the Eastside's obsolete electric grid. The photos of these purported spokespeople are often stock images available from visual media companies.

This 2014 ad in the Bellevue Reporter shows a stock photo of a nurse from Getty Images:⁶



The advertisement is a composite image. On the left is a stock photo of a Black female nurse in blue scrubs with a pink stethoscope, looking directly at the camera in a hospital setting. To the right of the photo is a dark teal vertical banner with white text that reads: "We can't protect the Eastside's future with yesterday's electric grid". Below the photo and banner is a yellow horizontal bar containing a white lightning bolt icon in a circle on the left and the following text: "The Eastside's electric grid was last upgraded in the 1960s — not for today's fast-growing communities and the 21st-century emergency services they must rely on. Without substantial upgrades soon, we risk more disruptive and longer power outages. To protect our future, PSE is working with Eastside communities on a safe, reliable solution. Learn more at pse.com/energizeeastside". At the bottom of the advertisement is a dark grey horizontal bar with the URL pse.com/energizeeastside on the left and the PSE logo (a diamond shape with "PSE" inside) followed by the text "PUGET SOUND ENERGY" on the right.

Figure 2 – PSE used stock image models to promote Energize Eastside in local media

⁶ <https://www.istockphoto.com/photos/black-nurses> (photo number 4)

Is Energize Eastside needed?

According to PSE, Energize Eastside is needed to avoid rolling blackouts on a very cold or very hot day if multiple simultaneous equipment failures hobble the normal capacity of the Eastside grid. If pressed, PSE will admit this isn't a common occurrence. PSE might even concede that this kind of power outage has never happened before. PSE can't say that it will ever happen, but the company says it must comply with federal reliability requirements.

But there are many missing details council members must understand to effectively review Energize Eastside (with EFSEC and the UTC on the sidelines). Fortunately, a degree in electrical engineering isn't required to make a good decision. The "burden of proof" rests on the project applicant, and the basis of evaluation is established in Bellevue LUC section 20.20.255.D.2(c). According to this code, the applicant shall:⁷

- i. Describe whether the electrical utility facility location is **a consequence of needs or demands from customers located within the district or area**; and*
- ii. Describe whether the operational needs of the applicant require **location of the electrical utility facility in the district or area**.*

PSE's one-in-a-million scenario

PSE's advertising promotes the public perception that widespread rolling blackouts are just around the corner. However, the unprecedented set of simultaneous crises that PSE claims it must be prepared to resolve are unlikely to happen in the foreseeable future and go far beyond federal standards. The conditions that would lead to rolling blackouts are documented in PSE's 2013 *Eastside Needs Assessment Report*:⁸

1. Extremely high demand for electricity occurs during a very cold or very hot day.
2. Two of the four 230 kV transformers serving the Eastside fail.
3. Peak demand grows at 2.4% per year, approximately twice the rate of population growth.
4. Huge amounts of electricity are simultaneously being transmitted to Canada or California.
5. Almost 2/3 of nearby generation plant capacity is inexplicably offline.
6. An additional problem, such as a falling power pole, occurs.

Federal reliability standards, as set by the North American Electric Reliability Corporation (NERC), require a utility's emergency response plans to avoid power outages when two essential components fail during hours of maximum yearly demand for electricity.⁹ The first two items in the above list address this requirement.

⁷ <https://bellevue.municipal.codes/LUC/20.20.255>

⁸

[https://energizeeastside2.blob.core.windows.net/media/Default/Library/Reports/Eastside Needs Assessment Final Draft 10-31-2013v2REDACTEDR1.pdf](https://energizeeastside2.blob.core.windows.net/media/Default/Library/Reports/Eastside_Needs_Assessment_Final_Draft_10-31-2013v2REDACTEDR1.pdf)

⁹ <https://www.nerc.com/files/TPL-001-4.pdf>, see case P3 on page 9

However, the next four conditions in PSE's list are unlikely to occur simultaneously with the first two and aren't called for in NERC planning standards. Although it's desirable to have an energy grid that would continue to operate in every possible set of concurrent emergencies, that would be expensive for ratepayers, dangerous for residents, and damaging to the environment. We don't design infrastructure for every possible emergency. For example, we don't design ten-lane highways to avoid a possible traffic jam if a Seahawks game happens at the same time as a big political rally amid a raging snowstorm. Avoiding an uncomfortable jam in these unlikely circumstances isn't worth spending hundreds of millions of dollars and bulldozing homes and parks.

PSE falsely cites NERC standards to justify an expensive fix for a nearly non-existent problem, but then disregards NERC requirements to update studies more than five years old:¹⁰

2.6. Past studies may be used to support the Planning Assessment if they meet the following requirements:

*2.6.1. ... the study shall be **five calendar years old or less**, unless a technical rationale can be provided to demonstrate that the results of an older study are still valid.*

*2.6.2. ... **no material changes have occurred** to the System represented in the study. Documentation to support the technical rationale for determining material changes shall be included.*

To fulfill requirement 2.6.1, PSE must upgrade studies completed in 2013 and 2015 that establish the need for the project.

To fulfill requirement 2.6.2, PSE must argue that no material changes have occurred since the original studies were published. PSE must provide technical documentation that shows: 1) the Eastside's peak demand is continuing to grow at the pace PSE predicted in 2015; and 2) there continues to be a need to serve the winter peak loads outlined in the original project proposal. To date, PSE has refused to release the data that would inform the public as to whether either of these conditions exists. However, PSE's 2021 Integrated Resource Plan shows dramatic changes in actual demand trends, PSE's forecasts for future growth, and resources the company will acquire to meet legislated clean energy requirements.

¹⁰ <https://www.nerc.com/files/TPL-001-4.pdf>, p. 4

Inaccurate forecasts

Is the Eastside’s demand for electricity growing at such a vigorous rate that it will soon overwhelm the capacity of existing transformers and transmission lines? PSE refuses to answer. In 2015, PSE published the following graph showing that Eastside customer demand would exceed its system capacity on a very cold day in winter in by 2018. This dire prediction has not come to pass.

