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Regional Engagement Committee Meeting

June 11th, 2026

Agenda

- Opening Remark
- Study Execution and Timeline Updates
- 20 Year Reference Case SRA Upgrades & IDA Update
- 20 Year Congestion Update
- Benefits Update
- Next Steps & Upcoming Meetings
- Public comment

Study Execution and Timeline Updates

Timeline for 20-Year Study - Planned

Case	Task	Q1 2026	Q2 2026	Q3 2026	Q4 2026	Q1 2027
Reference	Case & Methodology Development					
	Transmission Assessments/ Solutioning	Est Completion: June 2026				
	Benefits/Extreme Event Assessments		Est Completion: Sept 2026			
Scenarios (Flux & Core)	Busbar Mapping					
	Case & Methodology Development	Est Completion: June 2026				
	Transmission Assessments/ Solutioning		Est Completion: August 2026			
	Benefits/Extreme Event Assessments					
20-Year Report	Portfolio Synthesis					
	Report Editing & Review			Est Completion: September 2026		
	Stakeholder Engagement					

Progress On the 20 Year Study Since May 12th WATT Meeting

- Congestion Models Updated alongside SRA/IDA in Reference Case
- Corrected and re-ran Flux PCM models
- Preparing to handoff Flux & Core case assumptions to begin SRA and IDA scenario case development this week
- Reference case SRA screening complete; solutions identified
- Reference case IDA cases built and IDA assessment underway
- Counterfactual model assumptions identified by benefits subgroup, capacity expansion models re-run by E3; handoff to Energy Strategies this week

Assessment	Model	Reference	Flux	Core
Congestion	SCED			
SRA	Heavy Summer			
SRA	Heavy Winter			
SRA	High Wind			
SRA	High Solar			
IDA	MT-PNW			
IDA	NM-CO			
IDA	CA S-N			
IDA	NV – CA-N			
IDA	CA OOS			

Not started
Under construction
Draft/review
Complete

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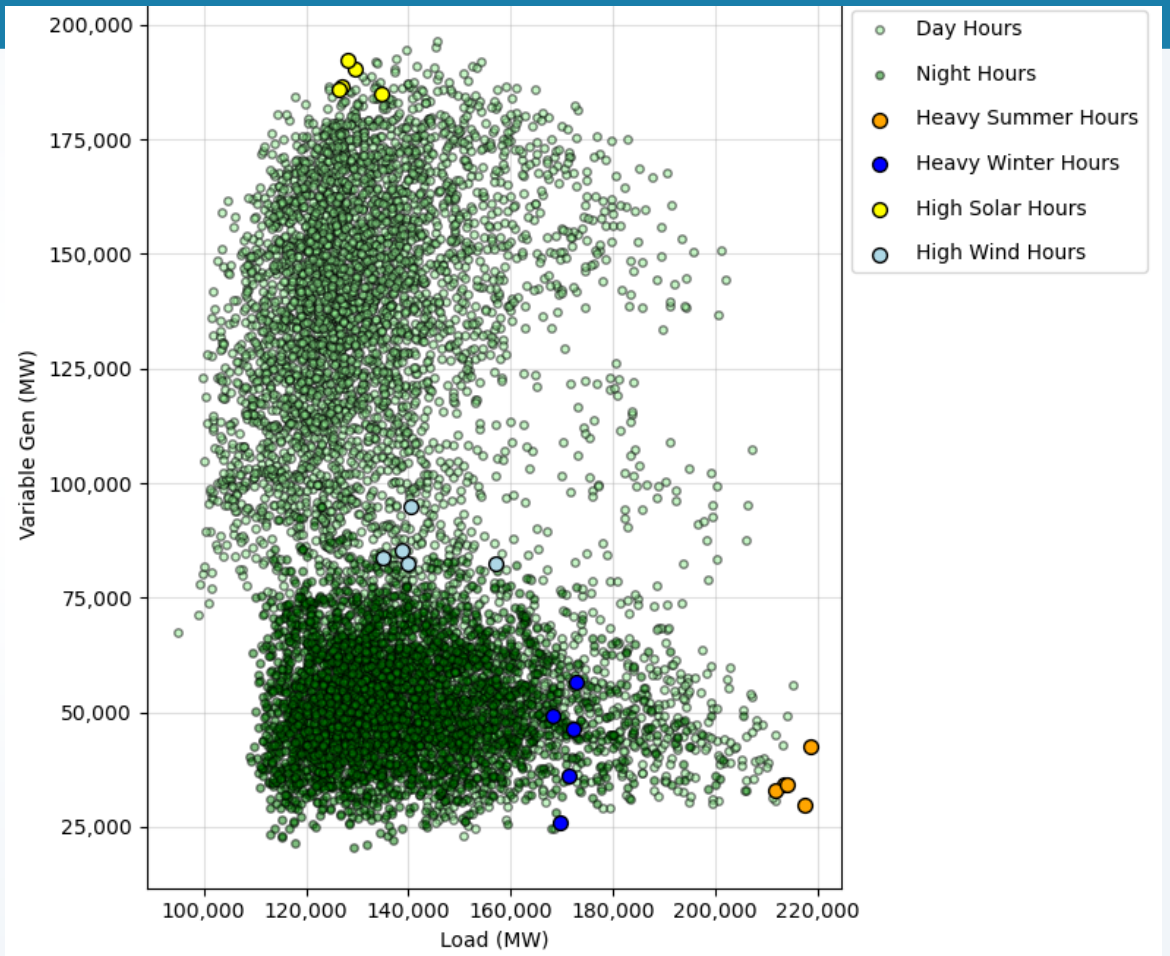
WATT Updates

