WGA WREZ Proposal

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Outline of Presentation

- Value added by a WREZ project
- Origin of proposal
- Western Interconnection context
- Overview of phases of proposal
- Best guess timeline

Value Added By Project

LSEs, transmission providers, generation developers, state regulators can make more informed decisions about:

- Costs of renewable power;
- Optimum transmission needed to move renewable power to consumers;
- Potential partners in developing transmission to access renewable areas; and
- Where renewable energy developers can site their facilities to ensure access to the transmission system and minimize environmental impacts.

Information is essential to develop transmission because:

- Outside of the CA ISO and AB, there is no mechanism in the Western Interconnection to force unwilling parties to pay for new transmission.
- LSE fuel choices will ultimately determine what transmission gets built.
- LSE resource planners (and regulators) often operate in stovepipes and may miss opportunities for inter-company collaboration.
- Inter-company collaboration is important because transmission is a "lumpy" investment with large economies of scale. One LSE may not need all the capacity created by transmission to a REZ.

A WREZ effort also…

- Promotes a regional view of renewables development blunting potential balkanization of the renewables markets. This is particular important for development of renewables that are distant from load centers.
- Paves way for interstate collaboration on:
  - Permitting of multi-state transmission;
  - Allocating and recovering cost of new transmission.
- Could provide an informational foundation for new approaches to interconnection and transmission service queuing problems.

