

The Grid Transition – 2026  
“a short (data intensive) summary”

# 絵に描いた餅



*E ni kaita mochi*

*A rice cake drawn on paper.*



*OPALCO Member Survey on Energy Reliability and Local Renewable Development  
December 2025*

***“Stop using scare tactics like those in this survey....”***

*Hmmm? What is there to be scared of...*



We strengthen communities

# Washington 2021 State Energy Strategy

Transitioning to an Equitable Clean Energy Future

DECEMBER 2020

## Major WA State Climate Legislation

- Climate Commitment Act (CCA- SB 5126)

- Clean Energy Transformation Act (CETA -SB 5116)

- HB 1181 - 2023-24

“Improving the state's response to climate change by updating the state's planning framework.”

- Energy Independence Act I-937 requires electric utilities to use renewable energy and energy conservation.

The 2021 State Energy Strategy is designed to provide a roadmap for meeting the state’s greenhouse gas emission limits.

Enacted in 2020, the CCA commits Washington to limits of:

-45% below 1990 levels by 2030,

-70% below 1990 levels by 2040 and

-95% below 1990 levels  
with net zero emissions by 2050

-140 pages



We strengthen communities

# Washington 2021 State Energy Strategy

Transitioning to an Equitable Clean Energy Future

DECEMBER 2020

**Washington imports 43% of its clean energy from inland wind-rich states (Montana and Wyoming) in the Electrification Scenario in 2050.** The increased energy flows across multiple states and balancing areas will require investment in new transmission and the efficient use of imports as a balancing resource

**Washington has limited build of in-state renewable resources in all decarbonization scenarios until 2040.** Prior to that, it is more cost effective to import clean energy from cheaper out-of-state sources. Between 2040 and 2050, Washington adds solar and offshore wind (12 GW and 4 GW, respectively, in the Electrification Scenario).

With the current lag pattern Ecology itself is signaling, the state likely won't have an "official inventory" answer for the 2030 goal until **December 31, 2033** (give or take).



Washington State Greenhouse Gas Emissions Inventory: 1990-2019

Stacey Waterman-Hoey  
Air Quality Program

Washington State Department of Ecology  
Olympia, Washington

December 2022, Publication 22-02-054



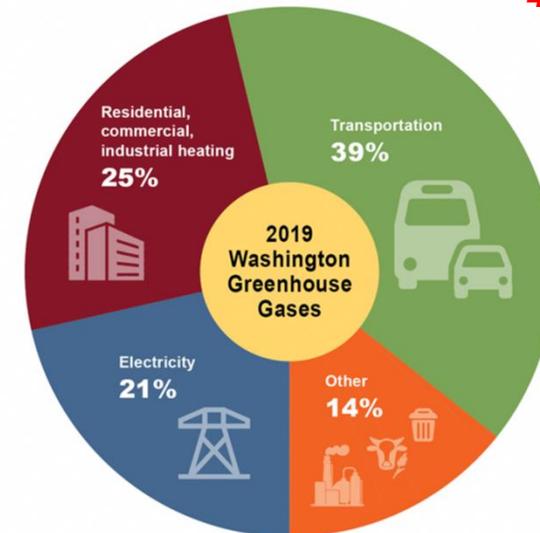
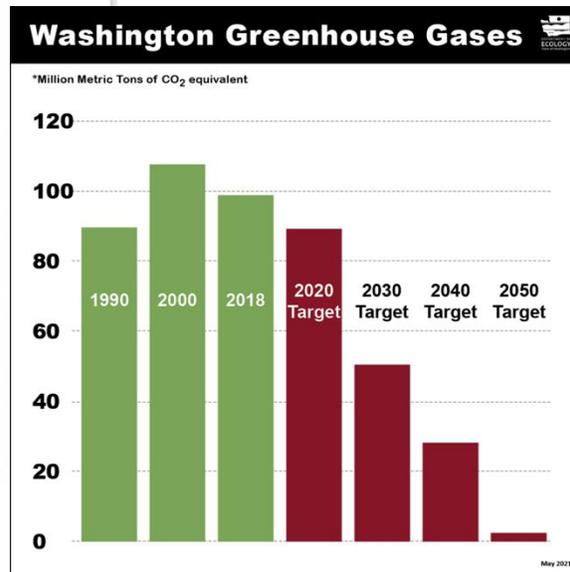
<https://apps.ecology.wa.gov/publications/documents/2202054.pdf>

## Washington State Total gross emissions MMTCO<sub>2</sub>e

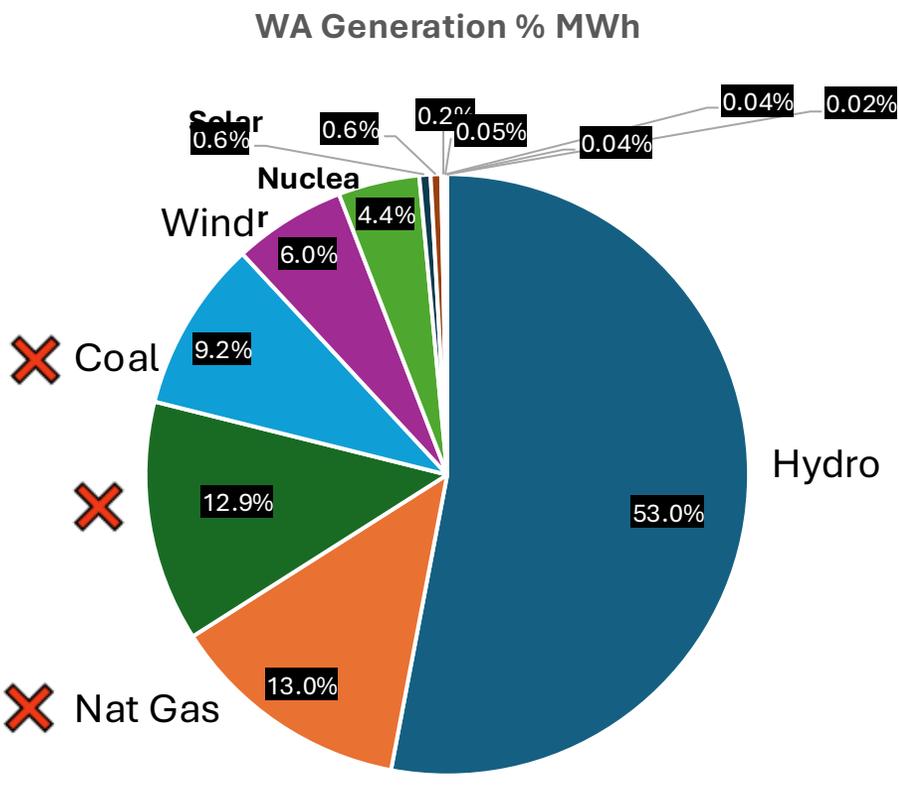
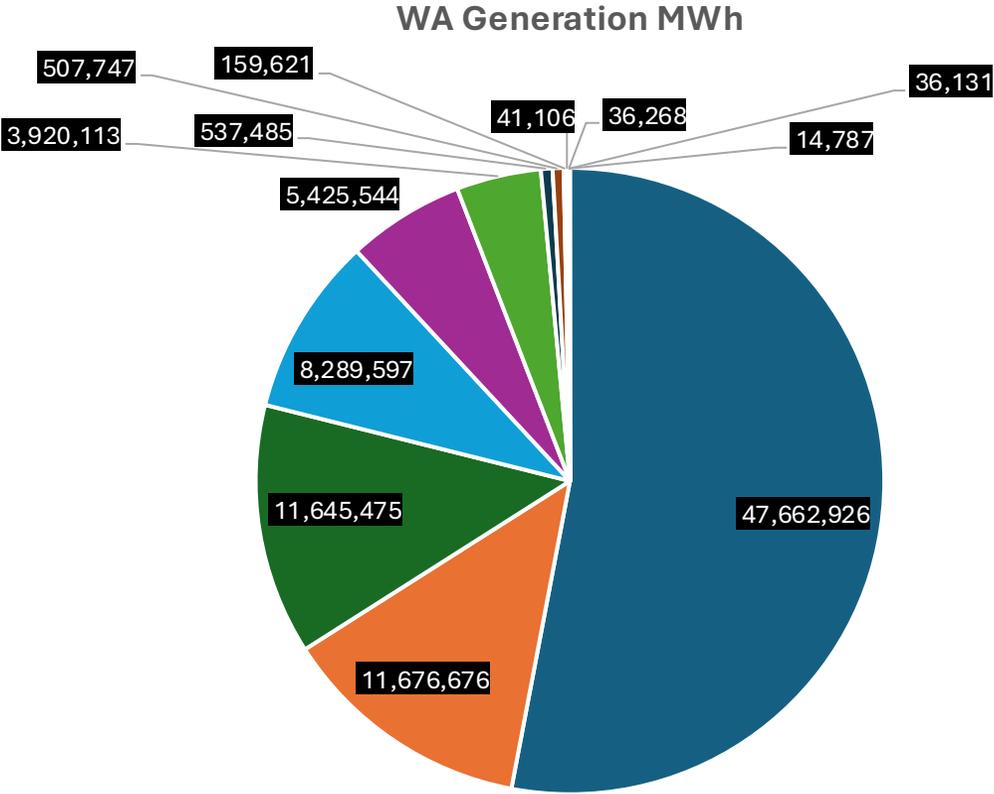
<u>Year</u>	<u>Amount</u>	<u>Goal</u>
1990	93.5	2030 51.4
2000	111.0	2040 28.1
2010	95.0	2050 4.7
2015	94.6	
2016	95.1	
1017	95.3	
2018	95.5	
2019	102.1	
2020	88.3	
2021	96.1	

