

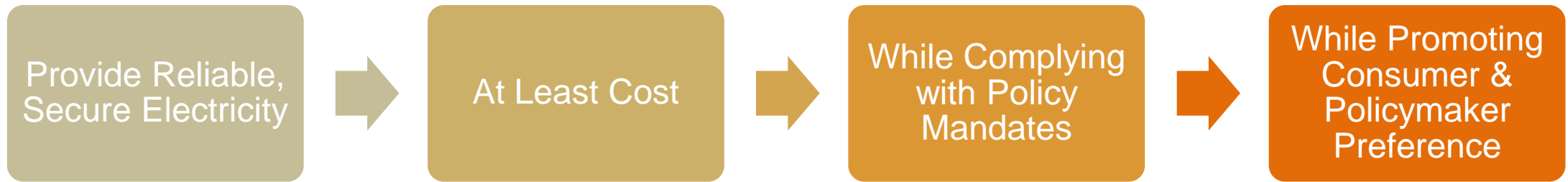
Tacoma Power

Washington UTC / Dept. of Commerce Resource Adequacy Meeting

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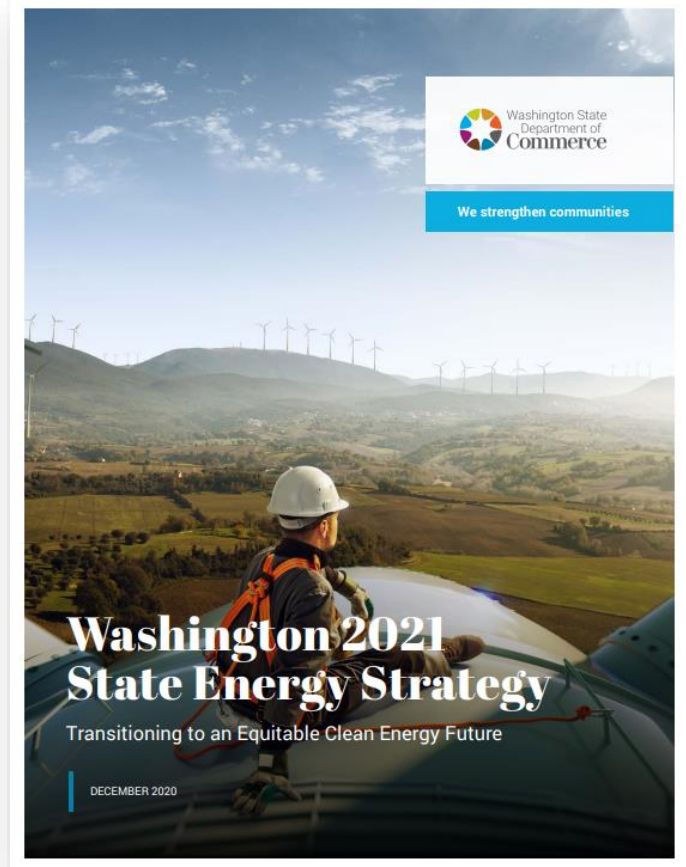
Today's Challenge for Utilities



Washington 2021 State Energy Strategy

100% Clean Electricity to Meet the Needs of a Decarbonized Economy

- Meet CETA's requirements for a greenhouse gas neutral electricity supply by 2030 and 100% renewable or non-emitting ("clean") electricity by 2045, while incorporating equity, reliability and resource adequacy principles.
- Fulfill energy and capacity demands created by electrification of transportation, buildings and industry.