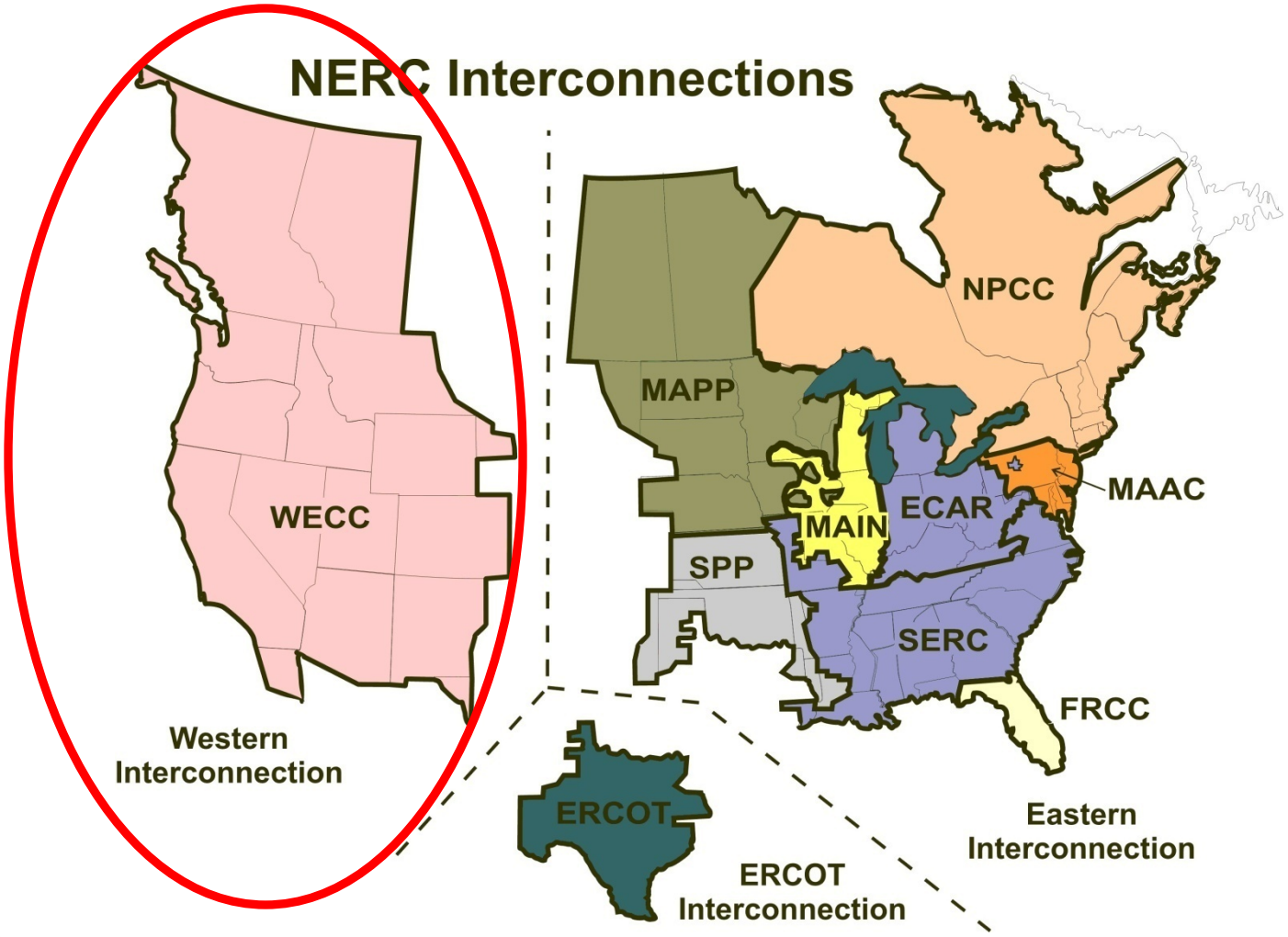
Origin of Proposal

- 6/06 WGA Clean and Diversified Energy Initiative recommendations
- 9/07 WGA/NWCC/GEA renewables and transmission summit in Ft. Collins recommendation to identify WREZs the incorporate all renewable fuels (solar, geothermal, wind, biomass, hydro, hydrokenetic, etc.)
- Brainstorming group to explore how Ft. Collins recommendation could be implemented (WY Gov's office, CA PUC, NREL, DOE – OE & EERE, CEERT, Resolve, WIEB)
- 10/07 WREZ briefing paper
- 11/07 presentations to and sign-off from WGA Staff Council, WIEB Board, CREPC
- 12/07 Governors' proposal to Secretary Bodman for a WREZ project.
- 3/03 DOE invitation to apply for funding

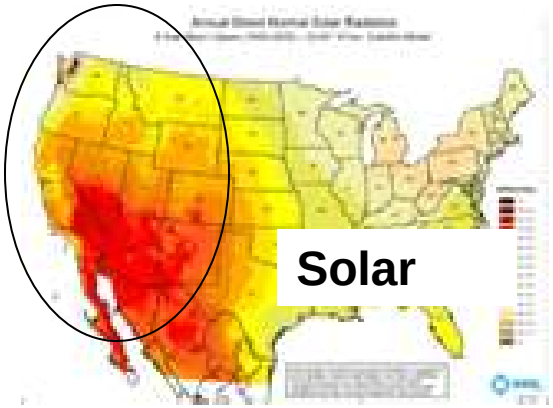
Western Interconnection Context

- Highly integrated grid
- Excellent and diverse renewable resources
- State-by-state REZ initiatives
- Other Western Interconnection actions important to the WREZ work

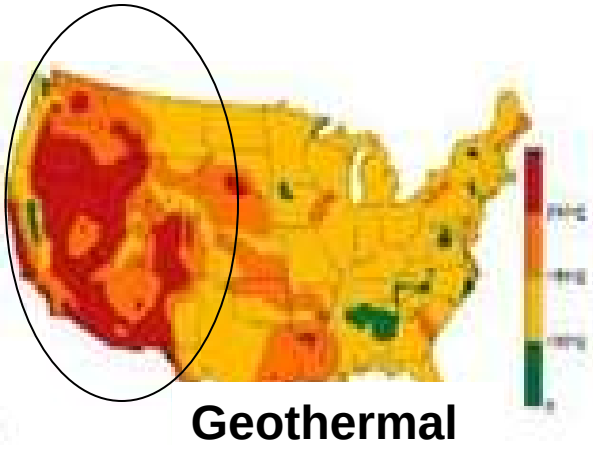
Context – Western Interconnection



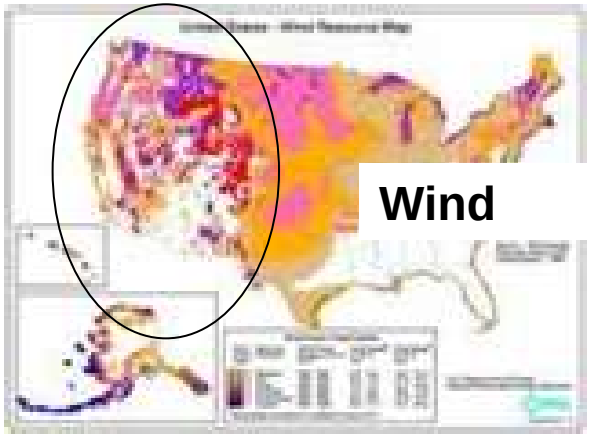
Excellent and Diverse Renewable Resources



