

**DOCKETED**

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<b>Project Title:</b>	Energy Reliability
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<b>Document Title:</b>	Presentation - The Northwest Power and Conservation Council
<b>Description:</b>	S1.2C Ben Kujala, NW Power & Conservation Council
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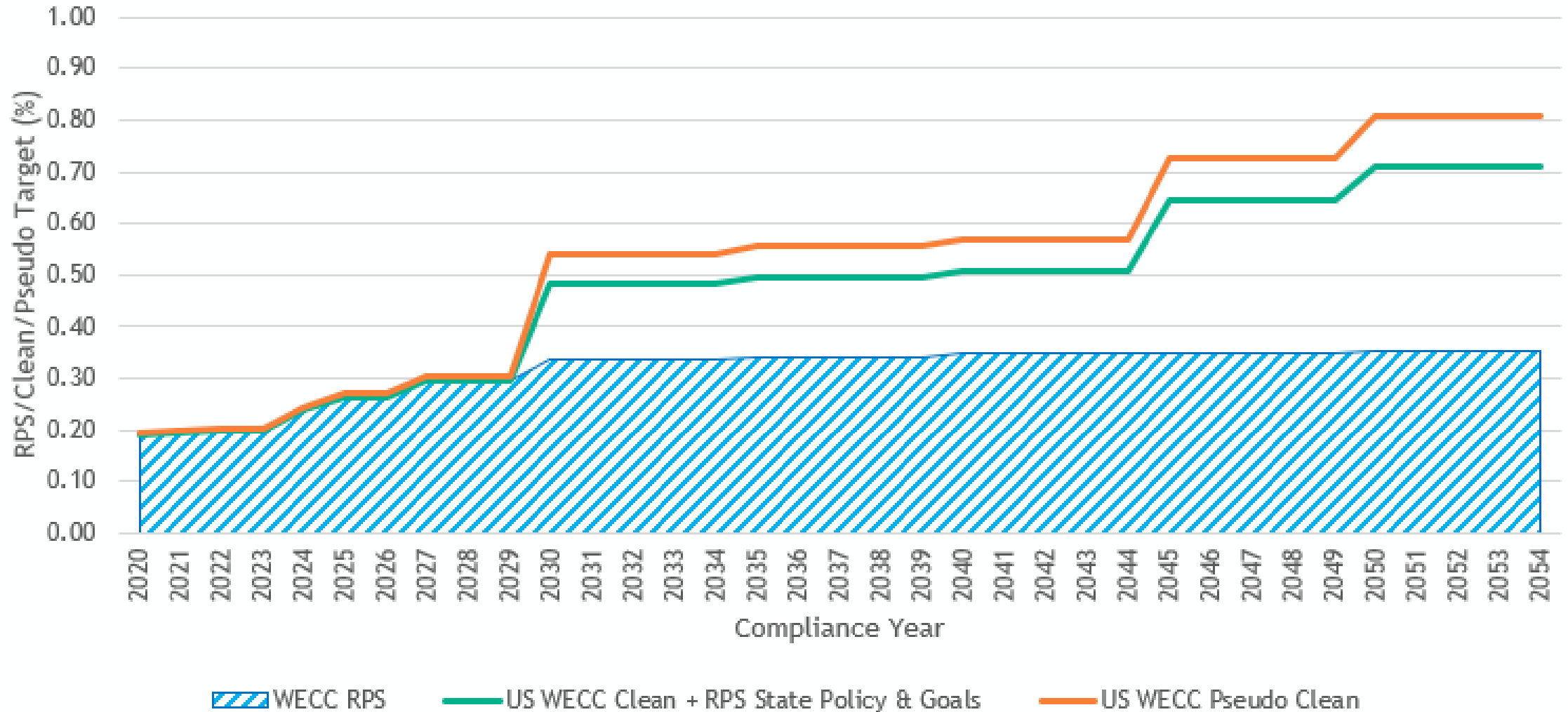
# The Northwest Power and Conservation Council

The 1980 [Northwest Power Act](#) authorized Idaho, Montana, Oregon, and Washington to develop a regional power plan and fish and wildlife program to balance the Northwest's environment and energy needs.