20-Year Reference Case SRA Upgrades & IDA Update

SRA Analysis Updates

- Four revised SRA models are posted on the WECC website on May 5th.
  - A load scalar was applied to PCM hourly loads to get a "1-in-10" forecasted load from a "1-in-2" load forecast
  - Hydrogen generation was removed hydrogen generation in CAISO and PNW and replaced with long term storage
- Results of the SRA contingency analysis are posted on the WestTEC sharepoint site.
- ES has developed some preliminary SRA network upgrades that mitigate overloads and voltage issues.
  - Currently working on mitigating diverged contingencies



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Stakeholder Feedback on SRA Results

- BPA has provided a list of potential mitigation to implement if SRA, IDA or congestion analysis show a need.
- PSCO provided the following recommendations:
  - Investigate impacts of adding a 345 kV line from Aeolus – Canal Crossing or LRS – Canal Crossing.
    - Including these lines did not mitigate the case divergence observed for outage of Gateway south, not did it alleviate contingency overloads on the Craig – Bonanza 345 kV line.

Reference Case IDA Scenarios

- Energy Strategies presented following IDA scenarios at the optional WATT meeting on May 26th:
  - **Scenario 1**: Transfer from Montana to Pacific Northwest
  - **Scenario 2**: Transfer from New Mexico to PSCo
  - **Scenario 3**: Deliverability of CAISO Out-of-state wind generation
  - **Scenario 4:** Transfer from Sierra Pacific Power to CA North
- WATT members provided specific feedback on input assumptions during the meeting.
  - This detailed feedback is captured in this workbook on WestTEC sharepoint.

IRA Scenario Feedback

- WATT members have recommended that we study Scenario 1, 2 and 3 and incorporate Scenario 4 as part of Scenario 3.
- Utilities in the PNW have requested an IDA Scenario evaluating the transfer on Cross Cascades North and South paths.
  - **Request WATT feedback on adding this scenario to the IDA analysis**

Next Steps

- SRA Analysis
  - Confirm proposed SRA upgrades mitigate all system violations identified.
- IDA Analysis
  - Perform IDA analysis for recommended scenarios and identify transmission upgrades required to enable target transfers.

20-Year Congestion Update

Production Cost Model Next Steps

- Reference Case
  - Continue to test/add/refine SRA and congestion upgrades
  - Develop and add Congestion Assessment upgrades
- Core Case
  - Generation locations have been updated
  - Analysis to come in next WATT update
- Flux Case
  - Updating generation locations
  - Rerun congestion assessment
- Scenario IDA assessment
  - Run the same assessments as the Reference Case

Benefits Subgroup Update

Benefits Subgroup Updates

- The Benefits subgroup has been meeting ~weekly since late March.
- The counterfactual as the comparator is a critical component of benefits evaluation
- Given the strong need for significant transmission and resource expansion in the region, **any counterfactual** is likely to have what feel like technical, political, or other infeasibilities
- Goal is to establish one that can be modeled sufficiently to be compared to the transmission case in a way that can analyze benefits categories identified in the scope

Progress since May meeting

- While researching what needed to be quantified for Counterfactual A and B (Presented end of April), the group identified some challenges with using these to compare to the WestTEC least-regrets portfolio
  - Hydrogen and offshore in particular introduced significant external infrastructure costs that would need to be captured and misalignment with technology risk and feasibility limits identified earlier in the study process
  - Researching this for offshore wind in particular (Using PNNL and BPA studies) indicated a significant need for major transmission infrastructure, which felt at odds with a "limited transmission expansion" counterfactual
- This led to the group pursuing development of Counterfactual C

Counterfactual C Narrative

- Objective is to build a case that feels like a workable alternative if significant Tx is not an option.
- West of Cascades is challenging from a reliability perspective without significant new resources and/or transmission
  - Policy will drive pursuance of all available resources, lack of transmission shaping what gets built and where
- The group worked to establish the maximum feasible policy-compliant resources in the RA constrained zone without major Tx infrastructure
  - Looked at 3rd party studies and existing plans/sites, extended out to 2045 to address new technology risk, reviewed policy for added compliance cost of NG backstop in the RA and transmission constrained zone West of Cascades.

