Planning for What?

The Path Forward in the Western Interconnection

Doug Larson

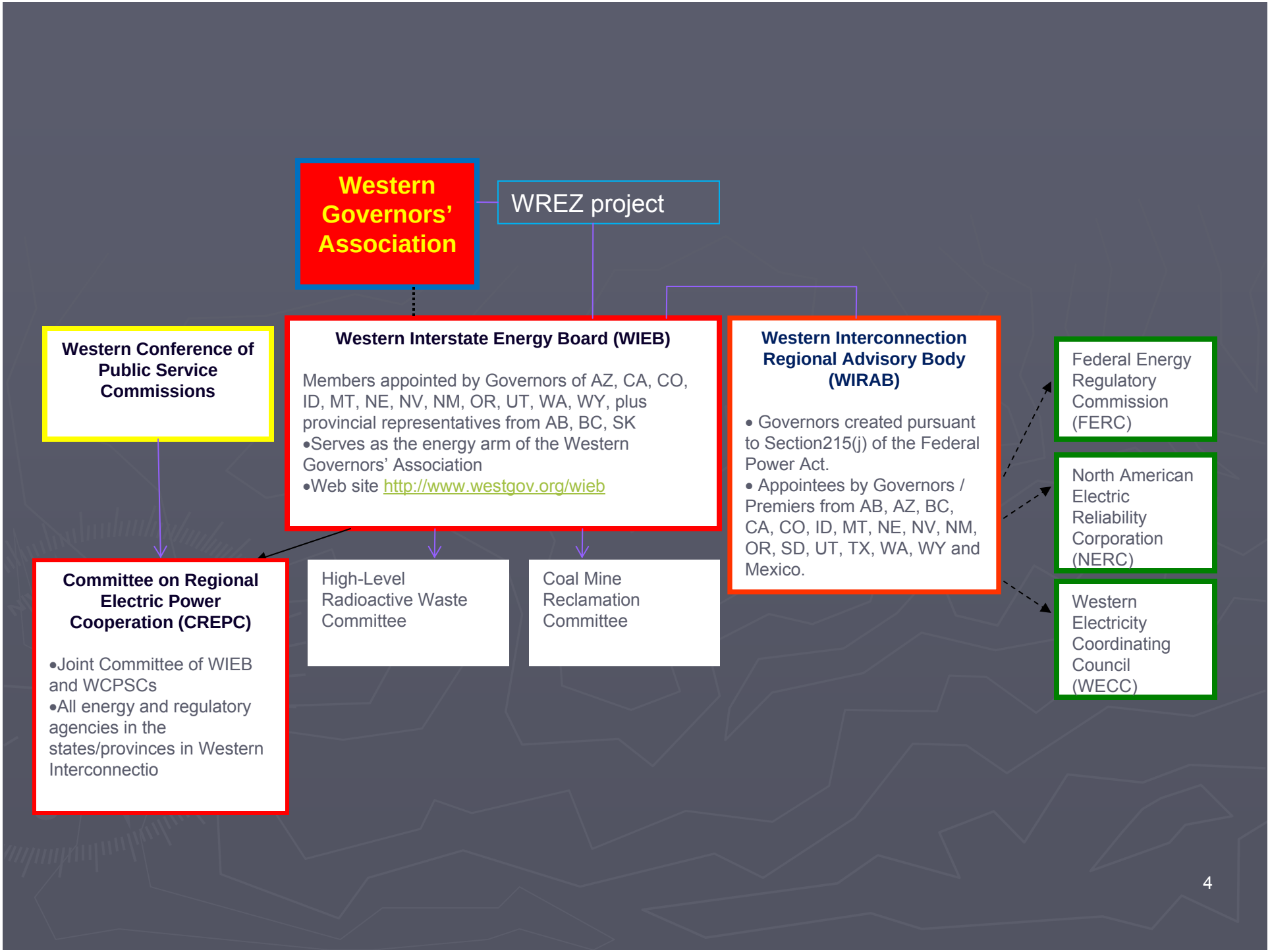
Western Interstate Energy Board

Bottom Line

Without agreement on the future for which we are planning and building transmission, our efforts are the equivalent of pushing a string uphill.