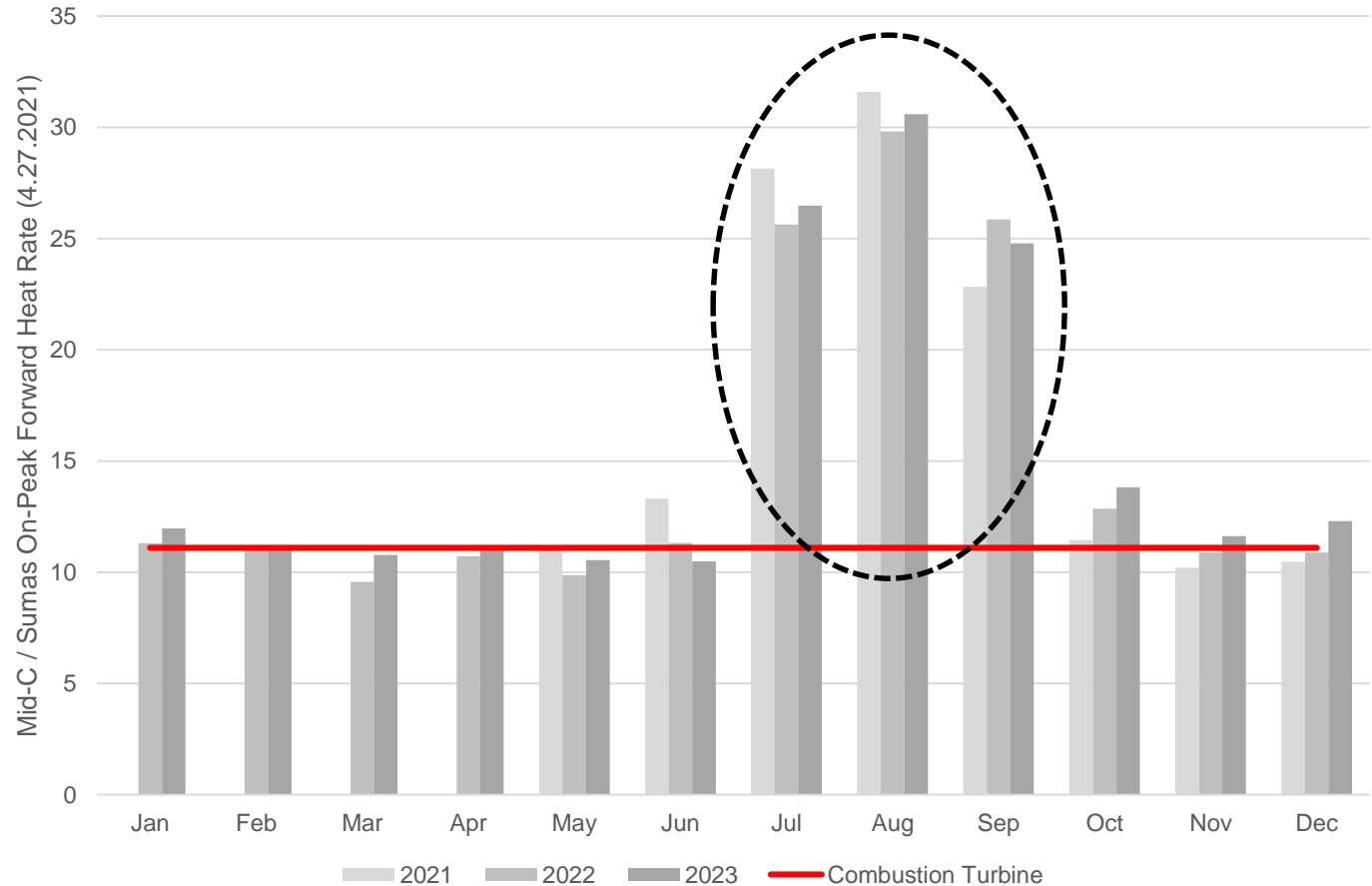
Rolling Blackouts in 2020. Again in 2021, 2022, & 2023?

2020 Blackout

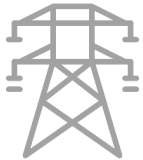
- ✓ California experienced blackouts on August 14th and 15th.
- ✓ Multiple balancing authorities across the WECC declared Energy Emergency Alerts.
- ✓ Outages occurred during the CAISO net load peak.

2021 & Beyond

- ✓ Current forward market prices indicate capacity shortages in July-September for 2021, 2022, 2023 and beyond.



Challenge 1: Limited Capacity Options



Transmission

Challenges in building new transmission infrastructure to enable access to higher capacity factor renewables (e.g. Montana wind).



Emerging Solutions

Higher costs & risks for emerging alternatives:

- ✓ Green Hydrogen & Other Electrofuels
- ✓ Pumped hydro
- ✓ Batteries
- ✓ Demand Response
- ✓ Modular Nuclear
- ✓ Thermal with CCS

Challenge 2: Incentives

The “Missing Money” Problem

- ✓ Wholesale market prices do not enable recovery of the fixed costs of building new capacity
- ✓ Not adequate incentive to invest in new forms of dispatchable generation
- ✓ Existing clean dispatchable generation – such as hydro – may not be economic to keep online

Implications

Increased risk of blackouts during winter and summer

May hinder ability of electricity sector to meet carbon goals

Lower value for Washington State rate payers

A Regional Program is Critical

- The regional program will direct and coordinate development of capacity ahead of need.
- The program will support investment in emerging generation and storage technologies needed to meet environmental objectives.
- The program will provide reliability and lower costs & risks for rate payers.