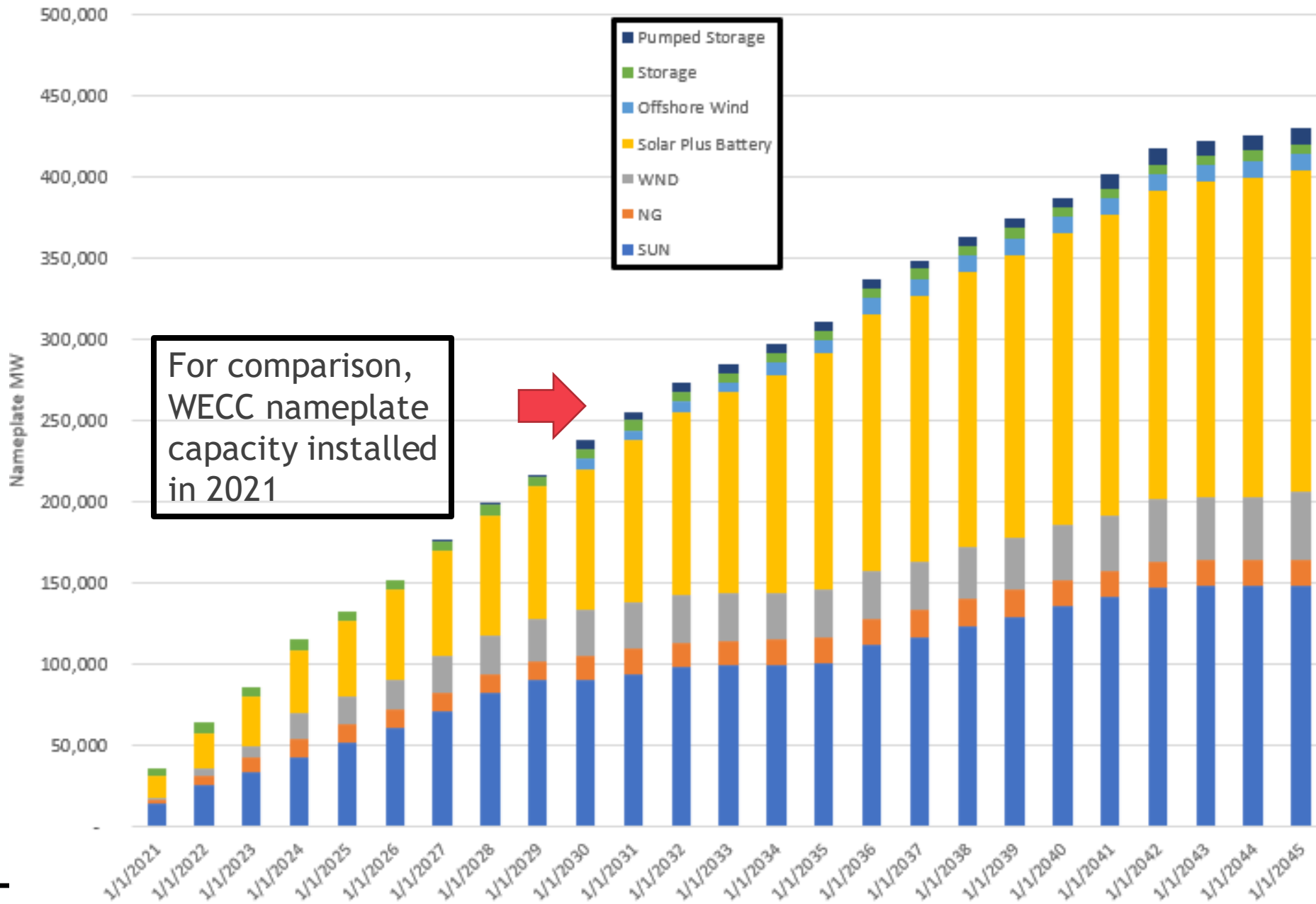
- Each state legislature passed laws to form the NWPPCC
- The governors of each state appoints two Council Members
- Predominantly funded by rates collected by Bonneville