Outline of Presentation

- Explain the institutional and historical context for my comments
- Outline the existing transmission planning, development and permitting process in the Western Interconnection and the approach in Reid and Bingaman bills
- Highlight the strengths and weaknesses of the existing system in the West and Congressional proposals
- Challenges that need to be addressed
- Offer suggestions on a path forward in the Western Interconnection


Western Governors' Association
WREZ project
Western Conference of Public Service Commissions
Western Interstate Energy Board (WIEB)
Members appointed by Governors of AZ, CA, CO, ID, MT, NE, NV, NM, OR, UT, WA, WY, plus provincial representatives from AB, BC, SK
•Serves as the energy arm of the Western Governors' Association
•Web site http://www.westgov.org/wieb
Western Interconnection Regional Advisory Body (WIRAB)
• Governors created pursuant to Section215(j) of the Federal Power Act.
• Appointees by Governors / Premiers from AB, AZ, BC, CA, CO, ID, MT, NE, NV, NM, OR, SD, UT, TX, WA, WY and Mexico.
Federal Energy Regulatory Commission (FERC)
North American Electric Reliability Corporation (NERC)
Western Electricity Coordinating Council (WECC)
Committee on Regional Electric Power Cooperation (CREPC)
•Joint Committee of WIEB and WCPSCs
•All energy and regulatory agencies in the states/provinces in Western Interconnectio
High-Level Radioactive Waste Committee
Coal Mine Reclamation Committee

Three step process

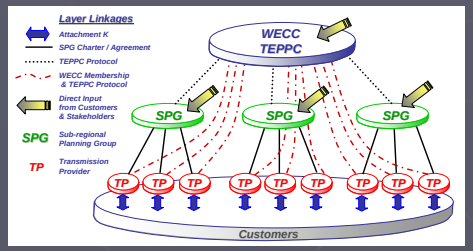
Planning

Project development and financing

Siting & permitting

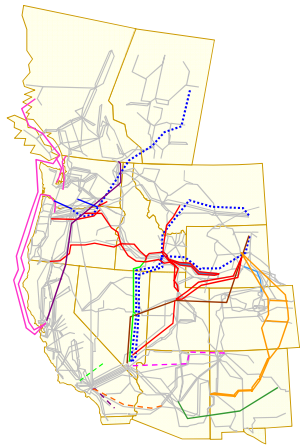
Existing process

Planning



- Three-tier process
- Open, transparent, pro-active
- Generation output is studies (not plans)

Project development and financing



Proposed projects by market participants

FERC incentive rates of return

Stimulus bill
- $3.25 billion to BPA
- $3.25 billion to WAPA
- loan guarantees (any value?)
- $4.5 billion to OE (not for transmission construction)

Siting & permitting

- State process
- Federal land management agency process
- Coordination attempts
  - WGA Protocol
  - Sec 1221(h)

Reid and Bingaman process

Planning

- FERC designates interconnection-wide planning entity(s)
- Entity delivers plan in 1 year
- If no entity formed or they don't deliver a plan, FERC does planning
- Reid focuses on planning for renewables; Bingaman planning generally

Project development and financing

- Entity (or states) must submit a cost allocation to FERC
- If no cost allocation submitted, FERC decides; FERC to spead costs widely (e.g., across an interconnection)

Siting & permitting

- FERC pre-empts states and sites lines
- FERC oversees federal agency permitting; if federal agencies don't permit in a year, applicant can appeal to President

Strengths/weakness of existing Planning process

- Strengths
  - Covers entire interconnection
  - Open, transparent, pro-active
  - Responsive to requests
  - Coordinated with sub-regional planning work
- Weaknesses
  - Does not result in a “plan” or plans
  - Short-term timeframe (10 years)
  - Not adequately tied to LSE fuel choices
  - Not linked to transmission projects (results don’t lead directly to projects; interaction of proposed projects not evaluated)
- Evolving rapidly
  - Calculation of carbon emissions
  - Inclusion of capital costs
  - More grounded resource selection (WREZ Process)

