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WGA WREZ Project

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Goal of the WREZ

- The goal of the Western Renewable Energy Zone (WREZ) initiative is to develop a *consensus* proposal among the 11 major states, the area of Mexico, and the two Canadian provinces in the Western Interconnection on how best to develop and deliver energy from renewable resource areas throughout the region (including Canada and Mexico) to load centers.
- Partnership with DOE

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Transmission an Obstacle

- The biggest obstacle to installing large amounts of new renewable energy generation is building new transmission lines.
- The best renewable energy resources in the West are not near existing transmission lines built to carry electricity from fossil fuel burning power plants.
- Western Governors and the Department of Energy began the Western Renewable Energy Zones project in May of 2008 to help overcome the transmission obstacle

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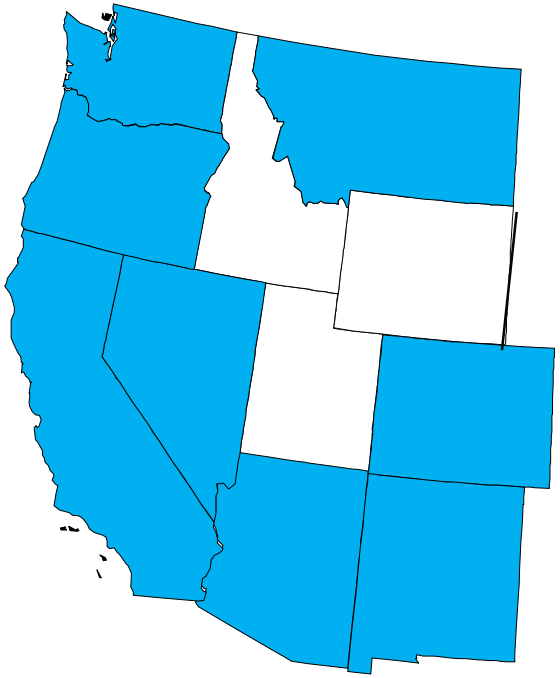
Utilities Must Install More Renewable Energy Generation

Western states have adopted mandated targets for the percent of all electricity generation that comes from renewable energy

1. Arizona 15% by 2025
2. California 20% by 2010
3. Colorado 20% by 2020
4. Montana 15% by 2015
5. Nevada 20% by 2015
6. New Mexico 20% by 2020
7. Oregon 25% by 2025
8. Washington 15% by 2020



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Value Added By Project

LSEs, transmission providers, generation developers, state regulators can <u>make more informed decisions</u> 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.

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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

