



TRANSMISSION CONSTRUCTION IN THE WEST

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Connecting the Region Today for the Energy Needs of the Future

A Wyoming Perspective on:

- **Rocky Mountain Area Transmission Study (RMATS)**
- **Frontier Line Proposal**
- **Wyoming Infrastructure Authority**

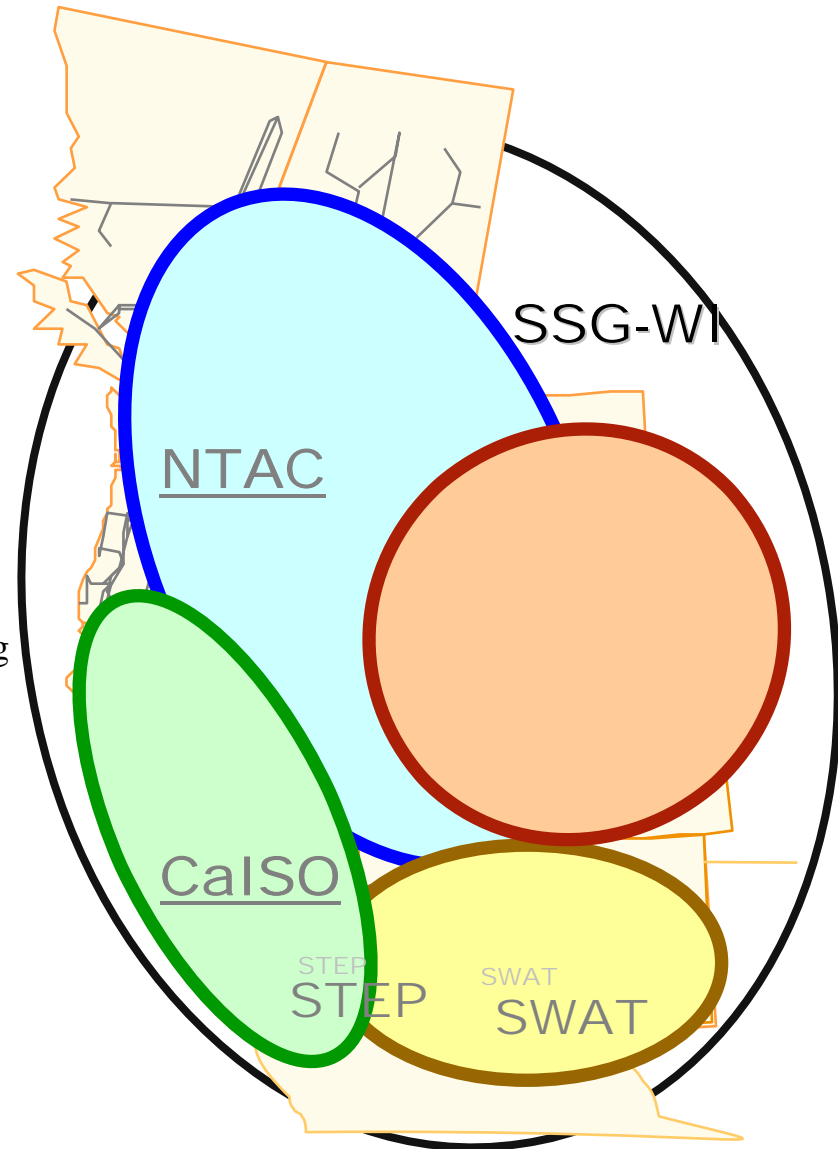
Origins of RMATS

Gov. Freudenthal of Wyoming



Frm. Gov. Leavitt
of Utah

- RMATS convened by the Wyoming and Utah Governors
- Sub-Regional Expansion Planning
- Focus on Rocky Mt. Coal & Wind Options
- Coordinated with transmission planning studies elsewhere in the West