*From 2021 to 2030...  
96.1 to 51.4 = -47%*

*4 years from now!*

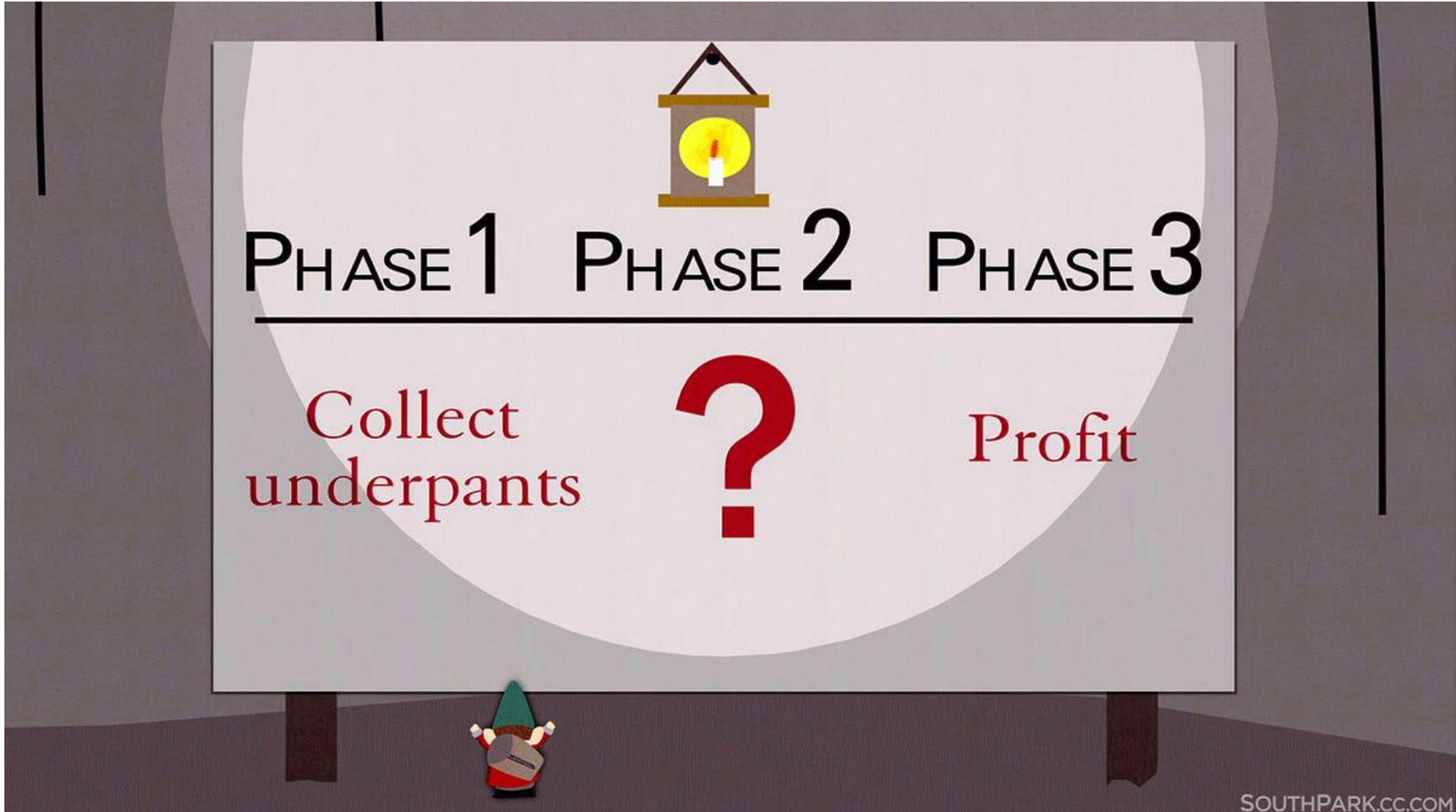


# WA State Aggregate Fuel Mix for Utilities 2021 – 2050?



- hydro
- natural gas
- unspecified
- coal
- wind
- nuclear
- biomass
- solar
- biogas
- waste
- other biogenic
- geothermal
- petroleum

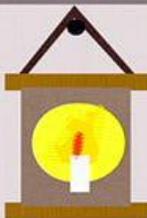
- hydro
- natural gas
- unspecified
- coal
- wind
- nuclear
- biomass
- solar
- biogas
- waste
- other biogenic
- geothermal
- petroleum



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<b><i>South Park</i> episode</b>	
December 16, 1998	Season 2 Episode 17

[https://en.wikipedia.org/wiki/Gnomes\\_\(South\\_Park\)](https://en.wikipedia.org/wiki/Gnomes_(South_Park))



PHASE 1

PHASE 2

PHASE 3

~~Collect  
underpants~~

“Green-the-Grid!”