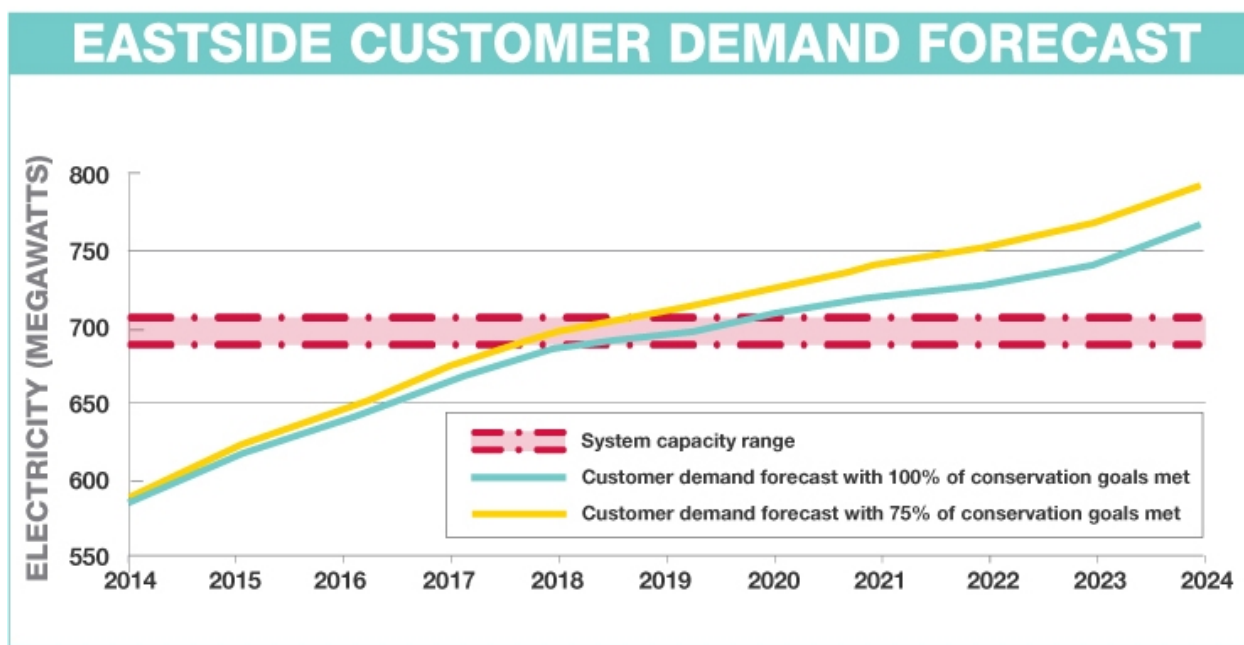


Figure 3 – PSE publishes a graph showing a need for Energize Eastside in 2015

The graph is designed to raise concerns about the reliability of our electric service. PSE did not explain that the red “system capacity” line depicts drastically reduced system capacity caused by the multiple, simultaneous emergencies described above. Many people and business leaders thought the graph showed an electric grid on the verge of failure under normal daily conditions. PSE did little to dissuade this interpretation.

PSE also did not explain why the forecast of customer demand grows at twice the rate of the Eastside’s population growth. This strains plausibility. PSE has a long history of aggressive demand forecasts predicting growth that never materialized. PSE’s state regulator, the UTC, has criticized PSE’s inflated forecasts on multiple occasions. The UTC questioned this forecast as well.¹¹

¹¹ The Commission questions “the effect of lower load assumptions on the need for Energize Eastside Project.” See <https://cense.org/wp-content/uploads/2021/05/utc-final-acknowledgment-160918-99-pse-irp.pdf>, p. 10

The following chart illustrates the challenge PSE has had in accurately forecasting peak demand. The dashed lines show PSE’s peak demand forecasts included in its 2013, 2015, 2017, and 2021 Integrated Resource Plans. Each succeeding plan has lowered the forecast compared to the one before.

