



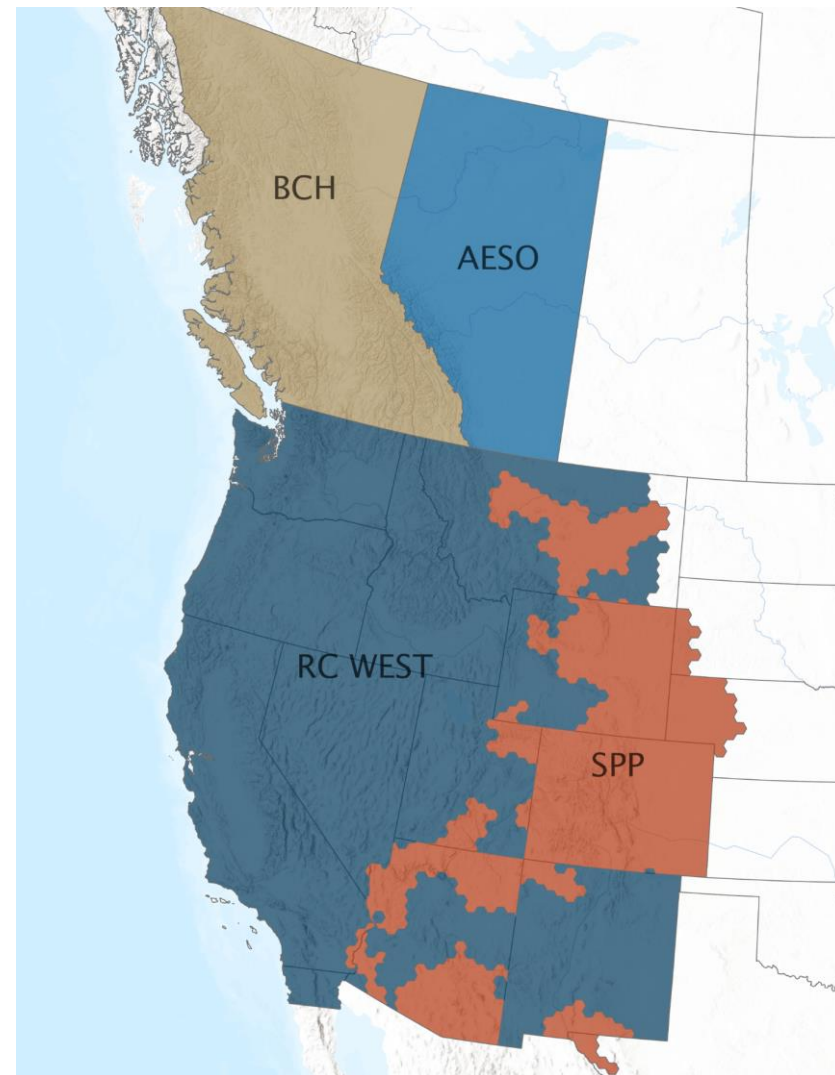
Electrification from a WECC Perspective

June 21, 2023

Katie Rogers
Senior Engineer

Who is WECC?

- Western Electricity Coordinating Counsel
- Promote bulk power system **reliability** in the Western Interconnection



My Role

- Y20 Compound Load Impacts study – in progress.
 - Proposed publish: Mid-Feb 2024.
 - Relying on National Labs, planning entities, AEO data.
- Focus on WI electrification and demand response in 2042.
 - Does the WI remain reliable in Y20 when some sectors are highly electrified?
 - How do demand response assumptions help any reliability concerns due to electrification?
 - Generation plus transmission.

Electrification + Decarbonization

- Changing multiple variables
 - i.e., Nothing happens in a vacuum
- Changing variables on both sides of the equation
 - Decarbonization—Supply-side
 - Control, decisions
 - Electrification—Demand-side
 - Influence, incentives

Electrification + Demand Response

- Will peak demand be exacerbated by electrification?
 - Business as usual—the answer is Yes.
 - Market depth? Do we have the necessary transmission? Ramping capabilities?
- Changing behavior with programs and technology.
 - How much? What haven't we thought of yet?
- Demand response—Load shifting rather than load shaving.

Support for WI Perspective

- Example: Colorado Electrification & Decarbonization Study.

More renewables = More imports; is the market deep enough?