~~Profit~~

“Net-Zero 2050”



SOUTHPARK.CC.COM



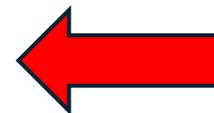
November 19, 2025

The Honorable Bob Ferguson  
Governor of Washington  
Office of the Governor  
PO Box 40913  
Olympia WA 98504-0913

The Honorable Sarah Bannister  
Secretary of the Senate  
312 Legislative Building  
PO Box 40482  
Olympia WA 98504-0482

The Honorable Bernard Dean  
Chief Clerk of the House of Representatives  
338 Legislative Building  
PO Box 40482  
Olympia WA 98504-0482

Re: Summary of the 2025 Long-term Resource Adequacy Meeting



## What it says in plain English

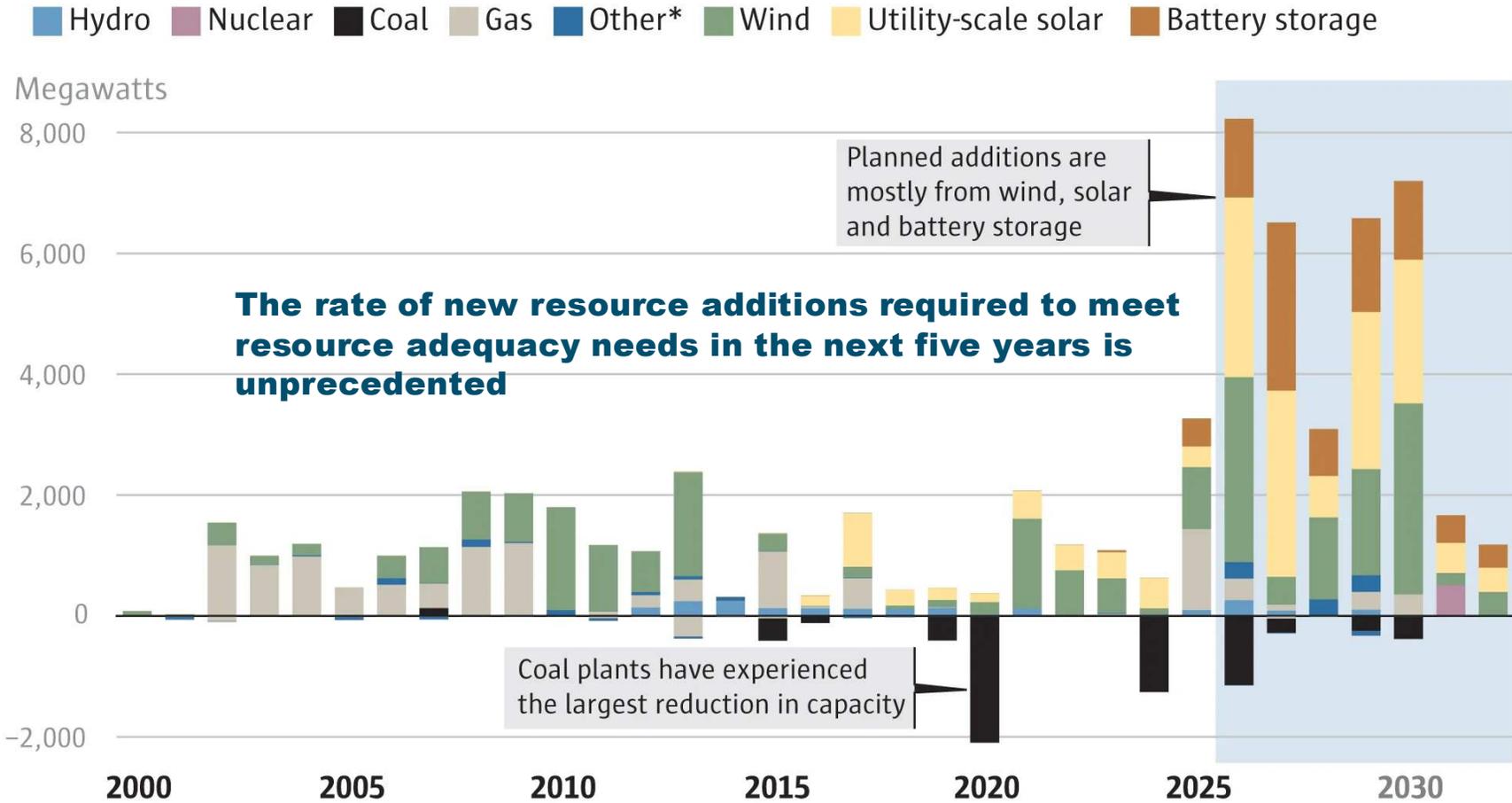
- Bottom line:** The Northwest grid is assessed as “**normal risk**” for resource adequacy in the **near and medium term**, meaning it meets national adequacy criteria under many conditions—but “**normal risk**” ≠ “**no risk.**”
- The big worry: load growth + more extreme weather** could turn “normal” into real reliability trouble—especially if new large loads (notably **data centers**) materialize and if the region can’t actually build/plug in resources fast enough.
- The repeated theme:** Resource adequacy is increasingly about **critical periods** (e.g., **extreme cold + low hydro + low wind**) and **transmission deliverability**, not just annual energy.

## Key facts and claims the report highlights

- Potential gap magnitude:** Under some forecasts, **if the region added no new generation capacity by 2030**, it would face a **~9 GW resource gap**—described as roughly the **current electricity requirements of Oregon**. The report says existing utility IRPs *show that gap closing*—but it immediately warns that assumptions are fragile.
- Load forecast uncertainty:** There’s **limited visibility** into whether large load interconnection requests (including data centers) are **duplicative or speculative**, and planned resource additions are “less predictable than in recent history.”
- New resource headwinds:** It calls out three big blockers to getting new resources online:
  - changes in federal policy and increased costs,**
  - lack of transmission capacity,** and
  - permitting and interconnection challenges.**

# Resource Adequacy and the Energy Transition in the Pacific Northwest: Phase 1 Results - Page 21

Washington Utilities and Transportation Commission Washington Department of Commerce  
 Resource Adequacy Meeting, RCW 19.280.065, Docket UE-210096 September 22, 2025



**The rate of new resource additions required to meet resource adequacy needs in the next five years is unprecedented**

When Commerce says “planned additions,” it’s usually shorthand for:

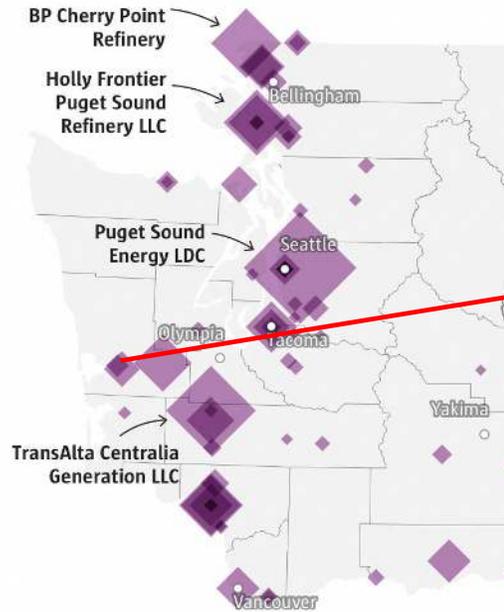
- Utility plans (IRPs/CEIPs) +
- WECC rollups (ADS/WARA)

Those sources **do not require** that a project is financed, permitted, has assigned transmission upgrades, or has begun construction.

\*Other refers to thermal resources running on a mix of other fuels (e.g. fuel oil, biodiesel)

## Top carbon emitters in Washington state

This map shows the top emitters in 2021, with one key omission: fuel suppliers, which account for all the gas sold in the state and burned on the road. The state recently removed fuel suppliers from its data; new data will be available in the fall.