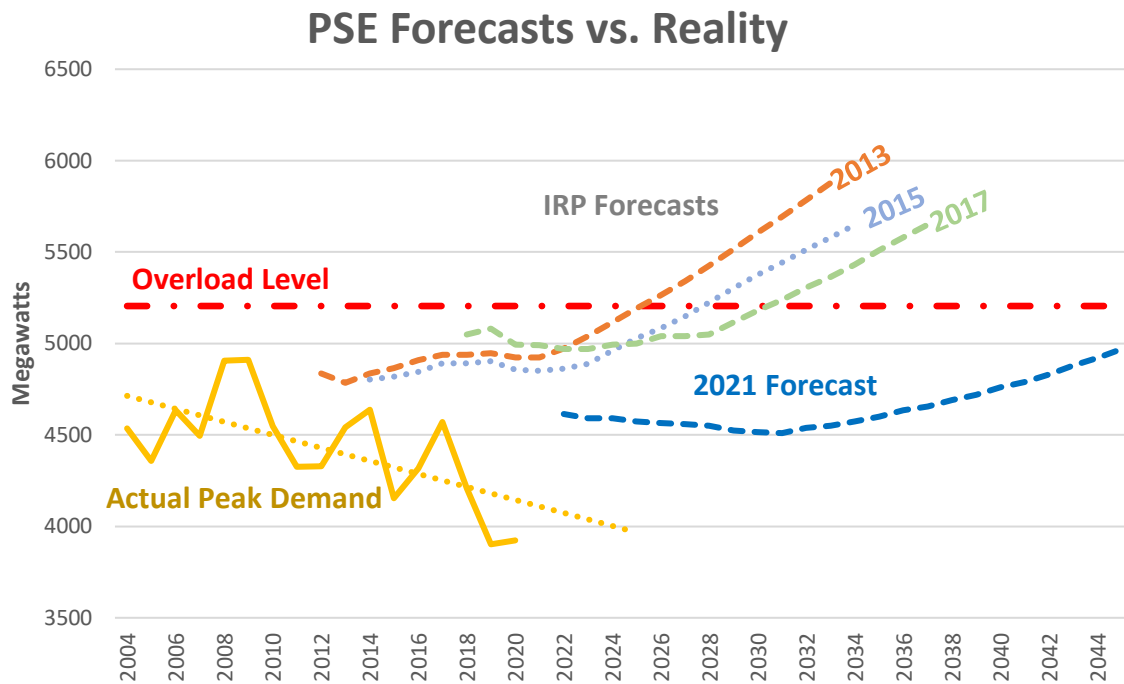


Figure 6 – PSE’s demand forecasts diverge from actual peak demand

The 2013 Integrated Resource Plan contained the forecast that informed the need for Energize Eastside when the project was first announced. As noted in the chart, PSE expected demand to exceed an “Overload Level” by 2026. This critical level of 5,200 MW was described in the first Energize Eastside report released in 2013.¹²

Each successive forecast postponed the risk of overload, until the latest forecast in PSE’s 2021 Integrated Resource Plan no longer reaches the critical level in the next quarter-century. Given the company’s record of inaccurate forecasts, we have reason to doubt the accuracy of the new forecast, especially when actual measured peak demand has been declining for more than a decade.¹³

Declining demand is partly due to warming winter temperatures in the Puget Sound region. Other causes for lower demand include technology advances like LED lighting, smart thermostats, high

¹² “Even if 100% conservation is achieved, under extreme weather conditions PSE could exceed the 5,200 MW level during the winter 2013-14.” See https://energizeeastside2.blob.core.windows.net/media/Default/Library/Reports/Eastside_Needs_Assessment_Final_Draft_10-31-2013v2REDACTEDR1.pdf, p. 9

¹³ Actual peak demand figures were found in PSE’s annual Form 1 reports to the Federal Energy Regulatory Commission on page 401b, line 40, column d. FERC reports are available from <https://elibrary.ferc.gov/eLibrary/search>.

efficiency heat pumps, and appliances that use a fraction of the electricity required by their predecessors.

In 2016, PSE vice president Andy Wappler appeared in a YouTube video to promote Energize Eastside.¹⁴ In the video, Mr. Wappler admits that “new technologies and significant conservation have reduced energy consumption,” but “these lines need to be replaced.” Although PSE replaced aging poles and wires about ten years ago, Wappler implies that the only way they can be fixed is by doubling the voltage.



Figure 7 – PSE’s Andy Wappler says, “These lines need to be replaced.”

Beginning in 2017, CENSE asked PSE to publish actual Eastside demand figures so the public could see whether PSE’s predicted trend was occurring. PSE demurred, claiming the data was “Critical Energy Infrastructure Information” (CEII) that could not be released due to the threat of terrorism. PSE’s insistence on secrecy is unusual; utilities like Seattle City Light, Tacoma Power, and ConEd in New York shared peak demand data with little concern that the information would encourage terrorism.

Nonetheless, Don Marsh, president of CENSE, obtained CEII security clearance from the Federal Energy Regulatory Commission to access PSE’s data. But PSE still refused to cooperate. PSE claimed there was no need for Mr. Marsh or professional consultants hired by CENSE to see this data, because PSE’s consultants had already completed multiple studies establishing the need for the project.

In the first Bellevue land use hearing for Energize Eastside held in March 2019, PSE unexpectedly announced that the company’s main concern now focused on summer peak demand – not the winter peak demand cited in its permit application, consultant studies, the EIS, and most of its advertising.

¹⁴ <https://youtu.be/ryNAEqSUV8>

PSE has never published data showing how the Eastside’s summer demand is evolving or how it might change in the future.

The sudden change in the project’s purpose has enormous consequences. The change in seasonal need affects the operating parameters, the size of the project, and even what kind of technology best matches the need. For example, the EIS focuses on winter peak loads and disqualifies solar panels with this explanation:

*Solar could help reduce summer peak loads but because additional capacity would continue to be needed for winter, the use of solar generation to address the transmission capacity deficiency would need to be matched by winter generation capacity and therefore would be redundant.*¹⁵

Now, given that the primary purpose of Energize Eastside has changed to serving a summer peak emergency, the use of solar panels to reduce summer loads should be fairly evaluated.

Battery storage is another useful technology that was not evaluated to serve an emergency scenario occurring only in the summer. PSE’s battery consultant admits that “peak energy demand also shifted from winter to summer” in a 2018 study entitled *Eastside System Energy Storage Alternatives Assessment*.¹⁶ However, no significant changes were made to a battery design proposed in 2015 that attempted to resolve both summer and winter emergencies. Attempting to address two very different scenarios with one design produced a system that would be inefficient, oversized, and too expensive to take seriously. However, a battery designed to serve a summer-only scenario could offer a very attractive alternative to Energize Eastside.

We believe a combination of solar panels, batteries, and other smart technologies could serve the Eastside’s energy future for less cost, less risk, and less impact on communities and the environment than Energize Eastside.

Better reliability?

The system that delivers electricity to Eastside homes and businesses has four parts:

1. Generation plants powered by wind, water, sun, and fossil/nuclear fuels are usually located hundreds of miles from the Eastside.
2. High-voltage transmission lines operating at 500,000 volts or more carry the electricity over long distances. Large transformers convert the electricity to lower voltages that are safer to operate in urban areas. The transmission lines in PSE’s current corridor operate at 115,000 volts.
3. Neighborhood substations further reduce voltage to 12,500 volts. This lower-voltage electricity is carried on distribution lines frequently seen in most Eastside neighborhoods.
4. Distribution wires connect to small transformers that power 110-volt and 220-volt electric sockets in our homes.