Western Renewable Energy Zone Project

- Joint WGA/DOE project
- Four phases
  - Phase 1 and Phase 2
    - Identify developable renewable energy zones
    - Develop renewable resource supply curves for each zone
    - Develop model to estimate delivered price of power from renewable energy zones to load centers
    - Develop conceptual transmission plans
  - Phase 3 and Phase 4
    - Foster coordinated renewable resource acquisition
    - Facilitate interstate transmission for renewables
- Transmission study requests

WREZ request of WECC

Case 1. **Near-Term Analysis of RPS Requirements**

- 10-year analysis of LSE renewable resource preferences
- Meet renewable portfolio standard targets throughout the West (8.5% of load)

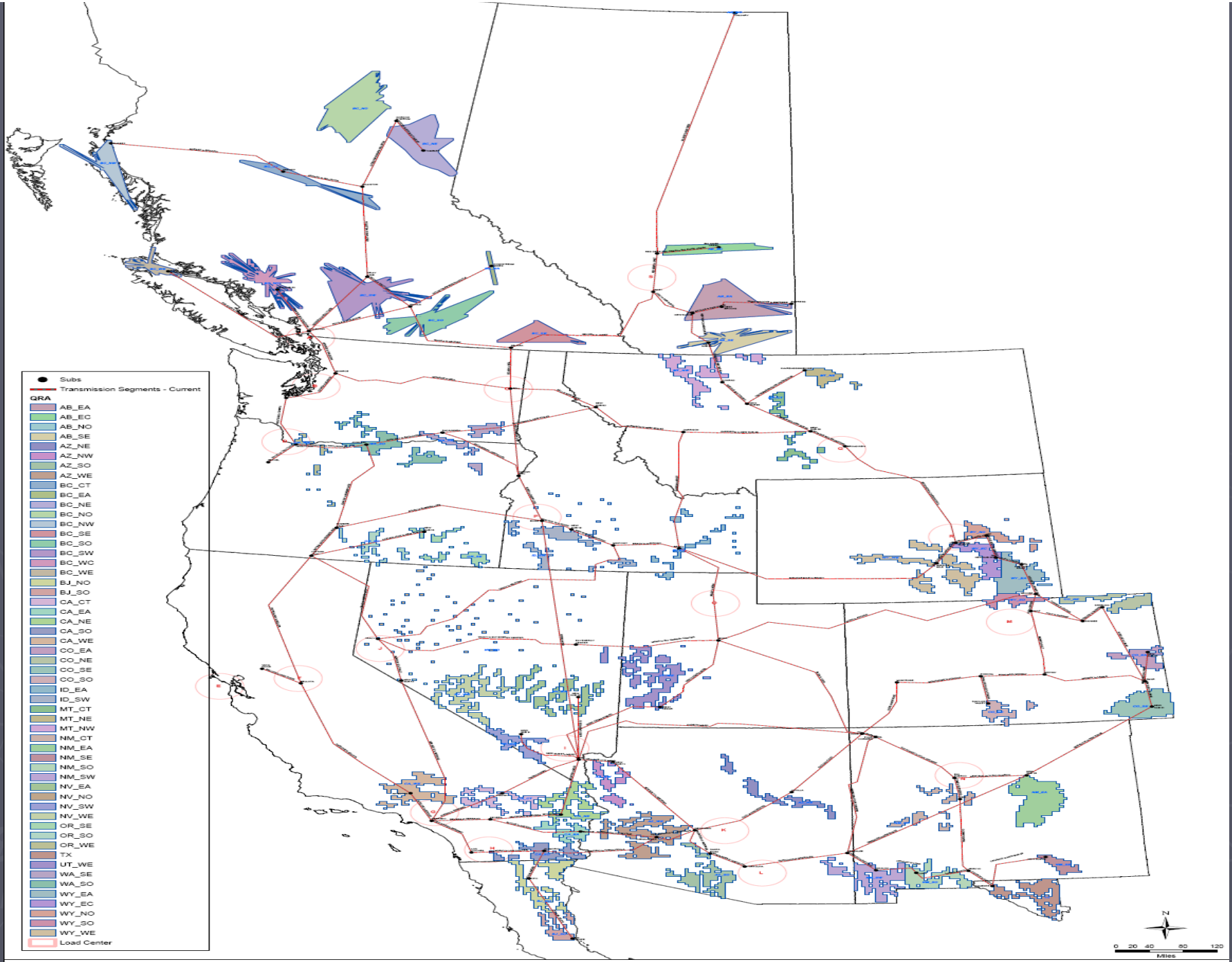
Case 2. **Near-Term Analysis with Carbon Constraints**

- 10-year analysis
- 25% renewable energy penetration
- 25% reduction of CO2 emissions

Case 3. **Long-Term Analysis**

- 20-year analysis
- 33% renewable energy penetration
- 50% reduction of CO2 emissions
- Technology changes

Case 4. **Superhighway Network Overlay**



WREZ Transmission Planning

BLACK & VEATCH
Building a world of difference.