Map: Frank Mina / The Seattle Times • Source: Washington state Depa

# Replacement of Gray's Harbor Energy Center 650MW Gas Turbine Generating Plant with Wind and Storage (a "wicked" problem) CapEx: \$5.8B Area: 22,000 acres ( 34 sq. mi.)

[Gray's Harbor Energy center is located on a 20-acre site within the Satsop Redevelopment Park in Grays Harbor County  
-Lopez+Shaw islands area: 37 sq.mi.]

	NGCC	NGCC with Carbon Tax	Solar and NGCC	Solar and Storage	Wind and Storage	Solar, Wind and Storage
Scenario	1	1	2	3	4	5
AC System Size NGCC (MW)	650	650	650	-	-	-
AC System Size Solar (MW)	-	-	650	2,958	-	845
AC System Size Wind (MW)	-	-	-	-	2,636	2,065
Total Annual MWh	4,839,900	4,839,900	4,839,900	6,738,381	12,392,152	11,671,720
Battery Capacity, MWh	-	-	-	10,250	6,550	2,410
Acreage	30	30	5,460	24,843	22,053	24,443
<b>Wholesale Rate, \$/MWh</b>	<b>\$47.1</b>	<b>\$88.4</b>	<b>\$88.4</b>	<b>\$181.0</b>	<b>\$135.9</b>	<b>\$99.0</b>
Carbon Tax (\$/MWh)	N/A	\$41.3	\$41.3	\$133.9	\$88.7	\$51.9
Carbon Tax (\$/ton)	N/A	\$75.0	\$75.0	\$389.6	\$258.2	\$151.0
Capital Expenditure	\$702,000,000	\$702,000,000	\$1,630,200,000	\$7,720,641,000	\$5,811,379,774	\$5,075,501,108
Annual O&M + Fuel Cost	\$110,627,806	\$110,627,806	\$116,087,806	\$101,718,000	\$363,743,664	\$272,621,604
Debt	\$280,800,000	\$280,800,000	\$652,080,000	\$3,088,256,400	\$2,324,551,909	\$2,030,200,443
Equity	\$421,200,000	\$421,200,000	\$978,120,000	\$4,632,384,600	\$3,486,827,864	\$3,045,300,665
ROE	10.50%	13.24%	10.50%	10.50%	10.50%	10.51%

Table 1: Summary Table



Bonneville Power Administration Interconnection Request Queue		
<b>Energized - connected to BPA Transmission</b>		
Received - connection request received, awaiting study		
Study - connection request in process of evaluation, R&D		
Study Completed - connection study completed, awaiting decision		
Category		
Solar		
<b>Energized</b>	<b>466</b>	
Received	322	
Study	102,679	
Study Completed	3,787	
Wind Turbine		
<b>Energized</b>	<b>6,021</b>	
Received	0	
Study	35,208	
Study Completed	3,164	
Battery		
<b>Energized</b>	<b>9</b>	
Received	0	
Study	32,258	
Study Completed	2,125	
Other (Transmission, No Generation)		
Energized	2,937	
Received	1,039	
Study	16,591	
Study Completed	1,866	
Total	208,472	100%
<b>Energized Generation</b>	<b>6,496</b>	3%
Study - Generation & Battery	179,543	86%
Other (Transmission, Substations)	22,433	11%

<https://www.bpa.gov/energy-and-services/transmission/interconnection>

“On top of that, in May of this year, **Bonneville Power** said it had **208 gigawatts** worth of generation projects **requesting to connect** to its transmission grid. That is a whopping **208,000 megawatts** asking to get on **BPA’s** grid.”

July 29, 2024 – reader comment



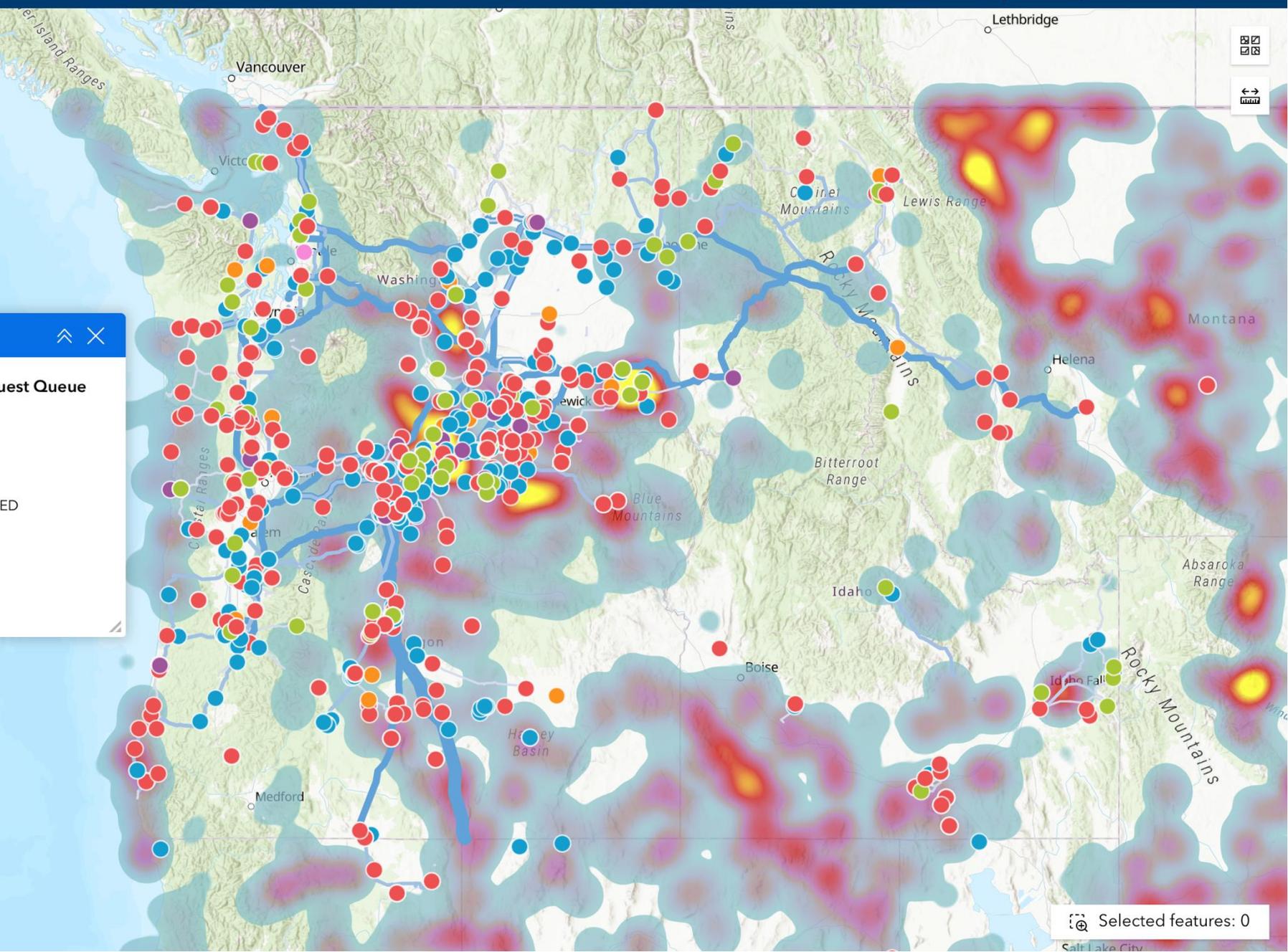
Map navigation controls including zoom in (+), zoom out (-), home, and compass.