¹⁵ http://www.energizeeastsideeis.org/uploads/4/7/3/1/47314045/02_chapter_2_project_alternatives.pdf, p. 2-39

¹⁶ <https://energizeeastside2.blob.core.windows.net/media/Default/AbouttheProject/PSE-EE-Eastside-System-Energy-Storage-Alternatives-Assessment.pdf>

Energize Eastside would increase the capacity of high-voltage transmission lines and transformers mentioned in item #2 of the above list. Will this reduce the number or duration of power outages that customers endure on the Eastside? To find out, CENSE analyzed PSE’s Electrical Reliability reports to the City of Bellevue over the past decade. The following graph shows the duration and number of outages that affected at least 100 customers.

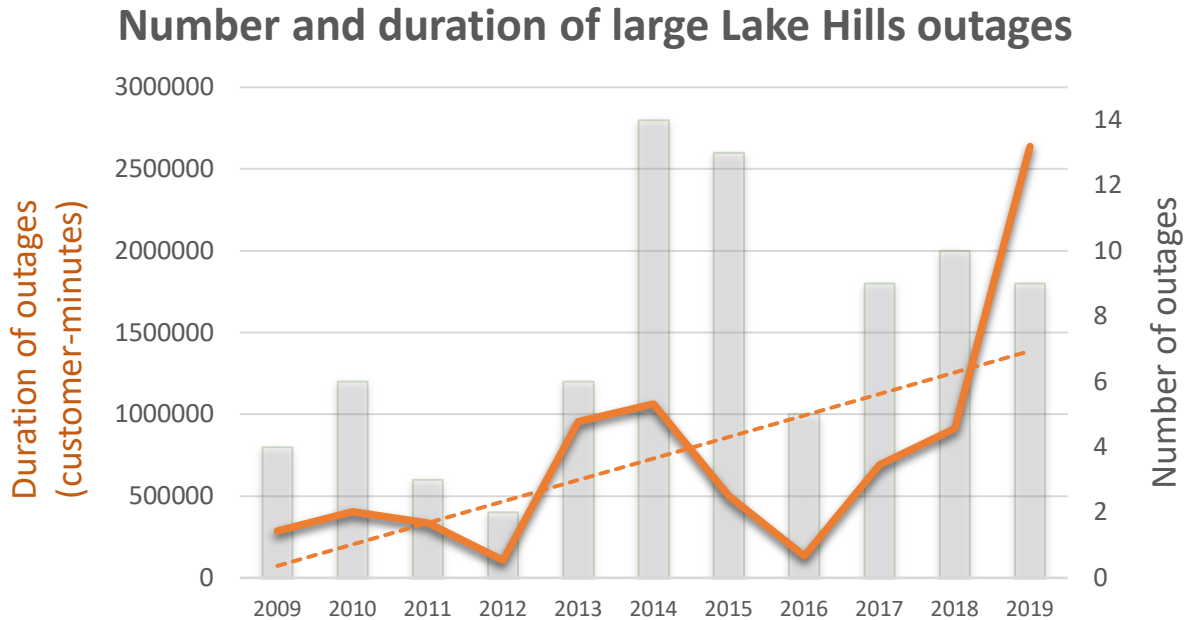


Figure 8 – Lake Hills power outages have worsened in the last decade

Both the total duration of large outages (shown by the solid orange line) and the number of outages (gray bars) have gotten worse in Lake Hills during the past decade. However, almost all these outages were caused by failures of **distribution wires** or **substation equipment** (items in #3 of our list). Exactly zero outages were caused by conditions resembling the crisis scenario PSE proposes to fix with Energize Eastside. This project is unlikely to prevent any future outages.

Had PSE invested \$90 million in modern technology to address long-standing reliability issues in many neighborhoods, rather than pursuing the Energize Eastside project to fix imagined problems, many customers might have enjoyed improving reliability during the past decade.

Would Energize Eastside be safe?

In May 2021, the Olympic Pipeline Company excavated a section of a pipeline that runs under Bellevue's Somerset neighborhood. Several large tree stumps growing over the pipeline were removed, and the pipeline was carefully inspected to make sure tree roots had not compromised the protective coating. Neighbors appreciated the caution demonstrated by the workers. An inspector from the UTC monitored the process every day, ensuring all safety guidelines were observed. The project took almost twice as long as initially estimated.



Figure 9 – Excavation of the Olympic Pipeline in Somerset, May 2021

In the current utility corridor, PSE's transmission lines are co-located with one or two pipelines that transport 18 million gallons of jet fuel, gasoline, and other liquid fuels each day. Although the pipelines appear to be adequately maintained and inspected by Olympic, the pipes are fifty years old. Over the years, their locations have shifted in the corridor.

If Energy Eastside is approved, PSE contractors, rather than OPL employees, will be responsible for excavation near the pipeline. Residents worry that these contractors might accidentally strike a pipeline as they dig foundations for new power poles within feet of the pipelines. A minor nick might go unnoticed, but the weakened pipeline could develop a significant leak years after construction is complete. A small scratch in the pipeline coating can lead to accelerated corrosion due to electromagnetic fields emitted by the transmission lines, heightening the danger of a breach.

According to the Bellevue Fire Department, a pipeline breach could release hundreds of thousands of gallons of liquid fuel that would flow downhill. In East Bellevue, the clubhouse of the Glendale Country Club would be at risk. Approximately 2½ miles south of the clubhouse, the pipeline passes ten times closer to Tyee Middle School than California safety codes would allow.¹⁷ Another 2½ miles south, the Newcastle City Hall is also close – and downhill – from the pipelines.

The Bellevue Fire Department says that a fire caused by a pipeline breach would be “catastrophic,” and “would deplete the response and mitigation abilities of the jurisdiction.”¹⁸ Emergency responders would be deployed from SeaTac with special fire-fighting foam to extinguish the fire, but it could take an hour or more before the flames were extinguished. The loss of property and life following such a disaster could be enormous.