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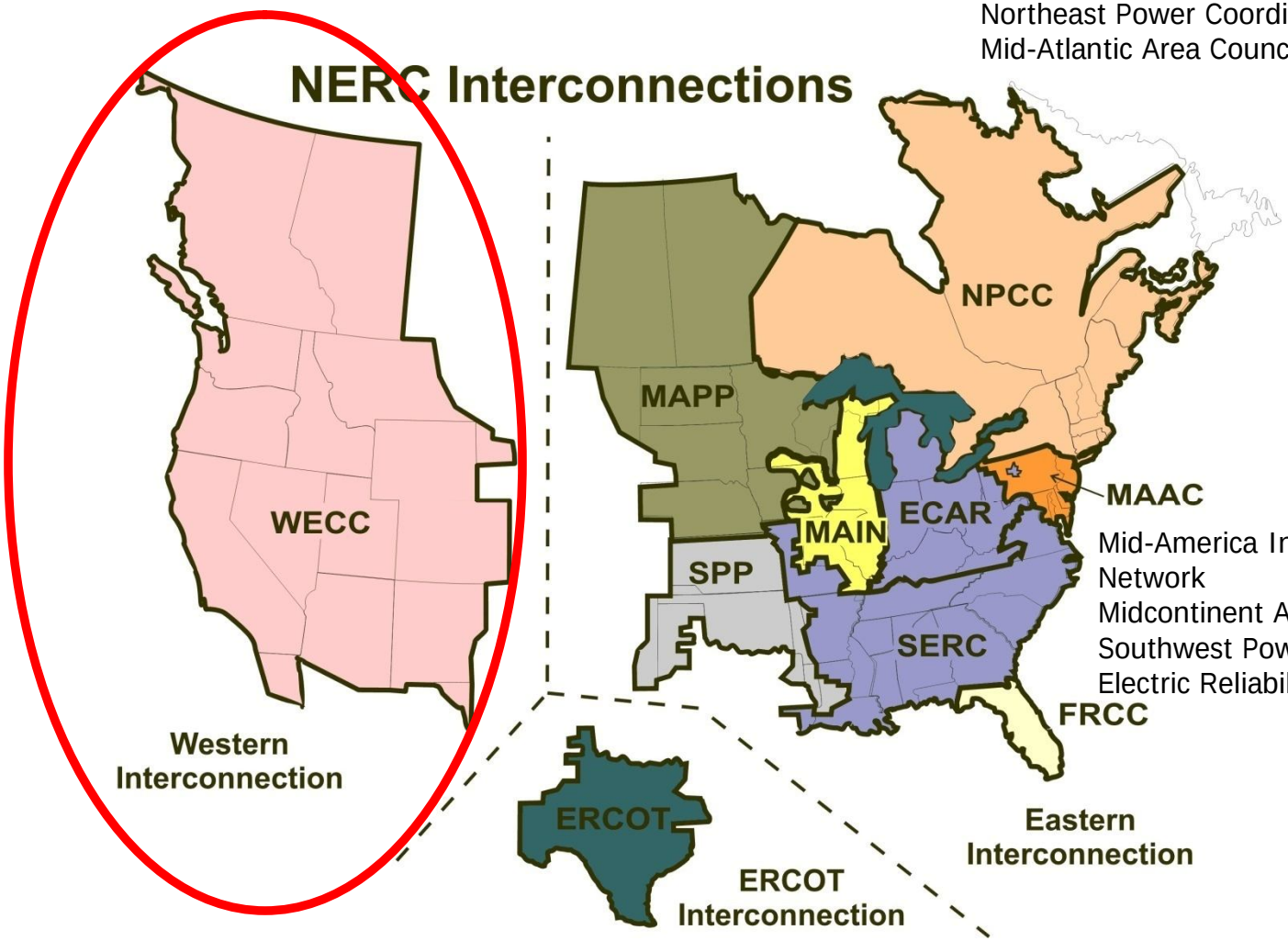
Context – Western Interconnection



Northeast Power Coordinating Council
Mid-Atlantic Area Council

Mid-America Interconnected Network
Midcontinent Area Power Pool
Southwest Power Pool
Electric Reliability Council of TX

Southeastern Electric Reliability Council
Florida Reliability Coordinating Council
Electricity Cooperative Agreement for Reliability