Map navigation controls including full screen and pan.

**Legend**

**Interconnection Request Queue**

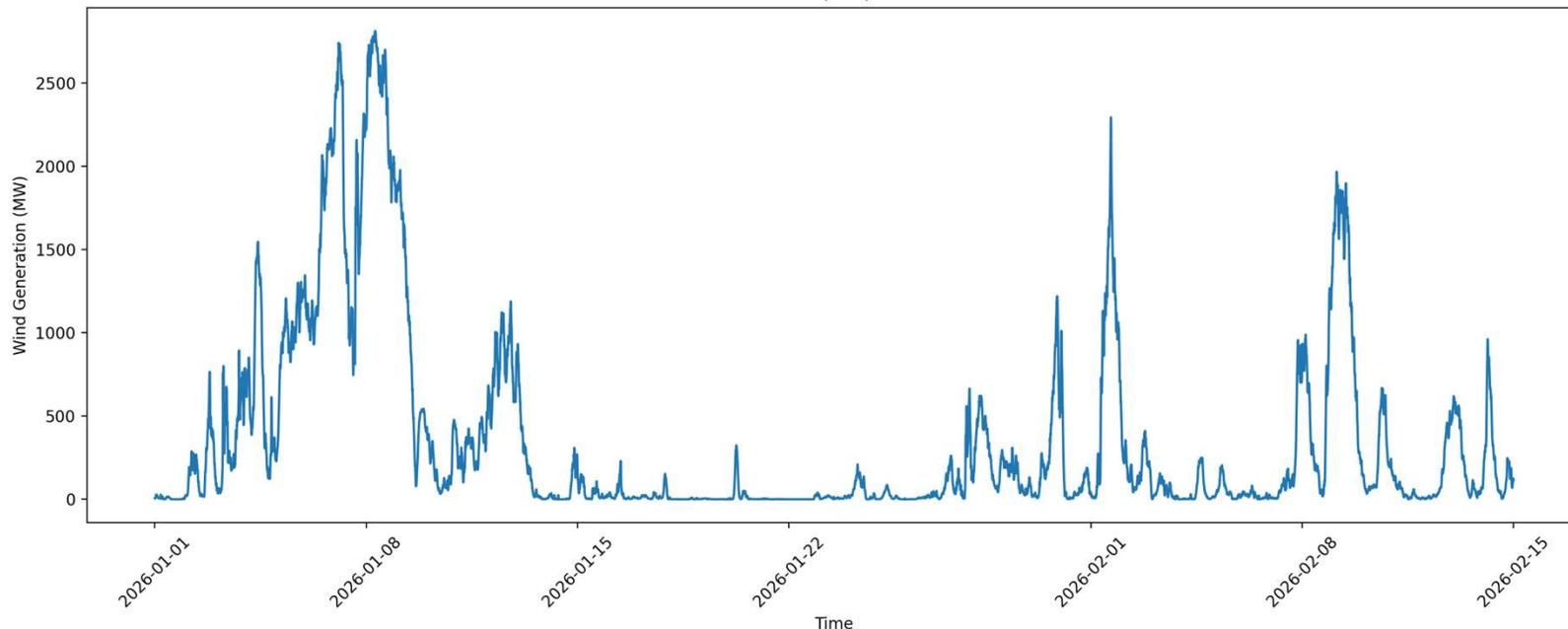
- WITHDRAWN
- STUDY
- ENERGIZED
- STUDY COMPLETED
- RECEIVED
- IA EXECUTED
- E&P EXECUTED



Selected features: 0

Year	Start	End	Duration (hours)	Duration (days)	Month	Sum Top 3 Days
2007	2007-01-11 23:15:00	2007-01-18 15:50:00	160.7	6.7	Jan	
2007	2007-01-23 9:55:00	2007-01-29 17:25:00	151.6	6.3	Jan	18.3
2007	2007-03-01 20:00:00	2007-03-07 3:50:00	127.9	5.3	Mar	2007
2008	2008-01-24 3:05:00	2008-01-26 14:05:00	59.1	2.5	Jan	
2008	2008-04-02 5:15:00	2008-04-04 11:50:00	54.6	2.3	Apr	7.0
2008	2008-12-23 4:00:00	2008-12-25 9:25:00	53.5	2.2	Dec	2008
2009	2009-01-13 21:40:00	2009-01-26 4:15:00	294.7	12.3	Jan	
2009	2009-12-09 4:00:00	2009-12-13 11:45:00	103.8	4.3	Dec	19.5
2009	2009-12-26 19:15:00	2009-12-29 17:25:00	70.3	2.9	Dec	2009
2010	2010-01-08 16:40:00	2010-01-11 17:55:00	73.3	3.1	Jan	
2010	2010-12-22 1:35:00	2010-12-24 21:10:00	67.7	2.8	Dec	8.5
2010	2010-11-23 15:05:00	2010-11-26 6:25:00	63.4	2.6	Nov	2010
2011	2011-01-01 5:15:00	2011-01-04 19:40:00	86.5	3.6	Jan	
2011	2011-12-12 11:35:00	2011-12-15 10:25:00	70.9	3.0	Dec	9.2
2011	2011-10-12 23:55:00	2011-10-15 15:35:00	63.8	2.7	Oct	2011
2012	2012-12-28 3:00:00	2012-12-31 23:55:00	93.0	3.9	Dec	
2012	2012-11-09 2:55:00	2012-11-12 2:35:00	71.8	3.0	Nov	9.3
2012	2012-09-26 3:40:00	2012-09-28 14:55:00	59.3	2.5	Sep	2012
2013	2013-10-14 16:25:00	2013-10-23 14:15:00	213.9	8.9	Oct	
2013	2013-11-20 17:30:00	2013-11-29 11:05:00	209.7	8.7	Nov	22.6
2013	2013-01-18 19:45:00	2013-01-23 19:10:00	119.5	5.0	Jan	2013
2014	2014-01-19 18:35:00	2014-01-29 8:45:00	230.3	9.6	Jan	
2014	2014-11-14 18:25:00	2014-11-21 14:30:00	164.2	6.8	Nov	19.0
2014	2014-12-03 11:55:00	2014-12-06 1:50:00	62.0	2.6	Dec	2014
2015	2015-11-26 5:35:00	2015-12-01 15:00:00	129.5	5.4	Nov	
2015	2015-01-08 19:05:00	2015-01-13 20:10:00	121.2	5.0	Jan	13.7
2015	2015-11-21 1:00:00	2015-11-24 7:20:00	78.4	3.3	Nov	2015
2016	2016-01-03 2:15:00	2016-01-10 13:00:00	178.8	7.5	Jan	
2016	2016-01-24 18:50:00	2016-01-27 22:35:00	75.8	3.2	Jan	13.1
2016	2016-08-11 3:20:00	2016-08-13 15:55:00	60.7	2.5	Aug	2016
2017	2017-12-06 19:30:00	2017-12-13 10:55:00	159.5	6.6	Dec	
2017	2017-01-11 16:25:00	2017-01-18 6:35:00	158.3	6.6	Nov	17.7
2017	2017-12-24 3:20:00	2017-12-28 14:15:00	107.0	4.5	Dec	2017
2018	2018-10-13 18:30:00	2018-10-23 15:10:00	236.8	9.9	Oct	
2018	2018-11-17 22:30:00	2018-11-21 20:05:00	93.7	3.9	Nov	17.3
2018	2018-01-02 11:20:00	2018-01-06 0:00:00	84.8	3.5	Dec	2018
2019	2019-03-14 0:30:00	2019-03-18 11:15:00	106.8	4.5	Mar	
2019	2019-01-28 21:55:00	2019-02-02 0:20:00	98.5	4.1	Jan	12.5
2019	2019-03-28 7:55:00	2019-04-01 5:20:00	93.5	3.9	Oct	2019
2020	2020-09-28 20:40:00	2020-10-03 18:20:00	117.8	4.9	Sep	
2020	2020-12-04 17:15:00	2020-12-08 0:10:00	79.0	3.3	Dec	10.8
2020	2020-10-31 17:35:00	2020-11-03 7:25:00	61.9	2.6	Oct	2020
2021	2021-09-01 17:45:00	2021-09-04 14:50:00	69.2	2.9	Sep	
2021	2021-03-12 7:05:00	2021-03-14 15:35:00	56.6	2.4	Mar	7.4
2021	2021-01-24 5:50:00	2021-01-26 9:35:00	51.8	2.2	Jan	2021
2022	2022-01-24 13:55:00	2022-01-30 16:35:00	146.8	6.1	Jan	
2022	2022-01-14 1:45:00	2022-01-17 14:30:00	84.8	3.5	Jan	13.0
2022	2022-11-19 3:55:00	2022-11-22 11:45:00	79.9	3.3	Nov	2022
2023	2023-11-26 22:15:00	2023-11-30 23:25:00	97.3	4.1	Nov	
2023	2023-12-15 4:45:00	2023-12-19 3:15:00	94.6	3.9	Dec	11.2
2023	2023-12-19 4:45:00	2023-12-22 9:10:00	76.5	3.2	Dec	2023
2024	2024-11-29 10:05:00	2024-12-07 6:50:00	188.8	7.9	Nov	
2024	2024-01-18 1:20:00	2024-01-22 7:15:00	102.0	4.3	Jan	12.9
2024	2024-12-09 12:45:00	2024-12-13 15:45:00	99.1	4.1	Dec	2024
2025	2025-01-25 21:55:00	2025-01-30 10:20:00	108.5	4.5	Jan	
2025	2025-02-26 20:35:00	2025-03-01 13:20:00	64.8	2.7	Feb	9.8
2025	2025-01-13 15:00:00	2025-01-16 4:15:00	61.3	2.6	Jan	2025