The Energize Eastside EIS concedes that the devastation caused by a pipeline fire would be terrible, but the probability of an accident is low. However, we do know that pipeline fires occur. The Olympic Pipeline has suffered two fires in recent years: a 1999 fire in Bellingham, which killed three kids; and a fire in Renton five years later that sent emergency responders to the hospital.

The Energize Eastside corridor is not wide enough to safely operate 230 kV transmission lines and two petroleum pipelines. According to the National Electric Safety Code (NESC), the minimum corridor width for a 230 kV transmission line is 120 to 150 feet in an urban area. Although PSE claims to follow the NESC standard, the corridor is only 100 feet wide in many places. Also, the NESC code applies to a corridor containing *only* the transmission lines, not one that contains two petroleum pipelines running at full capacity.

The National Electric Safety Code (NESC) specifies minimum horizontal and vertical clearance requirements for overhead lines.

These clearance requirements must be complied with. Specific easement agreements may require more clearance.

The following chart lists typical right-of-way widths for various electric line voltages and locations.

VOLTAGE	URBAN	TYPICAL WIDTH (FEET)	RURAL
34 kilovolts (kV)	50-100		100
46 kV	50-100		100
69 kV	50-100		100
115 kV	70-100		100
138 kV	70-100		100
161 kV	100-120		120
230 kV	120-150		150
345 kV	150		150
765 kV	200		200

Figure 10 – National Electric Safety Code requires a wider corridor for 230 kV transmission lines

¹⁷ “The [school] site shall not be located ... within 1500 feet of the easement of an above ground or underground pipeline that can pose a safety hazard”, <https://www.cde.ca.gov/ls/fa/sf/title5regs.asp>, Article 2, 14010.h.

¹⁸ https://bellevuewa.gov/sites/default/files/media/pdf_document/Standards%20of%20Coverage.pdf, pp. 64-66

Would Energize Eastside reduce emissions?

In 2019, the Washington legislature passed the Clean Energy Transformation Act, requiring Washington's investor-owned utilities (including PSE) to provide carbon neutral electricity by 2030, and carbon free electricity (meaning *zero emissions* – no offset credits) by 2045. This is one of the most ambitious clean electricity mandates in the nation.¹⁹

It is hard to overstate the challenge this goal presents to PSE, which currently burns coal and natural gas to generate 66% of the electricity it delivers to customers.²⁰ The following map shows why decisive action is urgently needed. During the past few years, Washington's electric grid had the largest percentage increase of carbon emissions among all states:²¹

Good news: the greening of electric grids

Even under the administration of pro-coal President Donald Trump, many U.S. states migrated toward renewable sources or natural gas for electric power. But in the Pacific Northwest a drought curbed hydropower – a gap filled by coal and natural gas.

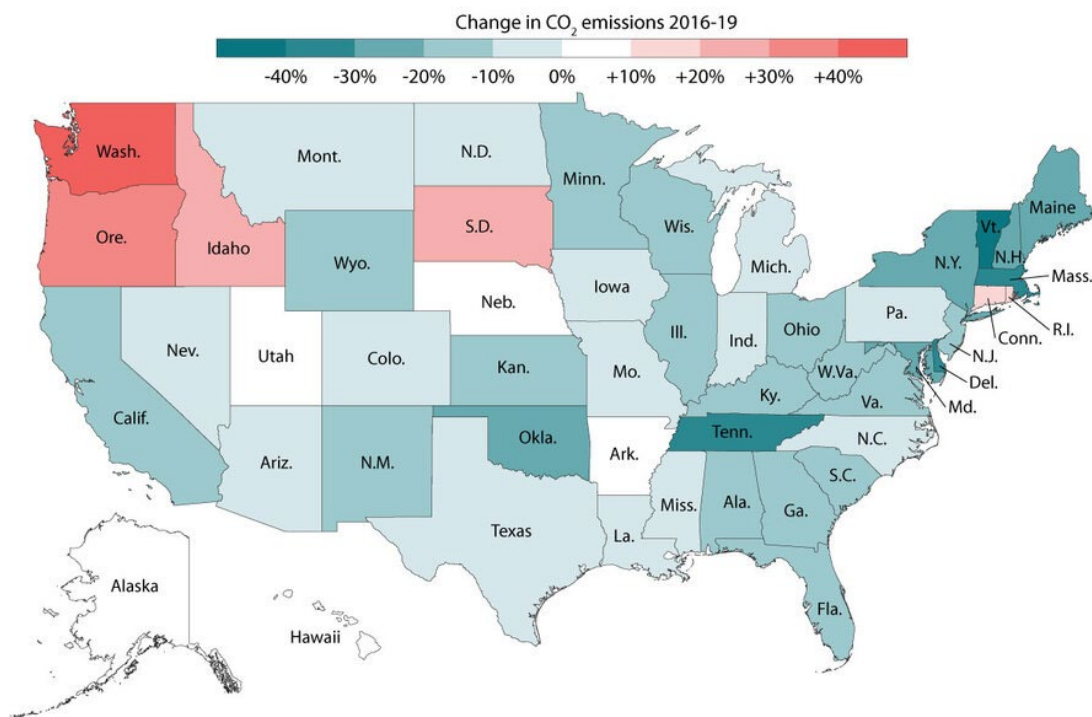


Figure 11 – Emissions of CO₂ increased faster in Washington than other states for 2016-2019

Taken as a whole, Washington's electricity is comparatively clean due to plentiful hydropower supplied by the Columbia River and other sources. However, our dependence on hydropower makes our state vulnerable to droughts and the growing threat of years with low snowpack. To save our salmon, there

¹⁹ <https://www.idsupra.com/legalnews/the-race-to-a-clean-electricity-future-5094469/>

²⁰ <https://www.pse.com/en/pages/energy-supply/electric-supply>

²¹ <https://www.csmonitor.com/Environment/2021/0405/Carbon-score-card-Emissions-are-down-but-big-tasks-ahead-for-Biden>

are serious discussions about dismantling several dams on the Snake River that supply hydropower,²² further increasing the need for other sources of electricity.