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Overview of WREZ Phases

1. Identification of WREZs
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)

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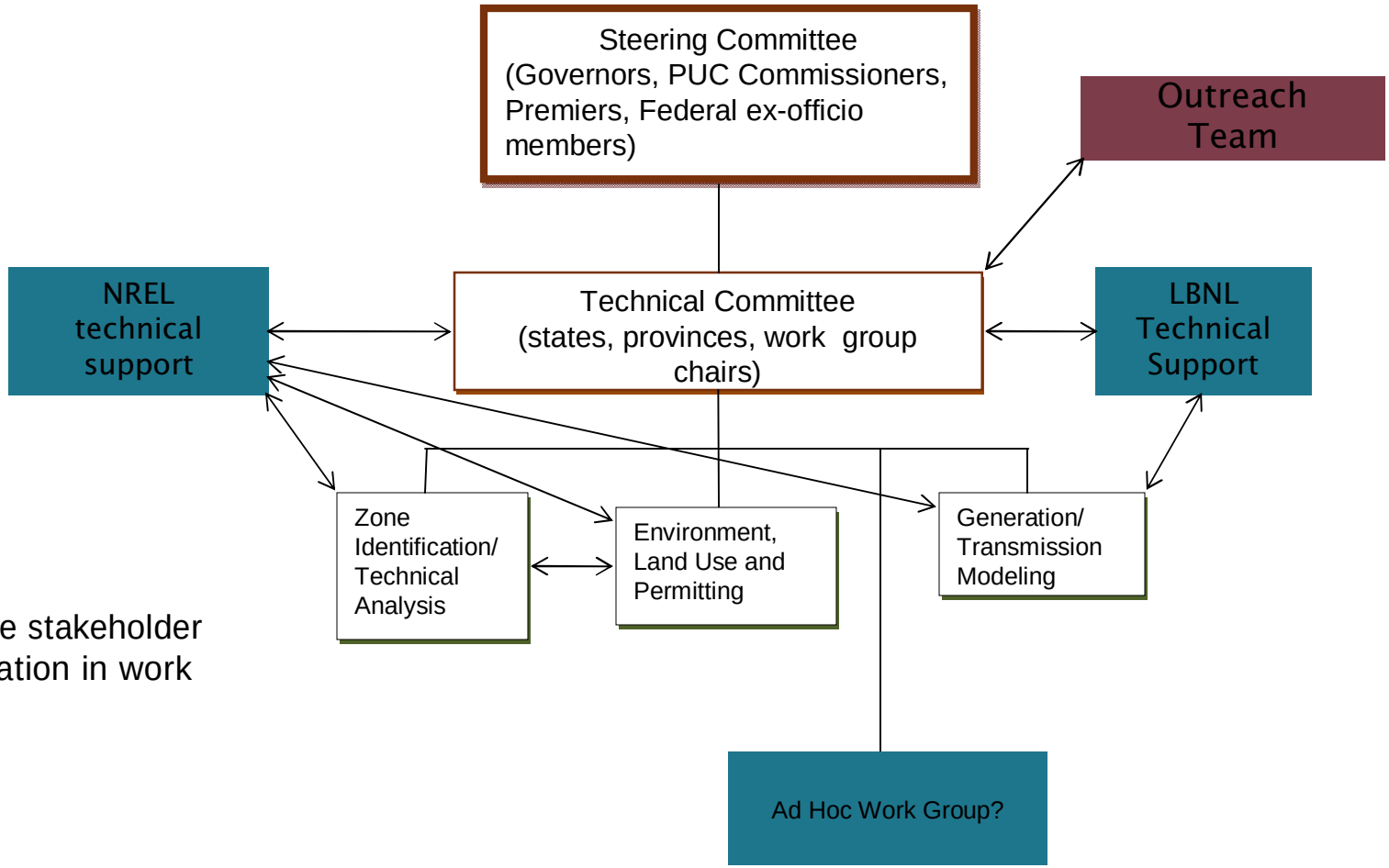
Organization of REZ Project



Inclusive stakeholder participation in work groups

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The WREZ in a Nutshell

- High quality renewable resource areas and transmission from REZs to load centers
- Resource criteria
- Draw candidate study areas
- Identify exclusion zones
  - Lands exclusions such as national parks
  - Topographic (excessive slope)
  - Urban areas
  - Wildlife
- Supply curve analysis (production cost)