WREZ Schedule

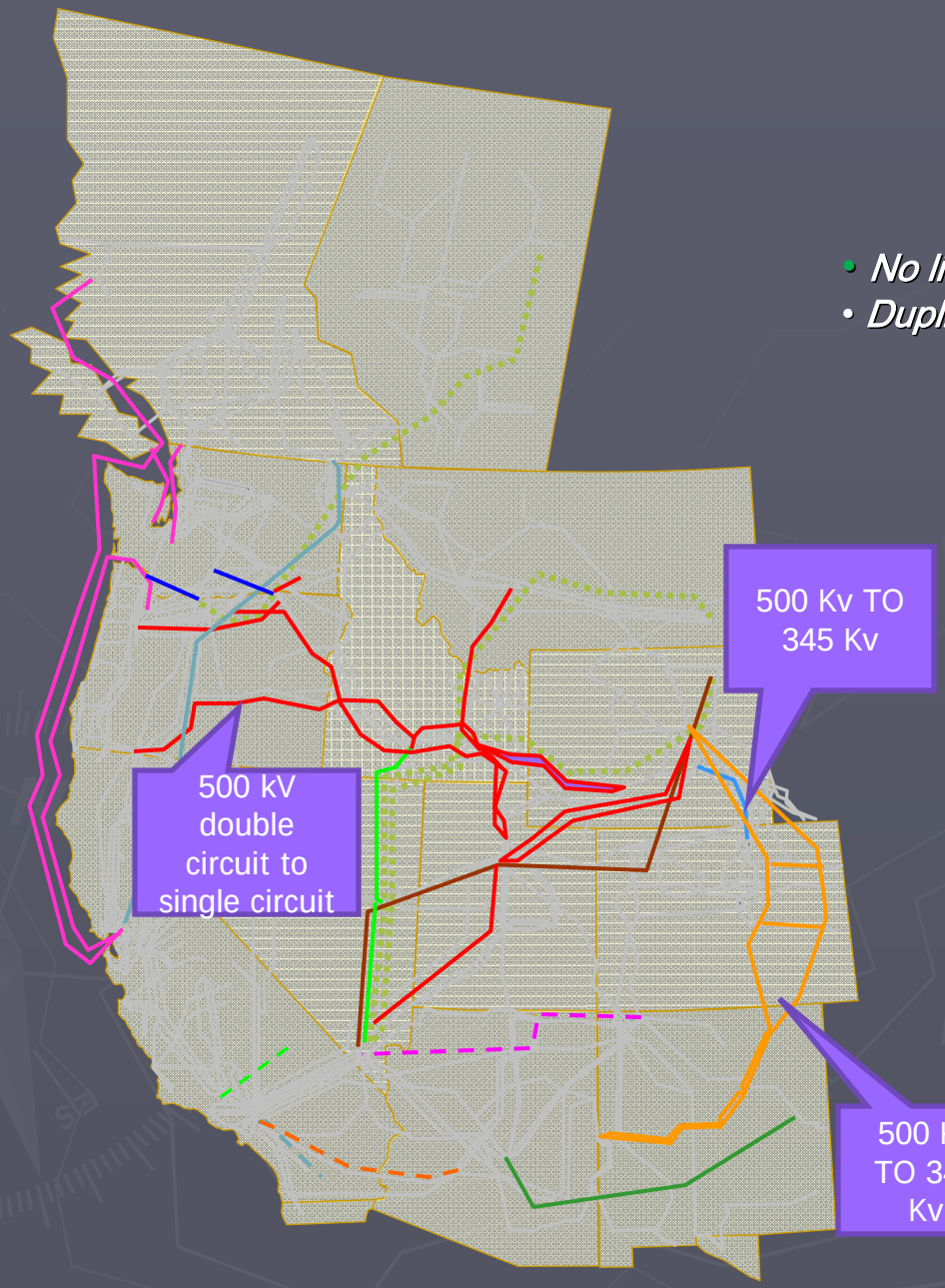
- Jan – WREZ request made to WECC
- Feb- Comments on Qualified Resource areas and WREZ model inputs
- March – WREZ model (1.0) released
- April – Wildlife info incorporated and Renewable Energy Zones identified
- May – Steering Committee approval of REZs
  - LSEs indicate preferred REZs
- June – Report to Governors on Phase 1
- July forward – Implementation of Phases 2, 3, 4