In the future, to comply with our state’s clean energy law, PSE will need to acquire more renewable resources to generate electricity. In addition to hydropower from the Columbia River and Canada, feasible options include energy generated by wind in Montana, Wyoming, and floating turbines off the Oregon and Washington coast, and solar energy from eastern Washington and California.

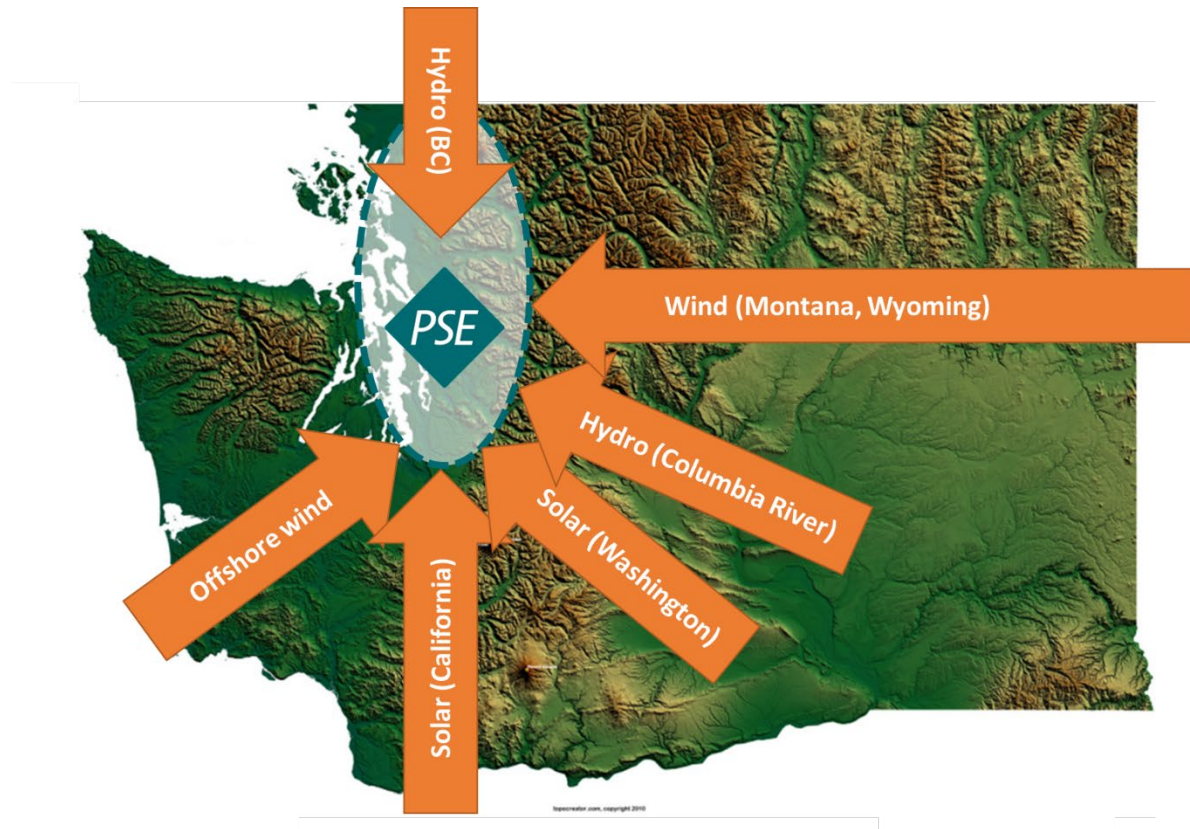


Figure 12 – Renewable electricity will come from distant sources

These diverse sources will deliver electricity to the Puget Sound region using long-distance transmission lines. But those transmission lines serve a fundamentally different purpose than those projected for Energize Eastside. Energize Eastside does not connect PSE’s customers to any new renewable resource. Energize Eastside would only be needed to move incremental amounts of electricity (dirty or clean) during an unlikely scenario where many grid failures occur simultaneously.

To be clear, Energize Eastside does not increase our supply of renewable electricity. It invests hundreds of millions of dollars for a project of dubious value. That money would be better spent on renewable sources to supply cleaner electricity. Worse, the project increases emissions by cutting down thousands of valuable urban trees that clean our air, store carbon, and reduce summer energy consumption by cooling our neighborhoods.

²² <https://www.spokesman.com/stories/2021/feb/25/scientists-say-removing-snake-river-dams-is-necess/>

Does Energize Eastside help achieve state, county, and city emissions goals?

Washington’s Clean Energy Transformation Act (CETA) was passed in 2019. In the same year, sixteen cities in King County updated their commitments to reduce emissions by 50% by 2030 through the K4C agreement.²³ These state, county, and city goals are not achievable unless PSE successfully reduces greenhouse gas emissions from the production of electricity. Is PSE on track to do its part?

On May 6, 2021, the Sierra Club and 35 organizations and community leaders submitted a letter to the UTC expressing strong concerns about PSE’s 2021 20-year Integrated Resource Plan.²⁴ PSE was criticized for its inexplicably slow acquisition of renewables, plans to build a new gas-powered generation plant, and inadequate efforts to reduce demand.

A letter from King County Executive Dow Constantine also addressed the threat that PSE’s plan poses to ratepayers and residents:

*A long-term plan that continues to rely heavily on fossil-fuel based electricity generation and thermal resources is economically risky for ratepayers, impacts our residents’ health, and runs counter to our commitments to reducing greenhouse emissions and increasing production and use of clean renewable energy.*²⁵

To reduce the amount of electricity produced by fossil fuels and reduce harmful greenhouse gas emissions, PSE must reduce *peak demand* – the highest levels of consumption that occur during morning and early evening hours on the hottest and coldest days of the year. Why are these peaks a concern? Because peak demand is often served by PSE’s dirtiest generators, known as “peaker plants.” These generators are expensive to build and operate, and they produce the highest levels of pollutants and greenhouse gases of all energy sources after coal is eliminated from our energy supply in 2025 (another CETA mandate). However, peaker plants are used only for a small number of hours each year. If we could reduce peak demand, peaker plants would run less often and PSE would not need to build new ones.