# US WECC Clean Targets - Assuming 100% state sales (upd. July 2021)



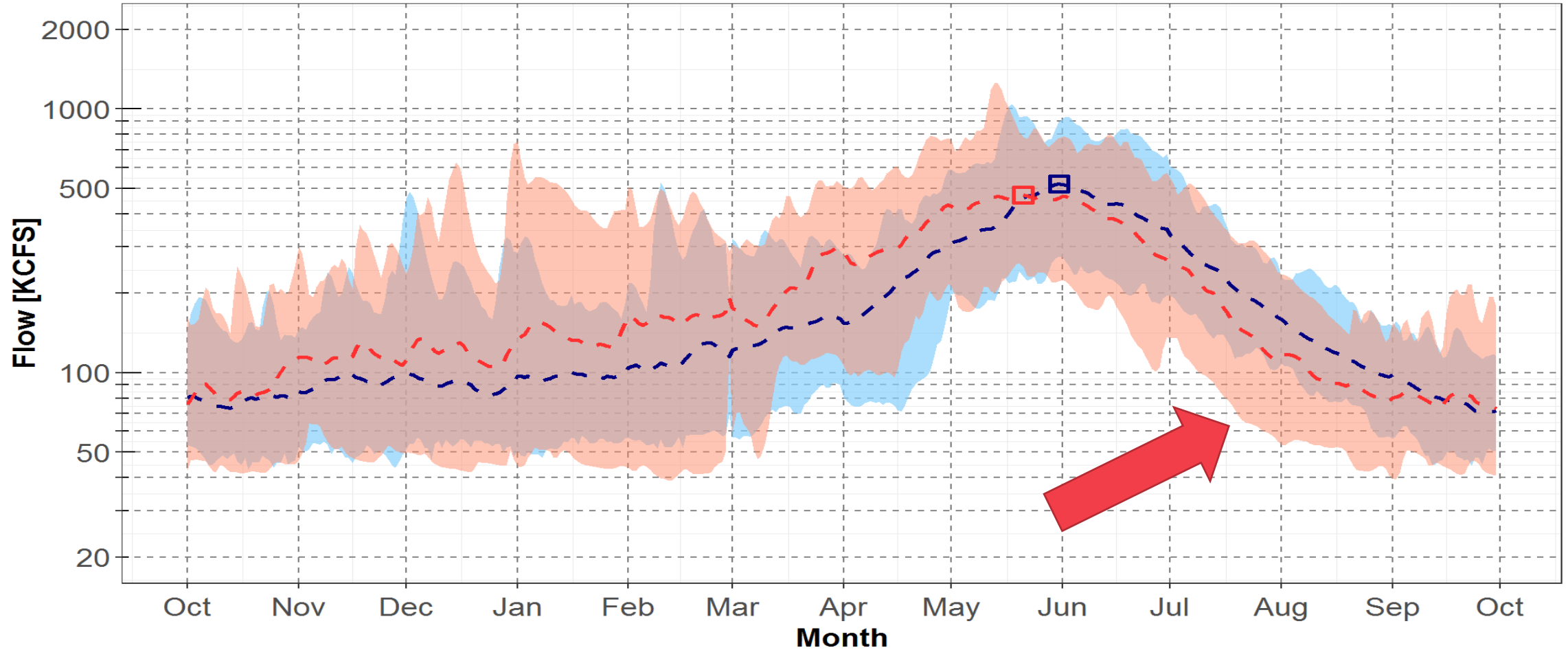
# WECC Buildout



For comparison, WECC nameplate capacity installed in 2021



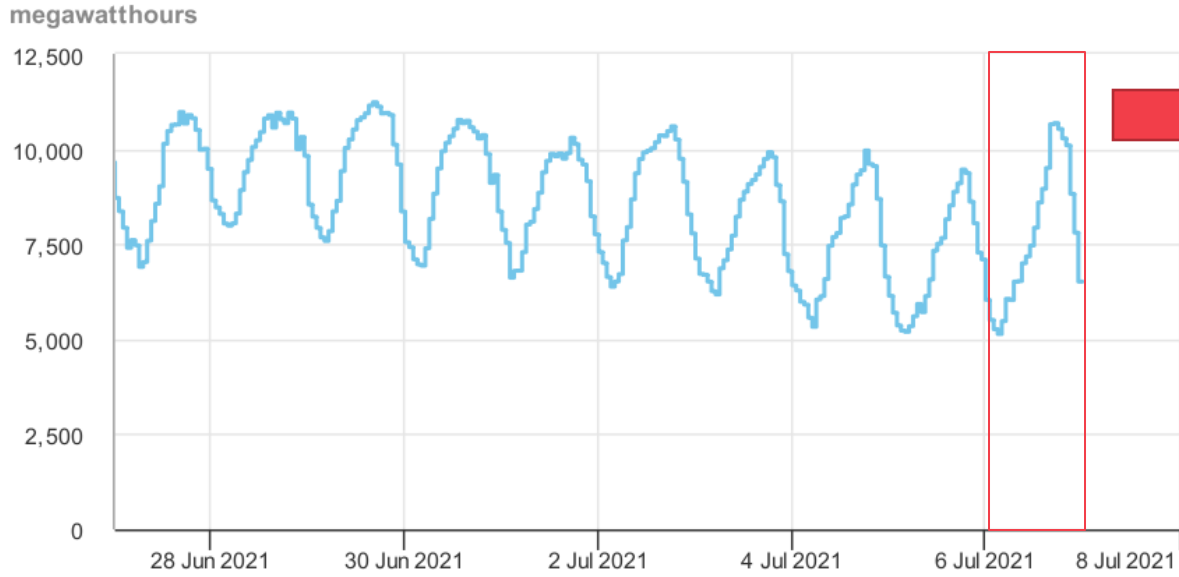
### Maximum, Minimum and Average TDA Modified