Total Wind Generation (MW) — BPA Control Area



Jan 13 → last data point: wind energy, hours, capacity factor

- Window: Jan 13, 2026 00:00 → Feb 14, 2026 23:55
- Samples: 9,504 (5-minute)
- Hours: 792.0 h
- Total wind energy (Column E): 134,217.05 MWh = 134.217 GWh
- Average wind output: 169.47 MW
- With 3,031 MW nameplate → Capacity factor =  $169.47 / 3031 = 5.59\%$

**Evidence-backed project set (WA/OR/ID) — probability-weighted expected MW by end-2029**  
**Total expected (this set): ~1.6 GW** by 2030 (counting **storage MW** as “resource additions” alongside generation MW).

Bucket	Project (MW)	Public status evidence	“MW by 2030” assumption	P	Expected MW
Operating	OR Daybreak + Bakeoven <b>(200)</b>	Commercial operation announcement / facility pages	200	0.95	190
Under construction	WA Ostrea <b>(80)</b>	EFSEC: “Under construction”	80	0.90	72
Awaiting construction	WA High Top <b>(80)</b>	EFSEC: “Awaiting construction”	80	0.60	48
Approved / phased build	OR Sunstone (up to <b>1200</b> )	Approved not constructed; phased schedule extending to Feb 2030	<b>600–1200</b> (see note)	0.60 for 600, 0.30 for 1200	720 (expected)
Awaiting + contested	WA Horse Heaven <b>(1150)</b>	EFSEC: “Awaiting construction”; lawsuit/controversy coverage	1150	0.15	173
Contracted dev	IDP “scheduled by end 2026” <b>(325)</b>	Idaho Power statement	325	0.75	244
Contracted dev	Crimson Orchard <b>(100 solar + 100 storage)</b>	PPA / storage agreement coverage incl. June 1, 2027	200	0.80	160

- **WECC WARA (Western Assessment of Resource Adequacy)**: a *Western-wide* RA snapshot that emphasizes “**hours at risk**” and the **deliverability/timing risk of planned projects** (queue reality vs. plans).

- **NERC 2025 LTRA**: a *continent-wide* reliability assessment; for your region it leans on WECC ProbA outputs and highlights where/when LOLE/EU iving the risk.

- **E3 WA RA Study deck (Sept 22 WA RA meeting)**: a *Greater Northwest* study framing theory and how much “effective capacity” current “in-development” projects contribute.

- **Northwest Power and Conservation Council 2029** adequacy assessment using multiple metrics (LOLEV, LOLH, EUE, **Energy VaR**) and explicitly stress-testing **data-center and EE uncertainty**.

- **PNUCC 2025 Northwest Regional Forecast**: a *forecast of loads/resources and utility plans*, not a probabilistic RA model—but very useful as the “what utilities say will happen vs. what actually gets built” reality check.

**Why they can look different:** some are probabilistic RA studies (NWPCC, WECC ProbA/used by NERC, E3’s LOLP modeling), while PNUCC is a planning/forecast roll-up. Different scopes (West vs PNW vs Greater Northwest), different adequacy metrics, and different assumptions about imports/deliverability.

## Nameplate → Energy → ELCC (three scenarios)

Assumptions:

- Solar CF **22–28%** (mid 25%); Wind CF **33–42%** (mid 38%)
- ELCC: solar **18%**, wind **10%**, battery **3% for 4-hour**
- Batteries are **not net energy sources**; they *shift* energy.  
 (“Annual energy” below counts only solar+wind generation.)

### Scenario results (what the math does)

Scenario (illustrative)	Solar MW	Wind MW	4h Battery MW	Annual energy (GWh/yr) low–mid–high	Effective winter RA (MW) with 4h battery
<b>Committed / scheduled</b> (Ostrea 80 + Daybreak 140 + IDP 325 + Crimson 100 + 100 MW/4h storage)	645	0	100	~1,244 – <b>1,413</b> – 1,582	<b>~119 MW</b> (645×0.18 + 100×0.03)
<b>Reality-adjusted</b> (add High Top 80 + Bakeoven 60 + <i>expected</i> partial Sunstone + small <i>expected</i> wind slice)	1,225	173	100	~2,514 – <b>2,906</b> – 3,298	<b>~239 MW</b>
<b>IRP-optimistic</b> (Sunstone 1200 + Wagon Trail 500 + Obsidian 400 + Horse Heaven 1150 + the above)	2,885	1,150	100	~9,380 – <b>10,770</b> – 12,160	<b>~638 MW</b>