Is Energize Eastside the best way to serve the Eastside’s energy future?

Energize Eastside is designed to avoid rolling blackouts during moments of peak demand. The previous section describes why peak demand must be reduced to achieve state, county, and city emissions targets. With a little foresight, PSE can kill two birds with one stone (apologies to bird lovers everywhere!)

Here are a few of the policies and technologies that can be used to reduce peak demand. Some are obvious. Others are a little more advanced, so we include links to videos that help explain them.

1. **Reduce overall consumption** by promoting and incentivizing energy efficiency solutions (such as better insulation, window shades, and high efficiency heat pumps for space heating and cooling).

²³ <https://your.kingcounty.gov/dnrp/library/dnrp-directors-office/climate/joint-commitments-update-with-signatures-final.pdf>

²⁴ <https://apiproxy.utc.wa.gov/cases/GetDocument?docID=1961&year=2020&docketNumber=200304>

²⁵ <https://apiproxy.utc.wa.gov/cases/GetDocument?docID=1969&year=2020&docketNumber=200304>

2. **Provide “Demand Response” programs** that provide financial incentives to encourage customers to shift optional consumption to off-peak hours. Customers like these programs because they offer choices to reduce their energy bills. See <https://youtu.be/4jTzExD-xQM>
3. **Invest in batteries** that can be charged during off-peak hours and then release the electricity later to reduce the amount of electricity pulled through a straining grid. See <https://youtu.be/eTbuxJISIUE>
4. **Provide solar panel incentives** to encourage customers to invest in a local source of electricity to help serve peak demand on a hot summer day.
5. **Develop “virtual power plants”** – smart software that coordinates the operation of many small batteries in homes and electric cars to create an invisible power plant capable of producing hundreds of megawatts of electricity within seconds. See <https://youtu.be/-KQEt5QqPXU>
6. **Plant more shade trees** that cool Eastside communities during periods of high summer heat.

Residents and businesses would like PSE to pursue some or all of these ideas to increase reliability and reduce greenhouse gas emissions. PSE is making some progress, but its actions do not match the public’s growing sense of urgency to make rapid progress towards reducing emissions.

For example, in April 2021, PSE asked the UTC for permission to delay an RFP (Request for Proposals) to acquire Demand Response technology from participating vendors. In return, PSE would study a new technology known as “virtual power plants.”

CENSE was initially conflicted about delaying a technology that would mitigate the need for Energize Eastside, but we support the UTC’s decision in favor of the plan, described here:

[PSE] contends that developing requirements for a virtual power plant (VPP) platform prior to issuing its targeted RFP will allow bidders to better tailor their bids to fit the Company’s system operations. This enabling technology will improve integration and operations...²⁶

After six months, PSE’s “virtual power plant platform” will be better developed. Soon after that, bids for Demand Response solutions will be submitted in response to PSE’s RFP. These technologies promise to significantly reduce peak demand. However, these recent commitments by PSE were not anticipated nor included in PSE’s original Energize Eastside studies more than five years ago. For the sake of ratepayers and the environment, no permits should be considered for Energize Eastside until the benefits of a VPP platform are included in updated studies.

²⁶ <https://apiproxy.utc.wa.gov/cases/GetDocument?docID=106&year=2020&docketNumber=200413>, p. 2

What about electric cars?

Often people understand that Energize Eastside isn't needed *now*, but what happens in a few years when everyone is driving electric vehicles? Won't we need a lot of electricity for transportation?

Yes, the total amount of electricity we consume will probably rise as cars and buildings use electricity to replace gas. But it matters *when* the electricity is used. Today, there is a big swing between peaking demand at dinnertime and a lull that occurs in the middle of the night. In the future, electric cars and big batteries will be charged during those quiet hours. During peak hours, many batteries, even those in cars, will discharge electricity to the grid during peak hours. This will be a new local source of electricity that will flow through local distribution lines rather than through transmission lines and transformers.

Other smart technologies, like Demand Response, will provide financial incentives for customers to voluntarily reduce electric consumption during peak hours. Those who choose to participate will be able to reduce their monthly electric bills.

In the summer, rooftop solar panels will generate electricity during hot summer afternoons. Solar power will help to offset consumption by air conditioners that keep our homes and businesses comfortable.

All these factors will keep peak demand from growing, even if total electricity consumption rises. These factors are reflected in PSE's 2021 Integrated Resource Plan. The company expects peak demand for electricity to decline for the next ten years:²⁷

Figure 6-9: Electric Peak Demand Forecast (MW), before Additional DSR and after Applying DSR