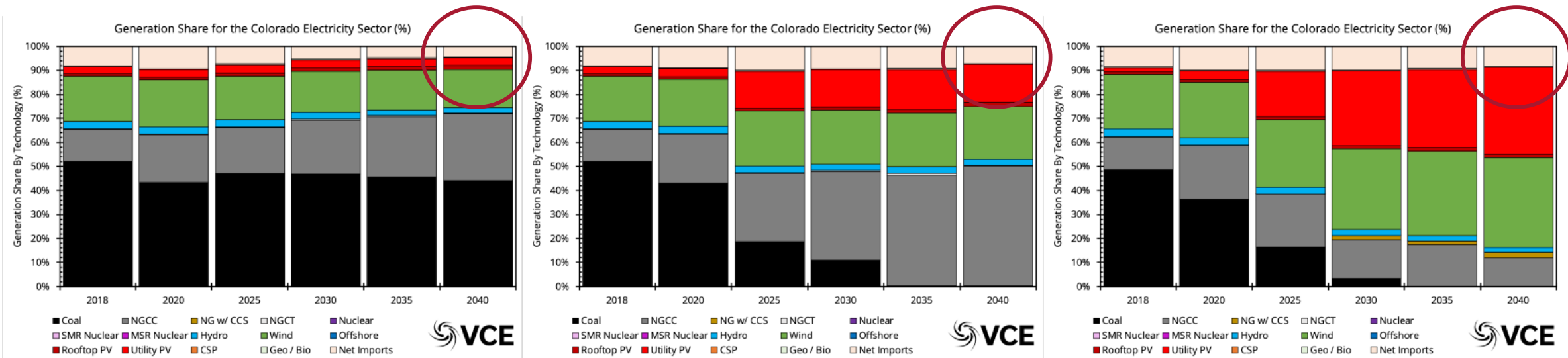


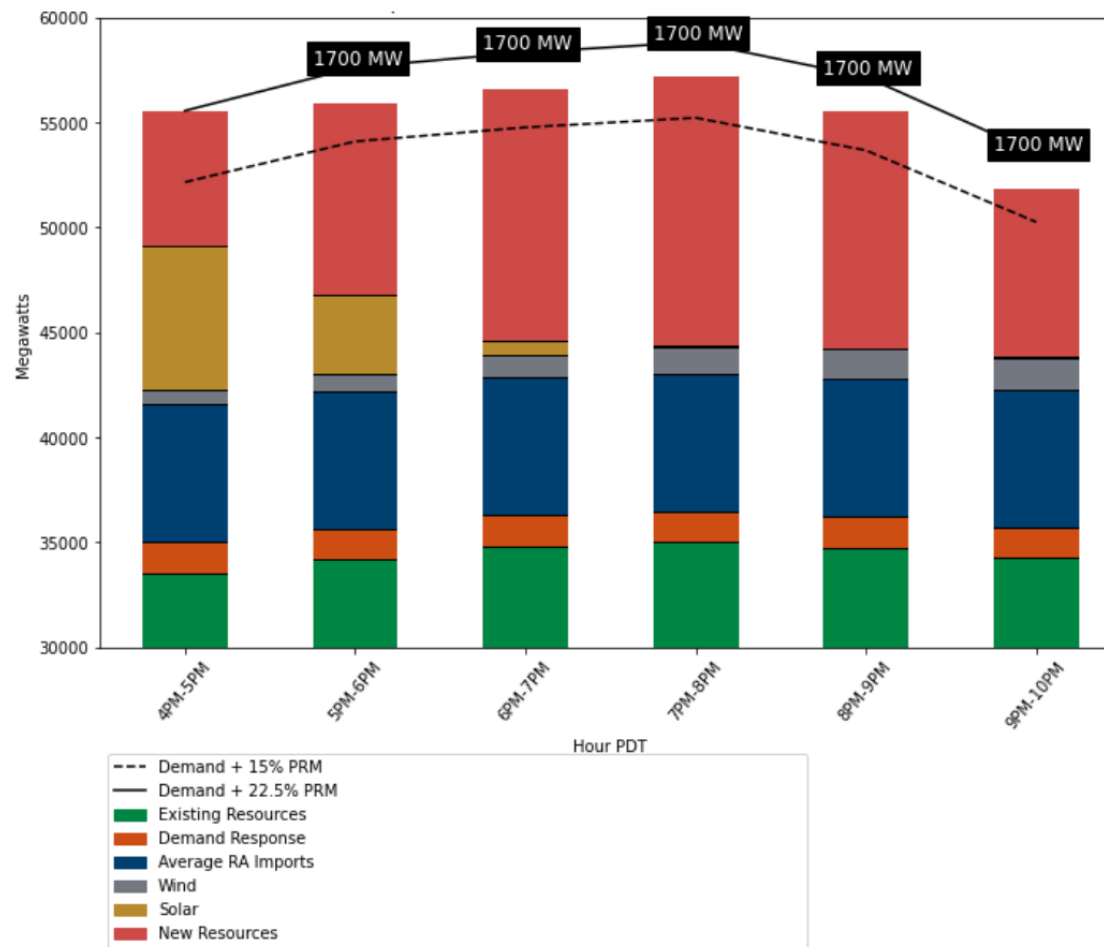
Figure 3.6: The annual generation by technology for Colorado for the BAU (left), Retire Coal (middle), and Deep Decarbonization (right) scenarios.

[Microsoft Word - CEDS-CEI-VCE-FullReport.docx \(vibrantcleanenergy.com\)](#)

Support for WI Perspective

- Example: California Summer Stack Analysis for 2022-2026.
- Will electrification exacerbate existing reliability concerns?

Figure 10: Potential September 2026 Stack



Source: California Energy Commission

<https://efiling.energy.ca.gov/getdocument.aspx?tn=244116>

What's Next?

- Compound Load Impacts report in Feb 2024
- We're not done
 - Post-COVID demand
 - Changing policies, retirements, adoption rates, technology, programs
 - Storage



Electric Reliability and Security for the West

www.wecc.org