Flows for Historical (1979 - 2008) and CanESM2 (2020 - 2049)



Type: Historical (1979 - 2008) CanESM2 (2020 - 2049)



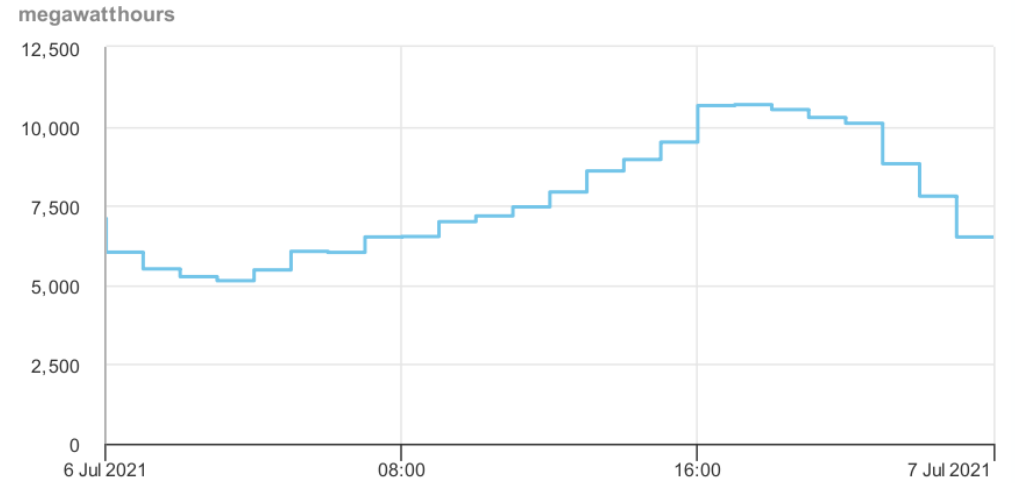
**Bonneville Power Administration (BPAT) electricity generation by energy source 6/27/2021 – 7/7/2021, Pacific Time**