Benefits of Transmission Expansion

- **Improved reliability**
- **Market power mitigation**

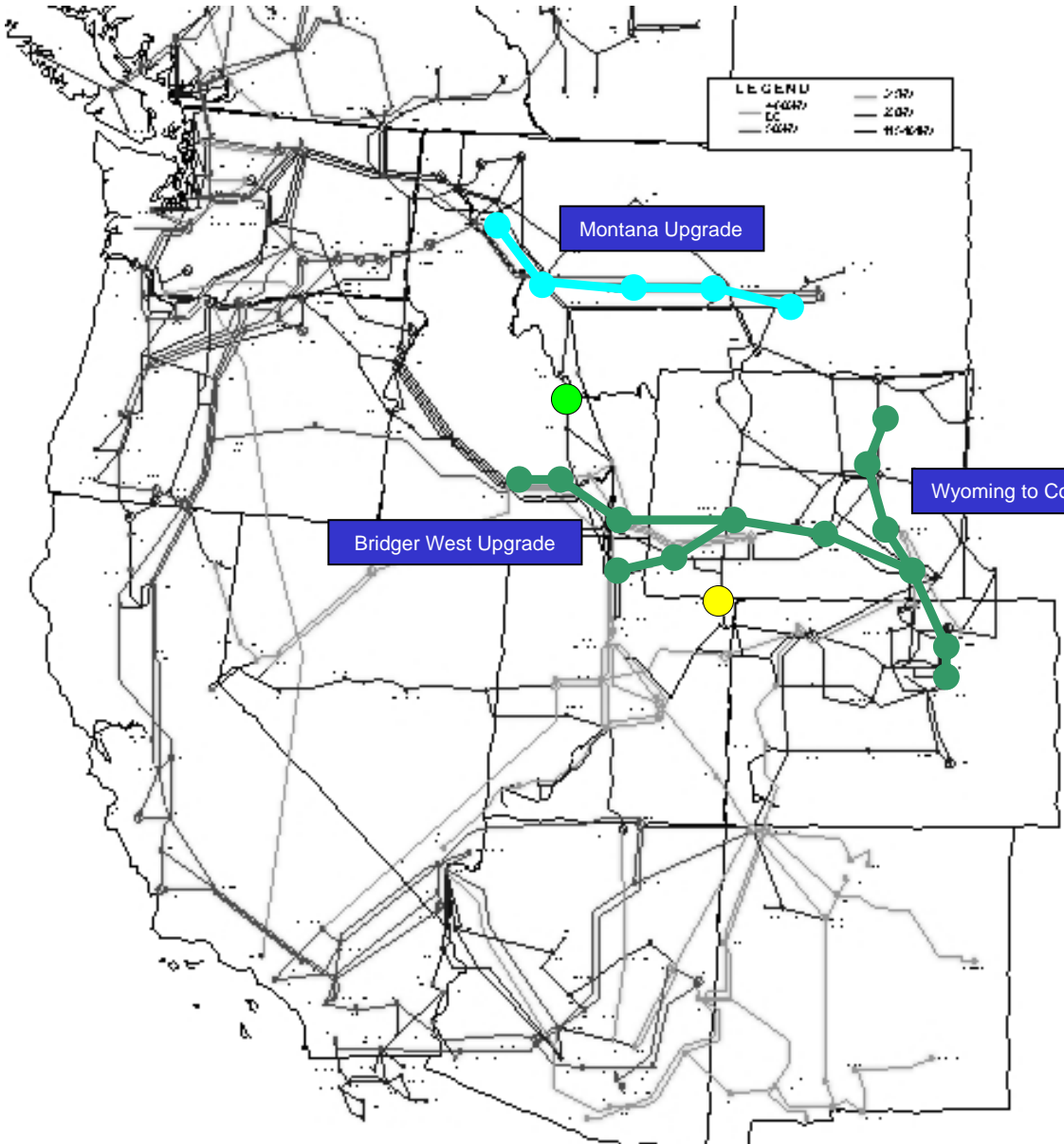
- **Reduced production costs**
- **Reduced and more stable market clearing prices**

- **Fuel diversity benefits**
- **Economic development benefit to states with new investment**