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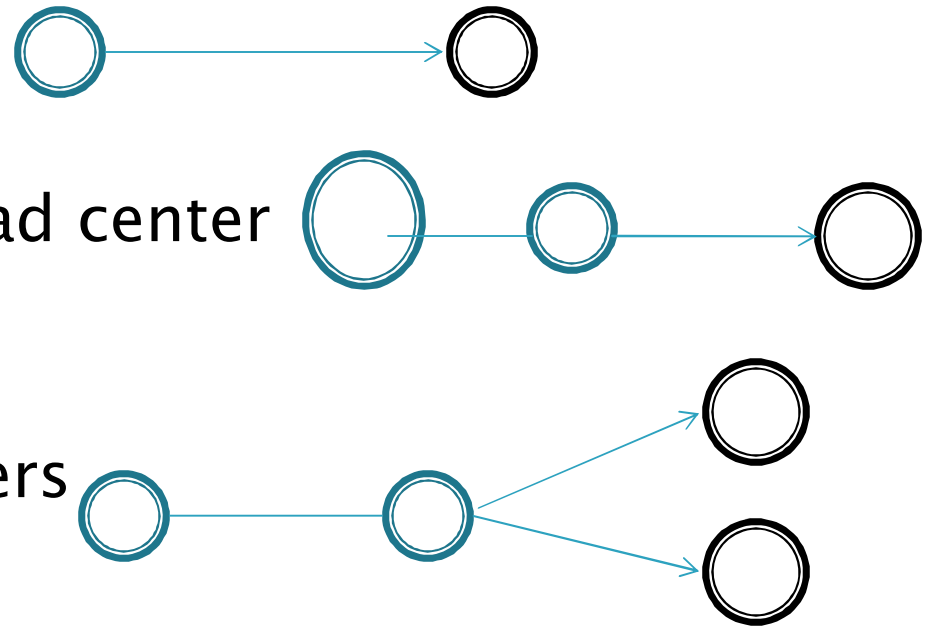
WREZ in a Nutshell

- Proposed renewable energy zones – not too many, not too few
- Transmission modeling to calculate delivered cost
  - REZ to load center
  - Multiple REZs to load center
  - Multiple REZs to multiple load centers



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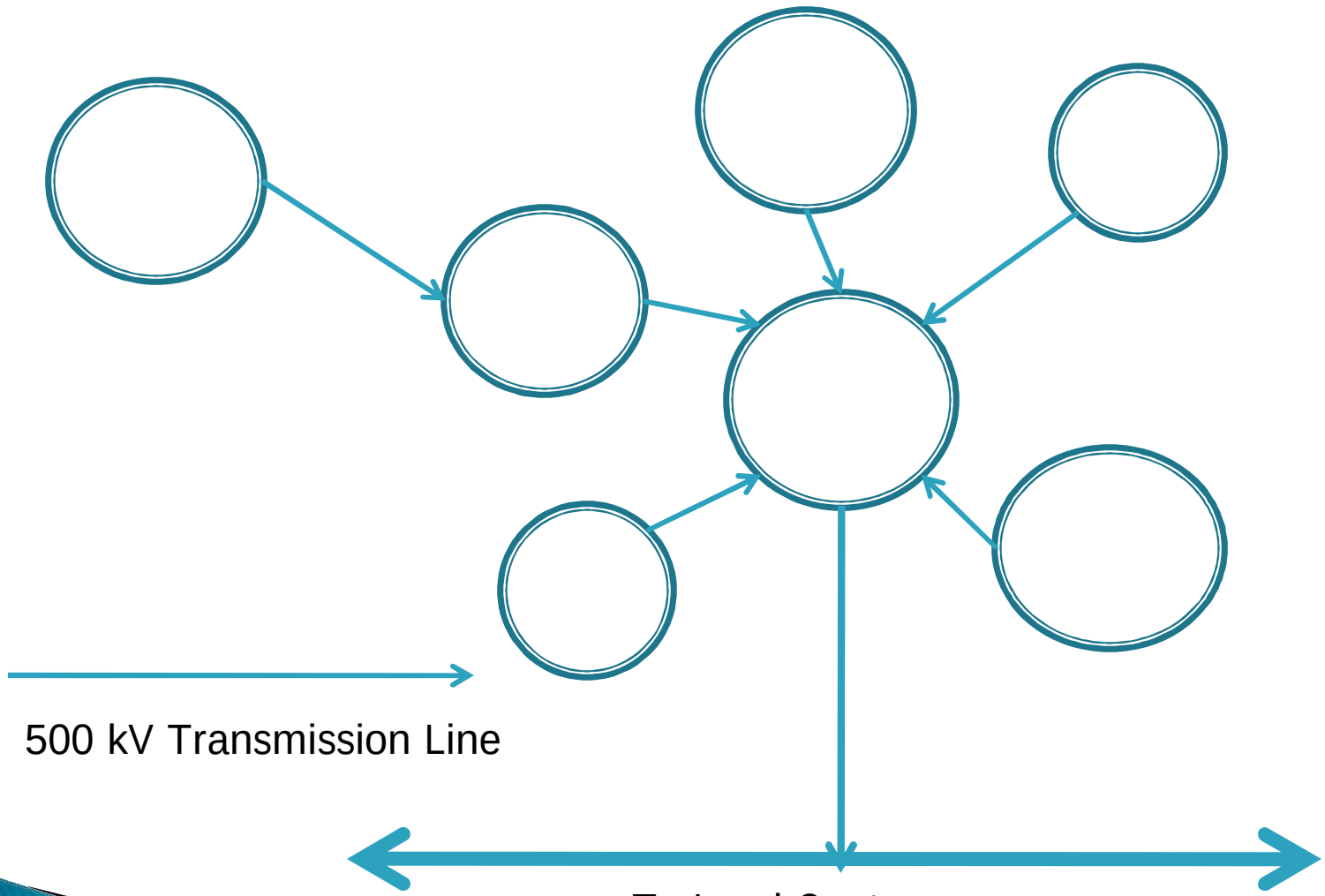
Conceptual REZ