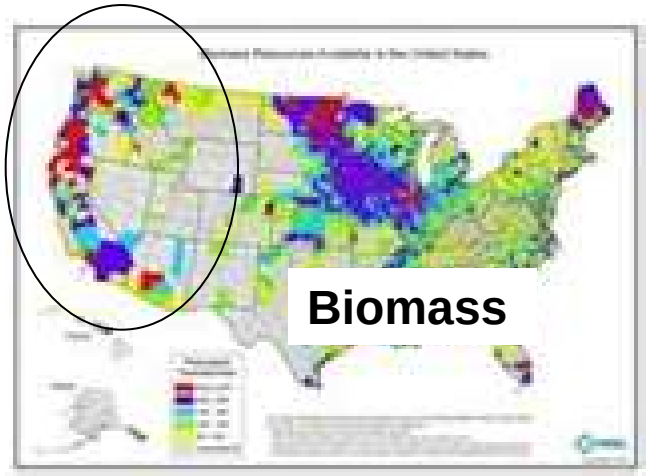
Solar



Geothermal



Wind



Biomass

Hydrokinetic

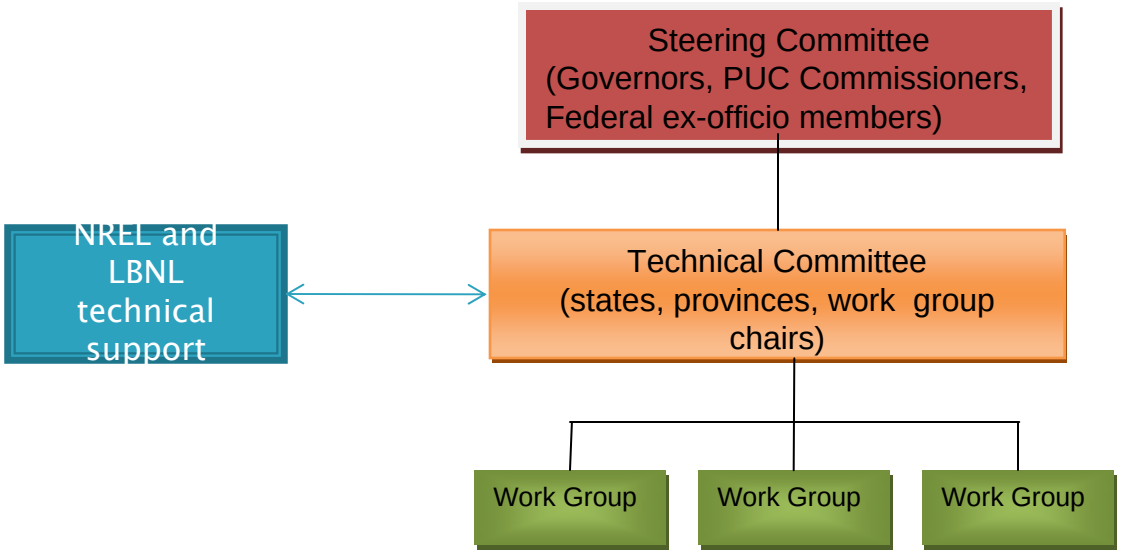
State Actions Affecting Renewables

- 8 states with RPS + renewable policies in BC and AB
- 7 Governors, 1 Premier working on region carbon cap and trade system (which will increase pressure for more renewable development)
- State-by-state REZ efforts
  - Texas CREZ
  - CO S 91
  - CA Renewable Energy Transmission Initiative
  - AZ Black & Vetch study
  - NV Governor's renewable and transmission task force
  - Other
- *State-only work misses regional opportunities and could balkanize the renewable energy market*

Overview of WREZ Phases

1. Identification of WREZs
   - Technical analysis
   - Stakeholder “ground truthing”
2. Conceptual transmission from WREZs
3. Coordinated procurement for renewables (beyond current budget period)
4. Institutional options to facilitate interstate transmission for renewables (beyond current budget period)

Organization of REZ Project



Critical Elements in Phase 1

- Technical work
  - Technology characterization; resource assessment; supply curves; delineation of WREZ boundaries
- Transparency/communication: **Maximum stakeholder input to identifying WREZs**
  - Web based GIS
  - Easy electronic stakeholder input
  - Iterations between technical work (e.g., technical contractor work, stakeholder input, and WREZ technical committee/work groups)
- Build on/supplement individual state REZ work
  - Schedule to comport with CA RETI to extent possible

Critical Elements in Phase 2

- LSE fuel choice is prime determinant
  - After identification of REZs, LSE need tools to:
    - Prioritize REZ options
    - Compare with other options
    - Identify synergies with other LSEs
  - Integrate with existing sub-regional and WECC transmission expansion planning processes

Phase 3: Coordinated renewable resource acquisition

- Elements not defined
- Phase 2 modeling tool can provide foundation for coordinated procurement
- Increasing LSE competition for renewables could be beneficial or unconstructive

Phase 4: Institutional options to facilitate interstate transmission for renewables

- Elements not defined
- Build on existing efforts
  - WGA Transmission Permitting Protocol
  - NTTG
  - Infrastructure Authority coordination on HPX

Best Guess Timeline

- May 28-29 kick-off meeting Salt Lake City
  - Steering Committee meeting
  - Technical Committee meeting
  - Initial workgroup meetings
- November/December
  - End of Phase 1 (identification of zones)
  - Launch of Phase 2 (transmission from zones)