— Wind      — Solar      — Hydro      — Other  
 — Natural gas      — Nuclear      — Total Generation

eia Source: U.S. Energy Information Administration

**Bonneville Power Administration (BPAT) electricity generation by energy source 7/6/2021 – 7/6/2021, Pacific Time**

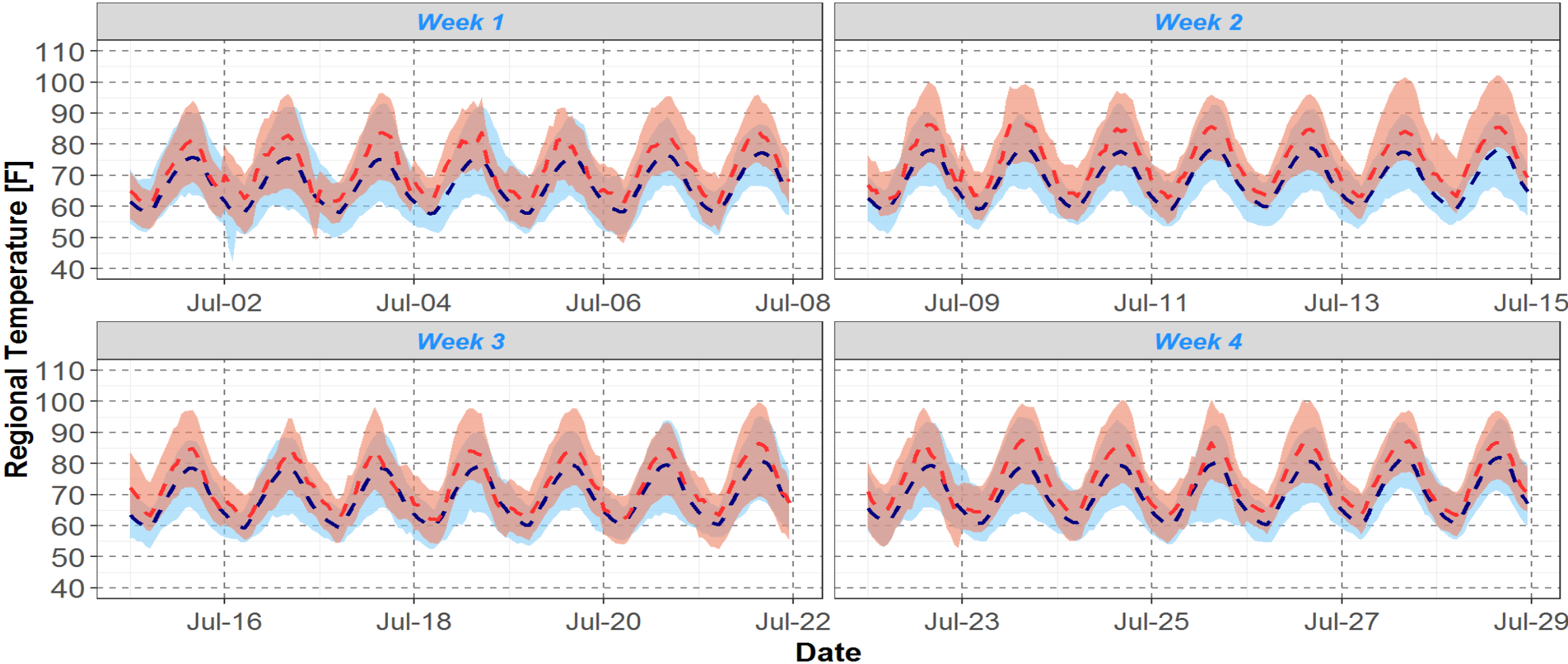


— Wind      — Solar      — Hydro      — Other  
 — Natural gas      — Nuclear      — Total Generation

eia Source: U.S. Energy Information Administration



# Jul Envelope and Average Hourly Temperatures for Historical Time Period (1988 - 2017) and CanESM2 (2020 - 2049)



Type: — — Historical (1988 - 2017) — — CanESM2 (2020 - 2049)