Counterfactual C Case Specifics

- Allow **hydrogen** to be selected in PNW_NW and PNW_SW, but limited to 1GW in total.
- Force in 6.4 GW of PRM-only **DR** (2/3 PNW_NW and 1/3 PNW_NE) based on DR potential assessments used in the NW power and Conservation Council's 9th Plan.
  - With an ELCC estimate of 28% from recent E3 RA in the Northwest Study
- Force in 1.5 GW **nuclear** candidate in PNW_NW (Centralia site) in 2045
- Force in 1 GW **offshore wind** (all in PNW_SW) in 2045 (maximum using existing infrastructure)
- Remove **geothermal** candidate resource from PNW_NW and PNW_SW due to understanding of lack of resource potential on the west side
- Maintain resource locational potential for other commercially available technology (Solar, Onshore wind, and Batteries) in alignment with WestTEC cases.
- Allow **gas** (unlimited) to be selected in PNW_NW. Candidate resource cost is based on PNW RA study and includes external system costs for gas delivery.

Counterfactual C Preliminary Result Compared to Reference – 2035 New Build

Counterfactual 2035

	Solar	Wind	Offshore Wind	Battery Storage	Geothermal	Hydrogen	Nuclear	Pumped Hydro	Gas CCS	Gas	Shed DR	Total
CA												
WECC_CA-NP15+	-	(0)	-	-	-	-	-	-	-	-	-	(0)
WECC_CA-SP15+	-	0	-	-	-	-	-	0	-	-	-	0
WECC_CA_PGandE_ZP26	-	-	-	-	-	-	-	-	-	-	-	-
PNW NW												
PNW Core_NW	-	0	-	-	-	500	-	-	-	4,966	-	5,466
PNW NE												
PNW Core_NE	-	1,958	-	-	-	-	-	-	-	-	-	1,958
PNW SW												
PNW Core_SW	146	-	-	-	-	500	-	-	-	-	-	646
PNW SE												
PNW Core_SE	-	197	-	-	-	-	-	-	-	-	-	197
Rest of PNW												
IdahoPower	-	-	-	-	-	-	-	-	-	0	-	0
NWMT	-	217	-	-	-	-	-	-	-	-	-	217
PacificorpEast	-	-	-	-	-	-	-	-	-	0	-	0
PacificorpEastWY	-	-	-	-	-	-	-	-	-	1,335	-	1,335
MISO												
North Dakota Wind (forced-in)		3,000										3,000
DSW												
NevadaNorth	-	-	-	-	-	-	-	-	-	-	-	-
NevadaSouth	-	-	-	-	-	-	-	-	-	-	-	-
AZPublicService	-	-	-	-	-	-	-	-	-	-	-	-
ElPasoElectric	-	-	-	-	-	-	-	-	-	-	-	-
PublicServiceNM	-	466	-	-	-	-	-	-	-	-	-	466
SaltRiverProject	-	-	-	-	-	-	-	-	-	-	-	-
TucsonElectric	-	-	-	-	-	-	-	-	-	-	-	-
WAPA_LwrCO	-	-	-	-	-	-	-	-	-	-	-	-
Rockies												
PublicServiceCO	-	4,336	-	-	-	-	-	-	-	0	-	4,336
WAPA_ColMo	-	1,511	-	-	-	-	-	-	-	-	-	1,511
WAPA_ColMo_WY	-	2,347	-	-	-	-	-	-	-	5,476	-	7,822
WAPA_UprMO	-	-	-	-	-	-	-	-	-	-	-	-
Total	**146**	**14,032**	**-**	**-**	**-**	**1,000**	**-**	**0**	**-**	**11,777**	**-**	**26,955**