## Summary of conclusions

- **The report does not provide an auditable build schedule.** It references high-level, aggregated additions (e.g., decade-scale totals) and simultaneously warns that assumptions are fragile. It does **not** give a project-by-project, year-by-year, by-type pipeline you can validate by permitting status, transmission readiness, and construction activity.
- **Interconnection queues are not forecasts.** Public queue research shows heavy attrition and long timelines; therefore, “GW in the queue” is weak evidence for “GW built by 2030.” The queue functions more like an application backlog than a credible delivery plan.
- **Public siting/commission evidence for WA/OR/ID by 2030 is thinner than “2–5 GW” implies.** When we restricted ourselves to what can be pointed to via siting-agency pages and regulator/utility documents (operating/under construction/scheduled), the “provable” near-term additions were much smaller than multi-GW narratives—unless you assume multiple large “approved/awaiting” projects actually mobilize and execute on time.
- **Nameplate MW headlines are misleading for adequacy.** Even if you accept a 2–5 GW nameplate buildout, the **effective winter capacity contribution** is far smaller because ELCC/capacity credit for wind/solar (and short-duration batteries) is low during the Pacific Northwest’s risk events (multi-day winter cold snaps). In other words: **GW nameplate does not close GW adequacy gaps** without firming, long-duration storage, and/or major deliverable transmission.
- **The “drive-around-and-see-it” test is the right rebuttal.** If the forecasted pipeline were real at the scale suggested, construction and transmission upgrade activity would be broadly visible. Instead, the observable landscape is dominated by permitting friction, litigation risk, upgrade cost/timeline constraints, and a large fraction of projects that never reach construction.

Washington's statutory 2030 target is **50 MMT CO<sub>2</sub>e (45% below 1990)**.

The latest audited inventory shows **96.1 MMT in 2021**, implying a required reduction of **~46 MMT by 2030 (~5.1 MMT/yr)**.

Electricity is **~19.5%** of emissions (18.7 MMT in 2021), so even rapid grid decarbonization cannot achieve the economywide target without large, concurrent reductions in transportation and buildings.

Meanwhile, public siting and permitting timelines for major clean resources and transmission do not currently provide a verifiable, construction-backed pathway consistent with the pace required.

## Reality Check: "Fossil-Free" Electricity by 2045 (WA)

If Washington's retail electric load roughly doubles by 2045 and hydro stays flat, the state must replace today's natural-gas generation and add about 90 TWh/year of new clean supply. **Incremental new clean energy needed: ~108 TWh/year** (about **12.3 GW average**, 24/7).

### What this implies in steel, land, and money (incremental new build)

Case	Build (illustrative)	Land area	Overnight capex (order-of-magnitude)
<b>A</b> Energy-equivalent (annual TWh)	~21 GW wind + ~27 GW solar (no multi-day firming sized)	<b>Project/lease:</b> 3,195 sq mi (2.04M acres) <b>Direct:</b> 337 sq mi (216k acres)	~\$70-\$80B (generation only)
<b>B</b> Firmed for a 3-day calm/dark event	~28 GW wind + ~36 GW solar + ~740 GWh batteries	<b>Project/lease:</b> 4,154 sq mi (2.66M acres) <b>Direct:</b> 438 sq mi (280k acres)	~\$275B
<b>C</b> Firmed for a 7-day calm/dark event	~42 GW wind + ~55 GW solar + ~1.5 TWh batteries	<b>Project/lease:</b> 6,390 sq mi (4.09M acres) <b>Direct:</b> 674 sq mi (431k acres)	~\$500B+

### Key takeaway

- Even the "energy-only" build is a large siting program; multi-day reliability pushes the system toward very large storage and much higher cost.
- Wind project/lease area is mostly turbine spacing (land often remains farm/ranch). "Direct" area is the closer proxy for permanently disturbed footprint.
- These figures exclude major transmission build-out, interconnection upgrades, permitting/legal costs, financing, and replacement cycles.

### The Will Test (3 questions every elected should answer)

- 1. Siting:** Which counties host the new generation and transmission, and what happens when local rules block it?
- 2. Reliability:** In a week-long winter lull (low wind + weak solar), what keeps the lights on if gas is gone and hydro is flat?
- 3. Cost & funding:** What is the credible rate impact range, and who pays (ratepayers, taxpayers, or both)?

### The Choices Box (there are only a few)

**If you block major energy construction, you are implicitly choosing one or more of:**

- Accept large in-state siting and new transmission corridors.
- Rely more on imports and regional markets (and accept dependence during correlated events).
- Keep gas longer or build "temporary" emergency fossil backup.
- Force demand reduction (rationing by price, mandates, or coercion).
- Accept higher outage risk.

Project/lease: ~\$70-\$80B  
3,195 sq mi (generation only)  
(2.04M acres)

Direct: 337 sq mi  
(216k acres)

Project/lease: 4,154 sq mi ~\$275B  
(2.66M acres)

Direct: 438 sq mi (280k acres)

Project/lease: 6,390 sq mi ~\$500B+  
(4.09M acres)

Direct: 674 sq mi (431k acres)



Report to the  
Washington State Legislature

# Least-Conflict Solar Siting on the Columbia Plateau

June 2023



WASHINGTON STATE UNIVERSITY  
Energy Program

The headline number: “least-conflict across all values” is small

- Study area analyzed: ~14.24 million acres.
- “High suitability” area: ~6.78 million acres (47.6%).
- If you require low conflict simultaneously for environmental conservation + farmland + ranchland, the area drops to **~211,954 acres—about 3.13% of the suitable area.**

Planner implication: If local policy language effectively demands “no meaningful impact to any valued resource,” you are implicitly forcing development into a very narrow set of places (or out of your jurisdiction). That tradeoff should be made explicit in goals/policies.

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# 2024 Biennial Energy Report

Published pursuant to RCW 43.21F.045(2)(h)

## Where it points out obstacles:

- It directly states that siting, building, and interconnecting clean electricity fast enough to match demand is a “complex challenge” requiring solutions to “multiple problems at once,” and calls these “obstacles” needing better procedures, planning, and market structures.
- It flags transmission as a gating issue: expanding transmission capacity is needed for a balanced clean-energy portfolio; meanwhile, demand-side and distributed solutions can often be developed faster than transmission and large-scale generation.
- On permitting, it cites an independent evaluation that found Washington’s permitting process “requires significant reform,” including recommendations spanning staffing/funding, SEPA, EFSEC, local government, and planning for generation/transmission.
- It also notes coordinated permit consolidation ideas exist, but “additional work will be needed” with engagement from industry, local/state government, tribes, and communities.

Bottom line: The report’s “progress” is largely about actions taken and programs launched (process outputs), while the obstacles section is fairly blunt that siting/permitting reform, transmission buildout, and interconnection pace are structural challenges.