Subset of benefits analyzed in RMATS Phase I



RMATS Recommendation 1

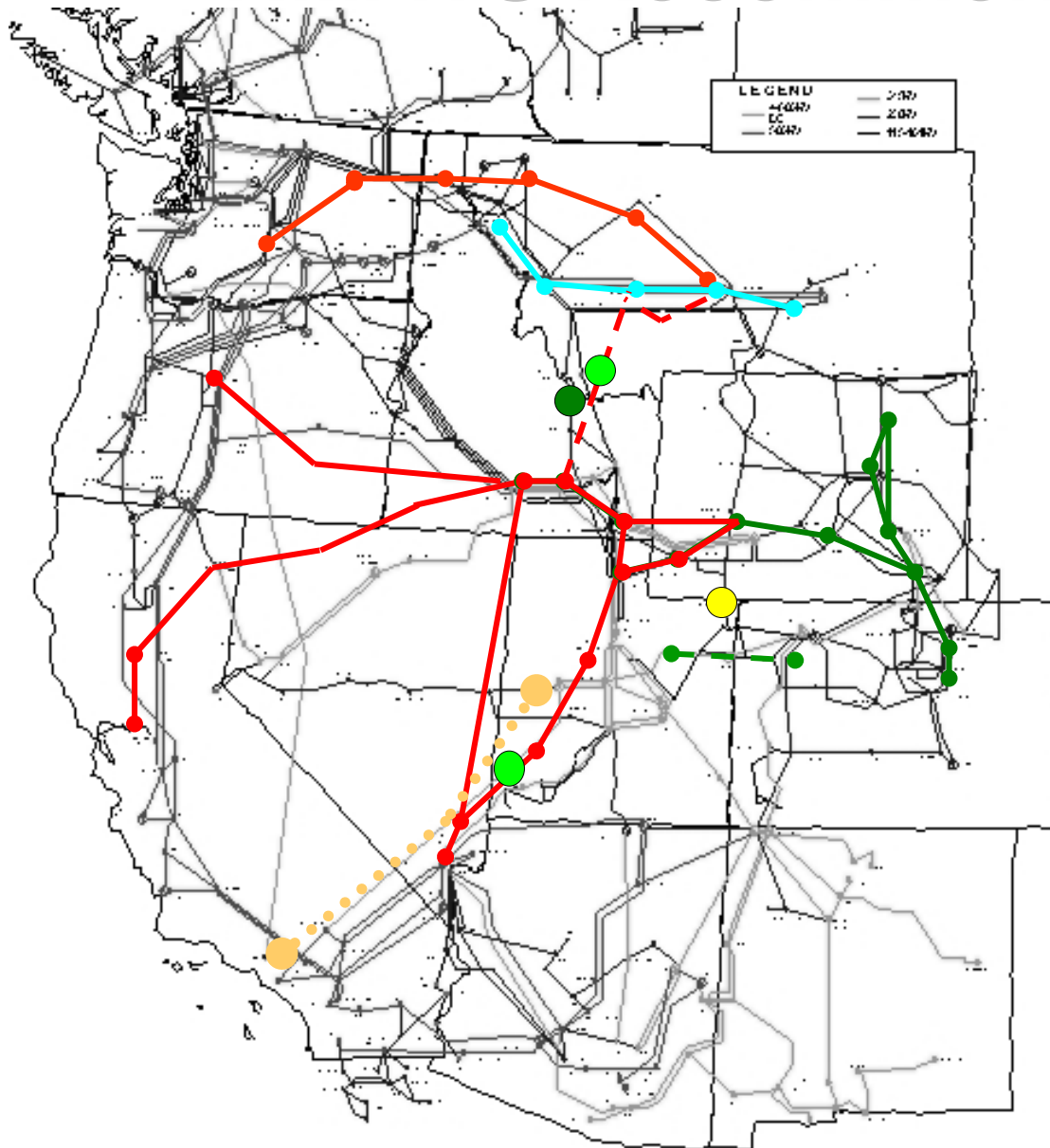


LEGEND
— >100kV
- - - 100-200kV
... <100kV

LEGEND
— Add 345kV
— Add Series Compensation
● Add Phase Shifter
● Add Transformer