Counterfactual minus Ref 2035

	Solar	Wind	Offshore Wind	Battery Storage	Geothermal	Hydrogen	Nuclear	Pumped Hydro	Gas CCS	Gas	Shed DR	Total
CA												
WECC_CA-NP15+	-	(0)	-	-	-	-	-	-	-	-	-	(0)
WECC_CA-SP15+	-	0	-	-	-	-	-	0	-	-	-	0
WECC_CA_PGandE_ZP26	-	-	-	-	-	-	-	-	-	-	-	-
PNW NW												
PNW Core_NW	-	0	-	-	-	500	-	-	-	4,966	-	5,466
PNW NE												
PNW Core_NE	-	(2,568)	-	-	-	-	-	-	-	-	-	(2,568)
PNW SW												
PNW Core_SW	146	-	-	-	-	500	-	-	-	-	-	646
PNW SE												
PNW Core_SE	(115)	(2,319)	-	-	-	-	-	-	-	-	-	(2,434)
Rest of PNW												
IdahoPower	-	-	-	-	-	-	-	-	-	(0)	-	(0)
NWMT	-	(635)	-	-	-	-	-	-	-	-	-	(635)
PacificorpEast	-	-	-	-	-	-	-	-	-	(0)	-	(0)
PacificorpEastWY	-	-	-	-	-	-	-	-	-	(0)	-	(0)
MISO												
North Dakota Wind (forced-in)	-	-	-	-	-	-	-	-	-	-	-	-
DSW												
NevadaNorth	-	-	-	-	-	-	-	-	-	-	-	-
NevadaSouth	-	-	-	-	-	-	-	-	-	-	-	-
AZPublicService	-	-	-	-	-	-	-	-	-	-	-	-
ElPasoElectric	-	-	-	-	-	-	-	-	-	-	-	-
PublicServiceNM	-	466	-	-	-	-	-	-	-	-	-	466
SaltRiverProject	-	-	-	-	-	-	-	-	-	-	-	-
TucsonElectric	-	-	-	-	-	-	-	-	-	-	-	-
WAPA_LwrCO	-	-	-	-	-	-	-	-	-	-	-	-
Rockies												
PublicServiceCO	-	179	-	-	-	-	-	-	-	0	-	179
WAPA_ColMo	-	268	-	-	-	-	-	-	-	-	-	268
WAPA_ColMo_WY	-	201	-	-	-	-	-	-	-	(69)	-	132
WAPA_UprMO	-	-	-	-	-	-	-	-	-	-	-	-
Total	**31**	**(4,408)**	**-**	**-**	**-**	**1,000**	**-**	**0**	**-**	**4,896**	**-**	**1,520**

Counterfactual C Preliminary Results C Compared to Reference – 2045 New Build

Counterfactual C 2045

	Solar	Wind	Offshore Wind	Battery Storage	Geothermal	Hydrogen	Nuclear	Pumped Hydro	Gas CCS	Gas	Shed DR	Total
CA												
WECC_CA-NP15+	17,441	3,103	676	4,998	-	3,628	-	-	-	-	-	29,846
WECC_CA-SP15+	6,867	1,580	-	5,664	-	0	-	50	-	-	-	14,161
WECC_CA_PGandE_ZP26	11,828	1,474	-	3,565	-	0	-	-	-	-	-	16,867
PNW NW												
PNW Core_NW	5,133	0	-	-	-	500	1,500	-	-	4,966	4,267	16,366
PNW NE												
PNW Core_NE	311	10,774	-	-	-	-	-	-	-	-	2,133	13,219
PNW SW												
PNW Core_SW	5,225	-	1,000	-	-	500	-	-	-	-	-	6,725
PNW SE												
PNW Core_SE	4,267	2,516	-	-	-	-	-	-	-	-	-	6,783
Rest of PNW												
IdahoPower	0	4,901	-	-	-	-	-	-	-	0	-	4,901
NWMT	-	1,754	-	-	-	-	-	-	-	-	-	1,754
PacificorpEast	6,293	-	-	-	-	-	-	-	-	0	-	6,293
PacificorpEastWY	0	295	-	-	-	-	-	-	-	5,249	-	5,544
MISO												
North Dakota Wind (forced-in)		3,000										3,000
DSW												
NevadaNorth	-	-	-	45	-	-	-	-	-	-	-	45
NevadaSouth	-	1,485	-	0	-	-	-	-	-	-	-	1,485
AZPublicService	-	1,510	-	273	-	-	-	-	-	-	-	1,783
ElPasoElectric	4,385	1,198	-	2,966	-	-	-	-	-	0	-	8,549
PublicServiceNM	1,289	3,582	-	1,323	-	-	-	-	-	3,710	-	9,904
SaltRiverProject	0	-	-	0	-	-	-	-	-	-	-	0
TucsonElectric	9,316	-	-	5,429	-	-	-	-	-	-	-	14,745
WAPA_LwrCO	-	-	-	0	-	-	-	-	-	-	-	0
Rockies												
PublicServiceCO	4,255	9,851	-	324	-	-	-	-	-	153	-	14,583
WAPA_ColMo	2,542	7,276	-	-	-	-	-	-	-	-	-	9,817
WAPA_ColMo_WY	-	5,649	-	-	-	-	-	-	-	6,427	-	12,076
WAPA_UprMO	-	-	-	-	-	-	-	-	-	-	-	-
Total	**79,151**	**59,948**	**1,676**	**24,586**	**-**	**4,628**	**1,500**	**50**	**-**	**20,505**	**6,400**	**198,445**