April 4, 2025

Report to the Legislature

Director Joe Nguyễn

# Northwest Generation & Transmission State of the System



*Rick Dunn, General Manager/CEO*

*Vice Chair Long-Range Planning Committee Public Power Council*

*February 3, 2026*



## What the deck is saying:

- **Load growth is accelerating and increasingly dominated by data centers (especially in Oregon/UEC territory).** The deck shows UEC data-center retail load jumping from **215 aMW (2016)** to **1,259 aMW (2024)** and projecting **~3,020 aMW (2030)** and **~3,827 aMW (2033)**—framed as a major driver of regional growth.
- **The Northwest is bumping into reliability limits in winter, and recent peaks are beating forecasts.** It highlights **Feb 2025 winter peak ~35,700 MW** (exceeded forecast “without a weather event”) and **July 2024 summer peak ~33,300 MW**.
- **Mixed messaging from adequacy institutions:** the deck juxtaposes warnings (e.g., **NERC** risk messaging) with “adequate/not adequate” framing from the **NWPCC**, implying the region is getting conflicting signals about how tight things really are.
- **Hydro is foundational but increasingly “spoken for” and highly variable—so “surplus energy” doesn’t equal reliability.** It emphasizes BPA hydro variability and that firm energy is committed to firm load service, with annual deficits growing in the outlook.
- **January 12–16, 2024 is used as the cautionary tale:** hydro short, gas maxed, wind collapsed, and the Northwest relied on imports for all **120 hours**—with “no net energy from California generation” called out.
- **Capacity value (ELCC) is the knife-edge problem.** The deck stresses that planning is about **effective capacity during critical hours**, not annual MWh averages, and claims storage ELCC diminishes quickly and remains vulnerable to multi-day/ multi-week low renewable output.
- **It argues wind/solar “replacement” ratios for firm capacity are huge.** Example claims include: **4,000 MW to 18,000 MW of wind** (depending on conditions) to “replace” **1,000 MW firm**, and **6,700 MW to 30,000+ MW of solar** to “replace” **1,000 MW firm**.
- **The E3 “Phase 1” resource adequacy message is blunt:** demand rising fast, retirements outpacing builds, wind/solar/batteries contribute only modestly to peak reliability, and **shortages may begin in 2026** during winter cold spells.
- **Costs are rising for “incremental” power:** it flags **BPA Tier 2 rates up ~170% since 2019**, tying this to the wholesale cost of serving load above Tier-1 allocations (and mentions WA CCA carbon cost context).

## WA climate funds needed to plug huge budget gap, lawmakers say

Feb. 17, 2026 at 6:00 am | Updated Feb. 17, 2026 at 6:00 am



Lawmakers can't find a better way to fill part of Washington's perennial budget gap than by **dipping into the billions raised by the state's Climate Commitment Act.**

Many had hoped to avoid tapping into the dedicated climate account for general-fund obligations, but as the budget deadline approaches alongside the end of the short legislative session early next month, they weren't able to find any viable alternatives.

Gov. Bob Ferguson's **\$559 million proposal to transfer climate funds is legal but also a significant disappointment for those who hoped to safeguard that cash as a way to transition away from planet-warming fossil fuels** or to guard against natural disasters, especially as the federal government hastens its retreat on climate change policy.

565 pages...



**Climate Commitment Act  
Investments  
Fiscal Year 2025**

**Climate Pollution Reduction Program**

Washington State Department of Ecology  
Olympia, Washington  
November 2025, Publication 25-14-107  
Updated January 2026

Following the publication of this report, the Washington State Department of Commerce submitted revised greenhouse gas emissions data to the Department of Ecology. Due to a data entry error, Commerce reported that 7.5 million metric tons of greenhouse gas emissions would be reduced as a result of eight home electrification and appliance rebates projects. The projects have been italicized and put in gray text in the appendix on pages 95 and 161-162. The corrected data now estimates that 78,000 tons of emissions will be reduced over the lifetime of those projects.

Ecology will publish an updated report after further reviewing the greenhouse gas emissions data submitted by state agencies. As Ecology works to update the report's greenhouse gas data, lawmakers and the public may still use the current version to understand how the CCA is helping communities across the state in other ways.



Primary Category	Expenditure	OBC_Amount	Tribal_Amount	Projects	Share %	OBC Share of Cat %
Other	\$597,979,567	\$320,573,589	\$1,518,873	336	63.3%	53.6%
Transportation	\$208,667,405	\$189,567,690	\$0	192	22.1%	90.8%
Admin/Planning	\$37,204,504	\$22,536,447	\$468,715	214	3.9%	60.6%
Natural/Working Lands	\$32,442,074	\$17,240,124	\$520,009	140	3.4%	53.1%
Buildings	\$28,264,870	\$11,337,459	\$95,129	28	3.0%	40.1%
Grid	\$20,289,164	\$8,594,125	\$0	84	2.1%	42.4%
Affordability	\$20,052,013	\$7,735,365	\$0	52	2.1%	38.6%
Adaptation/Resilience	\$377,715	\$375,551	\$0	3	0.0%	99.4%
	<b>\$945,277,312</b>	<b>\$577,960,350</b>	<b>\$2,602,726</b>	<b>\$1,049</b>	<b>\$1</b>	<b>\$5</b>

Using the FY2025 “appropriation title → fiscal year 2025 expenditure amount” roll-ups that are clearly grid/renewables oriented:

**Electrical Grid Integration and Innovation (Commerce):**

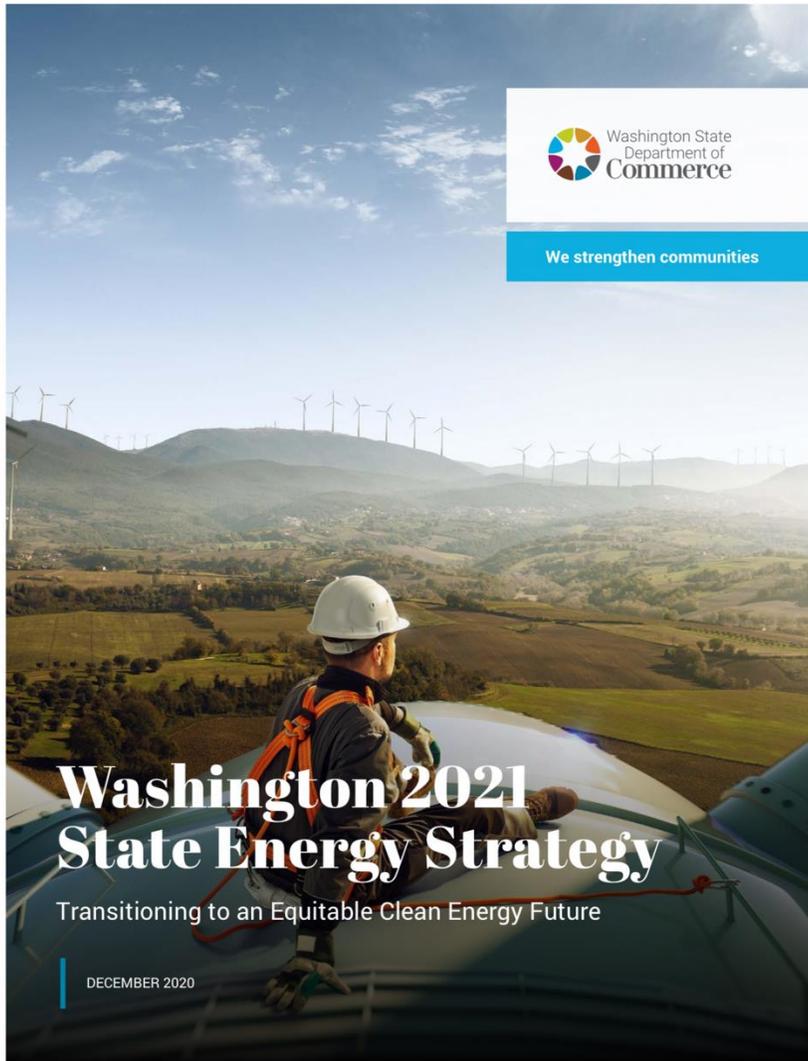
**\$21,464,441**

**•Emerging Clean Energy Generation (Commerce):**

**\$6,656,857**

**•SB 5165 Electric Transmission Planning: \$2,047,444**

# The Grid Transition -- 2026



“E ni kaita mochi” is a Japanese proverb used to describe something that looks appealing but is ultimately impractical, or impossible to achieve, similar to the English idiom "pie in the sky"

*It's nice to look at - but you can't eat it!*