Strengths and weaknesses of existing project development/financing

- Strengths
  - Driven by business decisions of market participants, not federal planners
  - Produced an unprecedented number of proposed major projects
- Weaknesses
  - Will undersize lines to location-constrained renewables
    - Missed economies of scale
    - Create avoidable land use fights
  - Will result in duplicative proposed projects that permitting agencies will have to decide
  - May leave gaps in system that reduces overall transfer capacity
  - Doesn't preserve option for quick expansion of transfer capacity

Proposed Transmission Projects in the Western Interconnection

- *No line bigger than 500 kV double circuit*
- *Duplicative lines*



- Sea Breeze Projects
- TransCanada Projects
- Gateway & Other NTTG Projects
- Columbia Grid Projects
- TransWest Express
- LS Power & Great Basin Projects
- WY-CO Intertie Project
- High Plains Express
- Sun-ZIA
- Canada/PacNW-NoCalif
- Central CA Clean Energy (C3ET)
- Green Path North
- Devers-Palo Verde 2
- Navajo Transmission Project

Strengths/weaknesses of existing siting/permitting process

- Strengths
  - It can be done – only 1 interstate transmission line denied a permit ever
- Weaknesses
  - Takes too long and too expensive to get an answer
  - Permitting agency reviews not synchronized
  - No interconnection-wide indication of need

Challenges that need to be addressed

- Are we fully utilizing the existing transmission system?
- Is the wire needed?
  - Under what carbon rules?
  - Under what technology assumptions (plug-in vehicles, PVs, CCS or nuke or gas production breakthrough)?
  - Under what demand assumptions (different growth patterns; widespread efficiency gains)
- Is it the right size in the right place to capture economies of scale and minimize environmental damage?

Will Reid and Bingaman help or hurt?

- **Planning**
  - Increases pressure for developing an interconnection plan(s) not just studies
  - Doesn't reduce core uncertainties created by no federal policy on carbon or RPSs (more "pushing a string uphill")
  - If FERC does planning, it will set back current planning progress and may set back proposed projects
- **Project development / financing**
  - Will trigger fights from parties who don't see benefits from a project
  - Fails to address biggest financing challenge which is paying to "right size" wire or preserve option to increase transfer capacity
- **Siting / permitting**
  - Challenges on need will continue absent better planning
  - Will reduce state and local need to support transmission
  - May or may not expedite federal agency action
  - Will precipitate new Congressional fights for repeal of authority