# Uncertainty in Power Planning Abounds

- Clean and renewable policy requirements indicate an unprecedented transformation of how electricity is generated is inevitable and already underway
- Targets for reductions in greenhouse gas emissions could add substantial demand for electricity
- Recent Pacific Northwest heatwave substantially exceeded historic observed temperatures leading to record-setting electric demand throughout the region
- Adaptation of the existing system, including hydropower generation needs further study







# Questions?

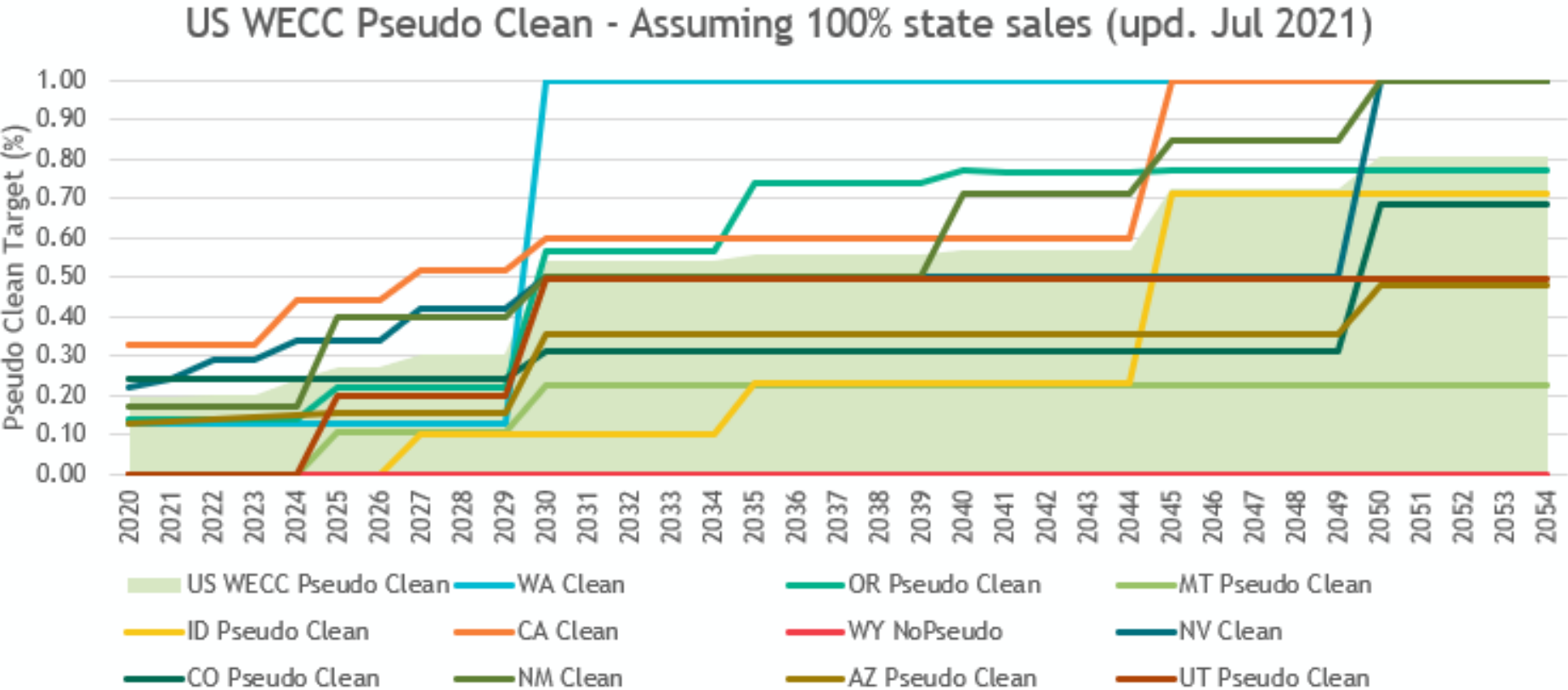
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Extra Slides for Reference

# Clean Policy + RPS + Utility/Community Goals: US WECC Aggregate Pseudo Clean Target



Based on 2018 utility bundled retail sales, EIA-861