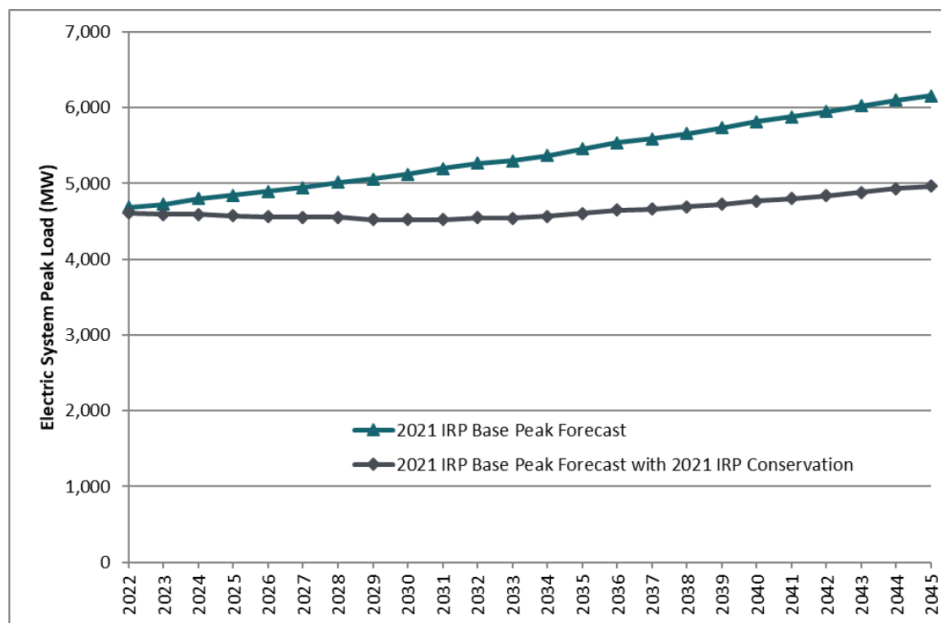


Figure 13 – PSE's peak forecast, accounting for conservation, declines until 2032

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https://oohpseirp.blob.core.windows.net/media/Default/Reports/2021/Final/IRP21_Chapter%20Book%20Compressed_033021.pdf, p. 6-12

But wait – PSE’s graph shows demand starting to go up after 2033. Will Energize Eastside be needed after that?

Well, it’s hard to forecast what will happen ten years from now. Maybe we will have even better and cheaper batteries, solar panels, and dishwasher-sized nuclear fusion generators powering our homes (one can dream!)

But we should point out PSE also has a hard time predicting the future. The company’s ten-year demand forecasts have been higher than measured demand for many years. One reason for the consistent overshoot is that the company doesn’t know what kind of conservation opportunities might be available a decade from now. Instead of making an educated guess, the company simply stops accounting for important elements of conservation effects after ten years. This explains why PSE’s demand forecasts always turn upward about halfway through the 20-year planning period. The UTC has criticized this practice, but PSE has not corrected the problem.

Until there is good evidence to the contrary, the safest assumption is that peak demand will not increase for the foreseeable future. If demand does begin to tick upwards someday, we will have many good technology solutions to address the issue.

UTC concerns

The questions and concerns raised in this report do not belong to CENSE alone.

In response to PSE’s 2017 Integrated Resource Plan (IRP), PSE’s state regulator, the UTC, asked PSE four questions about Energize Eastside, summarized as follows:²⁸

1. How much of the project’s capacity serves large regional flows of electricity to Canada and California occurring simultaneously with the Eastside emergency scenario?
2. PSE assumes five generation facilities in western Washington are offline during an Eastside emergency. How much does this assumption drive the need for the project?
3. Why did PSE refuse to share modeling data with stakeholders who obtained Critical Energy Infrastructure Information from the Federal Energy Regulatory Commission?
4. Does declining peak demand impact the need for the project?

In 2019, a group of stakeholders participating in an IRP planning meeting asked if PSE would answer the UTC’s questions.²⁹ The company replied, “No.”³⁰

²⁸ <https://cense.org/wp-content/uploads/2021/05/utc-final-acknowledgment-160918-99-pse-irp.pdf>, p. 10

²⁹

https://oohpseirp.blob.core.windows.net/media/Default/Action_Items/2019_1104_CENSE_Vashon_CAG_Bridle_Trails_Energize_Eastside.pdf, see question 2 on page 6

³⁰

https://oohpseirp.blob.core.windows.net/media/Default/Comment_Reports/2019_November_IRP_CommentSummary_WEB.pdf, p. 10

Council members who are tasked with evaluating PSE's permit application should be aware that PSE continues to dodge basic questions about the need and prudence of this expensive project. These questions were raised by CENSE, by other IRP stakeholders who live far from the Eastside, by UTC staff members, and by the Commissioners themselves. None of these parties, however, has the authority to compel PSE to answer. But land use examiners and council members do have the authority to decide if PSE has fulfilled the conditions of their jurisdiction's land use codes. In Bellevue, land use codes require proof of need and thorough evaluation of alternatives.

Conclusion

As you fully and fairly evaluate PSE's application to build Energize Eastside, please consider these facts:

1. The applicant is a private corporation that is obligated to maximize profits for its owners.
2. High rates of return guaranteed by the state (and paid by customers) provide incentives for private utilities to build big infrastructure projects like Energize Eastside. PSE will collect a 9.8% annual rate of return, earning more than ONE BILLION dollars over the lifetime of this project.
3. By skipping EFSEC review and approval, PSE has chosen a slow and expensive process that can be influenced by political pressure and marketing campaigns. PSE hired specialists who could "elect this project to public office" rather than risking scrutiny of its technical merits.
4. Energize Eastside is based on a very unlikely set of simultaneous emergencies and an outdated forecast that does not reflect the reality of declining peak demand on the Eastside.
5. PSE's ubiquitous advertising has led the public to expect Energize Eastside would deliver significant reliability improvements. However, the project will not reduce the kind of outages PSE's customers have endured during the last decade.
6. Energize Eastside would increase risk of a catastrophic pipeline fire that cannot be extinguished by the Bellevue Fire Department. According to national safety standards, the corridor is too narrow to safely operate two 230 kV circuits and two liquid fuel pipelines.
7. Energize Eastside would not help state, county, and city initiatives that seek to reduce greenhouse gas emissions. The project would destroy thousands of valuable urban trees.
8. Smart technologies like Demand Response, batteries, and Virtual Power Plants would deliver greater reliability with less harm to communities and the environment.
9. Even electrification of transportation and buildings is unlikely to increase peak demand significantly, according to PSE's latest Integrated Resource Plan.
10. PSE's state regulator posed basic questions about the project that PSE refuses to answer.

There are better ways to serve the Eastside's energy future. Please reject PSE's application for permits to build this expensive, outdated, and harmful project.