RMATS Recommendation 2



Need two of five 500 kV
export paths shown

- LEGEND**
- Add 345kV
 - Add 500kV
 - Add Series Compensation
 - ... IPP DC Upgrade
 - Add Phase Shifter
 - Add Transformer
 - - Depends on 500kV option chosen



Economic Screening Analysis

	<u>Recommendation 1</u>	<u>Recommendation 2</u>
Capital Investment		
Transmission	\$16 million <u>+ \$970 million</u> \$986 million	\$16 million <u>+ \$970 million</u> <u>+3,295 million*</u> \$4,281 million
Resources	\$6,600 million	\$6,600 million <u>+ \$5,700 million</u> \$12,300 million
Annual Net Savings (compared to reference cases)	\$61-\$531 million	\$516-\$986 million

** Average Capital Cost of 4 Options Studied*

Critical Factors Examined

- Future natural gas prices
- Hydro conditions
- Aggressive demand side management
- Potential carbon emission constraints



Institutional Recommendations

- PSCs develop multi-state transmission expansion pricing principles
- Engage the Wyoming Infrastructure Authority in financing discussions
- Better link load-serving entity resource plans to regional transmission plans
- Integrate RMATS export recommendation with planning in other parts of the Western Interconnection
- Governors and regulators consider the formulation of an RTO with features appropriate to the region
- Transmission owners develop conditional firm or priority non-firm transmission products that quantify curtailment risks and allow greater use of existing wires
- Maintain RMATS planning capacity



RMATS Phase II?

- Success of Phase I was due to the leadership of Western Governors and the significant contributions from the participants
- Phase II will depend on interested parties stepping forward with commitments to sponsor projects and forming partnerships which may include public and private entities, regulators and policy makers
- The Wyoming Infrastructure Authority is planning efforts to catalyze RMATS Phase II



Key Events Since RMATS

- Frontier Line Proposed by Four Governors
- Wyoming Infrastructure Authority received significant funding
- Transmission Cost Allocation Principles report released (TREG)



The Frontier Line

*A Transmission Project
for the American West*

- **What is the *Frontier Line*:**
 - A vision for a new transmission corridor enabling clean coal and wind resources to support needs in Utah, Nevada and California
 - Four Governor MOU signed April 2005 endorsing concept and announcing Government seed money to advance the project
 - Could use DC or AC technologies or a hybrid of the two
 - Transmission investment anticipated to be about \$5 Billion
 - Annual net benefits could exceed \$2 Billion per year



The Frontier Line

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The Frontier Line

*A Transmission Project
for the American West*

- **A Progress Report:**

- A non-profit entity is established to coordinate the States' work
- Bylaws are adopted, the Board is seated and funding is pending
- The Task Force is working closely with key government agencies and regulators at the state and federal levels and in the U.S. Congress to coordinate its efforts
- Pre-feasibility analysis will soon begin to identify potential business models, financing options, state and federal regulatory hurdles and siting paths.

Wyoming Infrastructure Authority

- WIA was created in 2004 by Wyoming Legislature as an instrumentality of the State
- Its Mission: to diversify and expand the state's economy through improvements in the electric transmission system and to facilitate the increased utilization of Wyoming's energy resources
- WIA can own, operate, finance, site and otherwise promote interstate transmission facilities
- WIA can also partner with the private sector, including extending up to \$1 Billion in bonding capability for projects owned by others

Potential Roles for the WIA

➤ **Catalyzing**

- Collaborator with market participants and regulators
- Project sponsorship and coordination
- Assisting with cost allocations among parties for specific projects

➤ **Financing**

- Funding conduit or co-signer for private or public transmission investments

➤ **Developing**

- Turn-key project development
- Owning transmission facilities

WIA's Pending Projects

- **A financing *maiden voyage***
 - A \$35 MM project financing of transmission in WY with the private placement of bonds
- **A focus on moving RMATS recommendations to commercial viability**
 - TOT3 from PRB to the Front Range
 - Bridger-west to Wasatch Front and Boise
- **A leadership role in proving out the feasibility of the Frontier Line concept**

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