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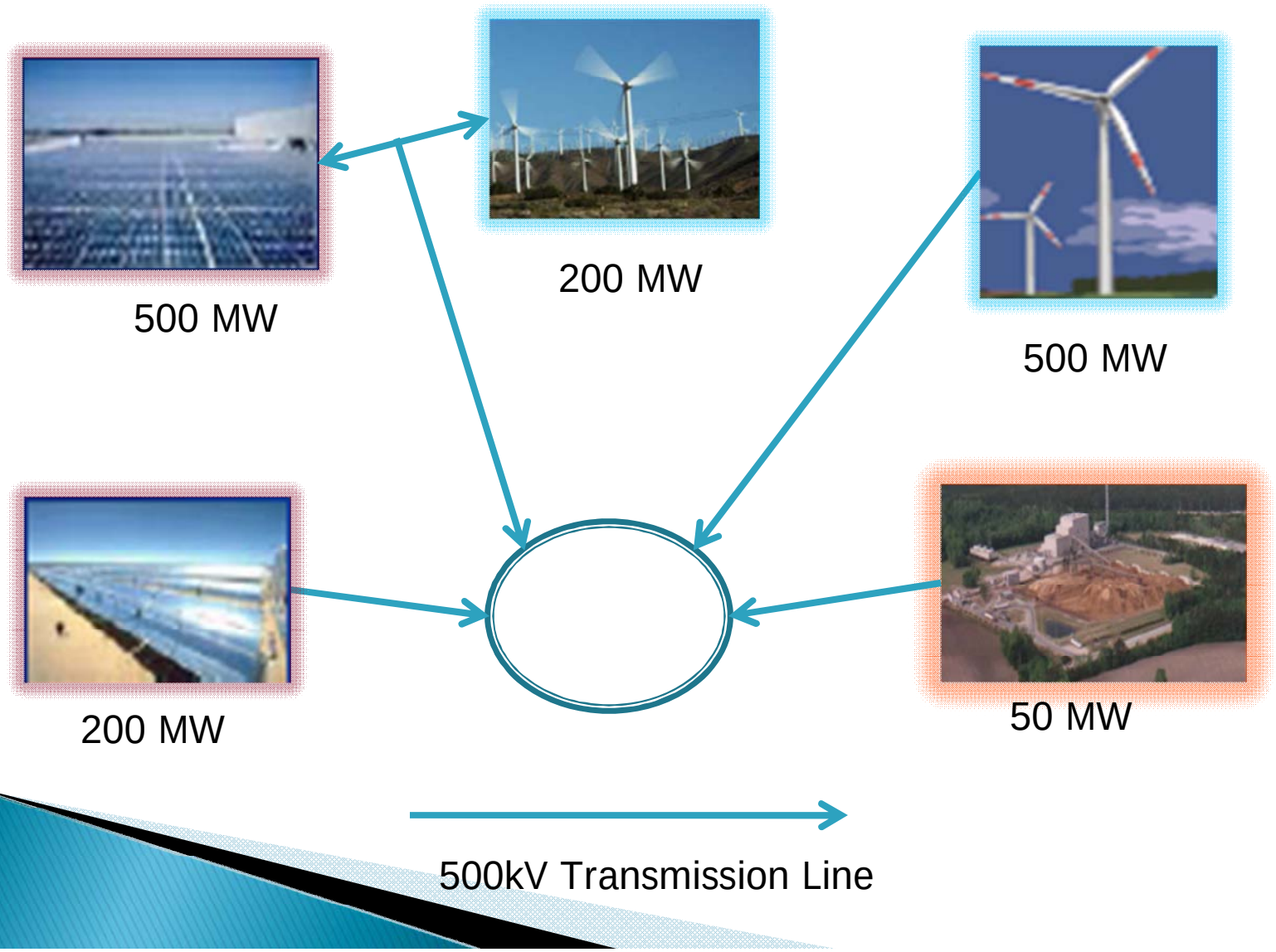
Conceptual REZ Components