Counterfactual C minus Ref 2045

	Solar	Wind	Offshore Wind	Battery Storage	Geothermal	Hydrogen	Nuclear	Pumped Hydro	Gas CCS	Gas	Shed DR	Total
CA												
WECC_CA-NP15+	0	0	0	(0)	-	30	-	-	-	-	-	30
WECC_CA-SP15+	(0)	(0)	-	0	-	(0)	-	-	-	-	-	(0)
WECC_CA_PGandE_ZP26	0	(0)	-	1,677	-	(0)	-	-	-	-	-	1,677
PNW NW												
PNW Core_NW	5,133	0	-	-	-	500	1,500	-	-	4,966	4,267	16,366
PNW NE												
PNW Core_NE	(13,962)	(1,183)	-	-	-	-	-	-	-	-	2,133	(13,012)
PNW SW												
PNW Core_SW	3,939	-	1,000	-	-	(4,788)	-	-	-	-	-	150
PNW SE												
PNW Core_SE	(5,415)	0	-	-	-	(0)	-	-	-	-	-	(5,415)
Rest of PNW												
IdahoPower	0	857	-	-	-	-	-	-	-	(0)	-	857
NWMT	-	(144)	-	-	-	-	-	-	-	-	-	(144)
PacificorpEast	0	-	-	-	-	-	-	-	-	(251)	-	(251)
PacificorpEastWY	(0)	(942)	-	-	-	-	-	-	-	251	-	(691)
MISO												
North Dakota Wind (forced-in)	-	-	-	-	-	-	-	-	-	-	-	-
DSW												
NevadaNorth	-	-	-	45	-	-	-	-	-	-	-	45
NevadaSouth	-	-	-	0	-	-	-	-	-	-	-	0
AZPublicService	-	(735)	-	(704)	-	-	-	-	-	-	-	(1,438)
ElPasoElectric	20	(368)	-	753	-	-	-	-	-	(2)	-	402
PublicServiceNM	(365)	(0)	-	425	-	-	-	-	-	84	-	144
SaltRiverProject	0	-	-	(0)	-	-	-	-	-	-	-	(0)
TucsonElectric	19	-	-	(40)	-	-	-	-	-	-	-	(21)
WAPA_LwrCO	-	-	-	(485)	-	-	-	-	-	-	-	(485)
Rockies												
PublicServiceCO	445	1,636	-	(0)	-	-	-	-	-	153	-	2,234
WAPA_ColMo	(269)	(106)	-	-	-	-	-	-	-	-	-	(375)
WAPA_ColMo_WY	-	773	-	-	-	-	-	-	-	(568)	-	205
WAPA_UprMO	-	-	-	-	-	-	-	-	-	-	-	-
Total	**(10,456)**	**(211)**	**1,000**	**1,671**	**-**	**(4,258)**	**1,500**	**-**	**-**	**4,633**	**6,400**	**278**

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Preliminary result

Preliminary Counterfactual Analysis Takeaways

- In the absence of interregional transmission loads, reliability, and policy needs are met by more expensive local/regional resources
- The more granular RA requirements in the PNW emphasizes the need for both energy and capacity resources West of the Cascades
- The composition of the portfolio used in meeting all these needs, particularly the PRM need West of the Cascades, will be heavily dependent on the available technologies. Relative to the Reference scenario, some key highlights include
  - In Counterfactual C, we assumed a diverse buildout of DR, nuclear, and offshore wind West of the Cascades to support reliability
  - The model selected more expensive Solar W of the Cascades for reliability, reducing the build in higher value Eastern locations
  - Natural Gas was also needed for reliability purposes in the constrained region, as anticipated.
    - Will face carbon costs and likely trigger emissions benefits when compared to the Reference Scenario

Next Steps

- Benefits Subgroup continuing to review counterfactual, will move on to supporting Resource Mapping exercise and other modeling implications
- Next REC meeting will be held July 9th
- Next All-Committee meeting will be in Q3 2026
  - Confirmed date of August 25th in Boise, Idaho
- Any feedback or questions, please email GDS:
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Public Comment