Larson Ideas on Path Forward

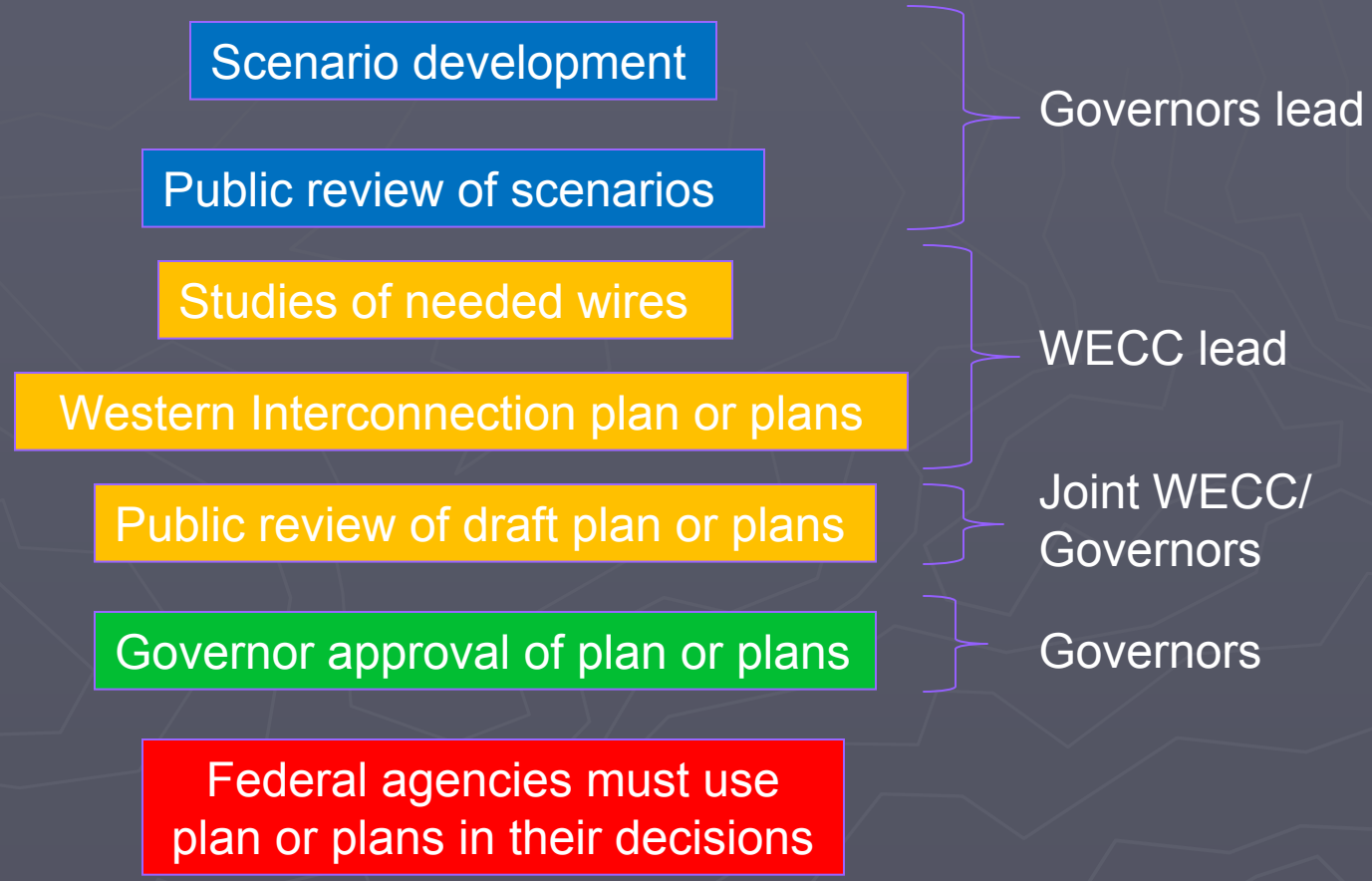
- Focus planning, financing and siting/permitting on expanding and preserving options for fast action if demand for massive amounts of remote renewables materializes

- Estimate how much should be paid for preserving/expanding options
  - Cost of option if future is different
  - Cost of not preserving options if future is different

1. Create plan development process
(as opposed to planning process)

- Governor-led scenario development effort
- WECC-led transmission studies of transmission in different scenarios
- WECC-developed plan or plans
- Governor endorsement of plan or plans
- Plan or plans used by feds to:
  - Determine incentive rates for transmission offered by FERC
  - Expenditure of federal transmission funds (stimulus and future funds)
  - Guide 368 corridor designation
  - Limit scope of DOE NIETC designations and FERC pre-emption

Plan Development Process



2. Financing

- Use historical method of financing a project – those wanting the power pay for the core project
- Feds pay to:
  - "Right size" lines to large areas of renewables
  - Preserve the option to rapidly expand transfer capacity without new siting process (e.g., pay for wider ROWs and larger towers
  - Test the deployment of cutting edge technology (e.g., 800 kV DC, 1000 kV AC)

3. Siting/permitting

- Redo 368 corridors in light of WREZ findings
- Refocus 1221(a) on NIETCs and lines to move renewables
- Update State/Federal agency permitting protocol