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WREZ in a Nutshell

- Conceptual transmission plans
- Natural resource/wildlife mitigation plans
- Final Report on Phase 1 June 2009

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Some Key Characteristics

- Zones have to be "developable"
- Implementation is up to private developers and LSEs
- Proposed projects don't drive definition of areas
- Complements state REZ efforts
  - Will show resources with value at both regional and local levels

WREZ Website – www.westgov.org click on WREZ Project

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Organization

Steering Committee
About
Members

Technical Committee
About
Members

Work Groups
* Zone Identification and Technology Analysis
* Environment and Lands
* Generation and Transmission Modeling

Key Documents

Charter
Workplan
Project Assumptions
Operating Groundrules
Phase 1 Roadmap
Organizational Chart

Western Renewable Energy Zones

About the WREZ

The Western Governors' Association and U.S. Department of Energy launched the Western Renewable Energy Zones Project in May 2008. Utilizing those areas in the West with vast renewable resources to expedite the development and delivery of clean and renewable energy is the central goal of the WREZ project. Participating in the project are 11 states, two Canadian provinces, and areas in Mexico that are part of the Western Interconnection.

The WREZ project will generate:

- reliable information for use by decision-makers that supports the cost-effective and environmentally sensitive development of renewable energy in specified zones, and
- conceptual transmission plans for delivering that energy to load centers within the Western Interconnection. A number of factors will be considered, including the potential for development, timeframes, common transmission needs and costs. The project also will evaluate all feasible renewable resource technologies that are likely to contribute to the realization of the goal in WGA's policy resolution that calls for the development of 30,000 megawatts of clean and diversified energy by 2015.

Guiding this initiative is the WREZ Steering Committee, comprising governors, public utility commissioners and premiers. Officials from the Departments of Energy, Interior and Agriculture, as well as the Federal Energy Regulatory Commission, will participate as ex officio members.

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Timeline

- Resource mapping by December 31
- All exclusion zones except wildlife identified by February 1
- Proposed REZs available for public comment February 1
- Final REZs April – Will include wildlife preferred zones but not habitat sensitivity and exclusion (~ Dec. 31)
- Phase 2 starts Jan 1
- Report on Phase 1 to Govs by June 2009

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Watch Out

- NIMBYs
  - Difficult to sell off-shore wind in some locations
- There is not a lot of philosophical opposition to the concept of renewables, but there can be issues when people realize it means wind towers or transmission lines or environmental impact
- Local interest groups
- State interests (pass through or supplier)
- Developers unhappy with the outcomes
- States that only want homegrown renewables, or who are interesting in production but not import