

Clean Line Energy Partners

Perspective of Julia Souder on Transmission and Siting
Stanford PESD, September 2011

CLEAN LINE
ENERGY PARTNERS

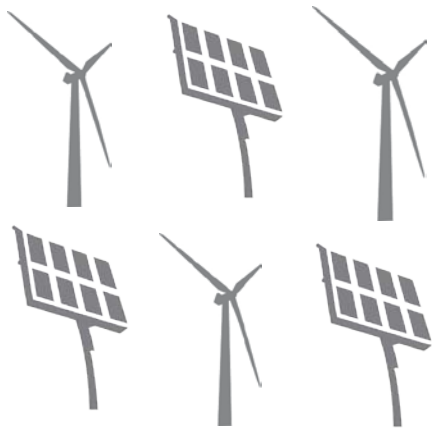


Introduction to Clean Line Energy

Connecting Renewable Energy to Demand

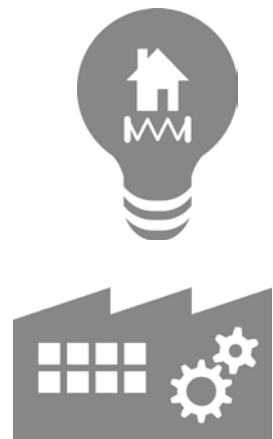
- Clean Line is an independent developer solely focused on building transmission lines.
- Clean Line is backed by investors with a long-term outlook and patient capital.
- Clean Line's management team brings a track record of success in energy project development.

Strong wind and solar resources



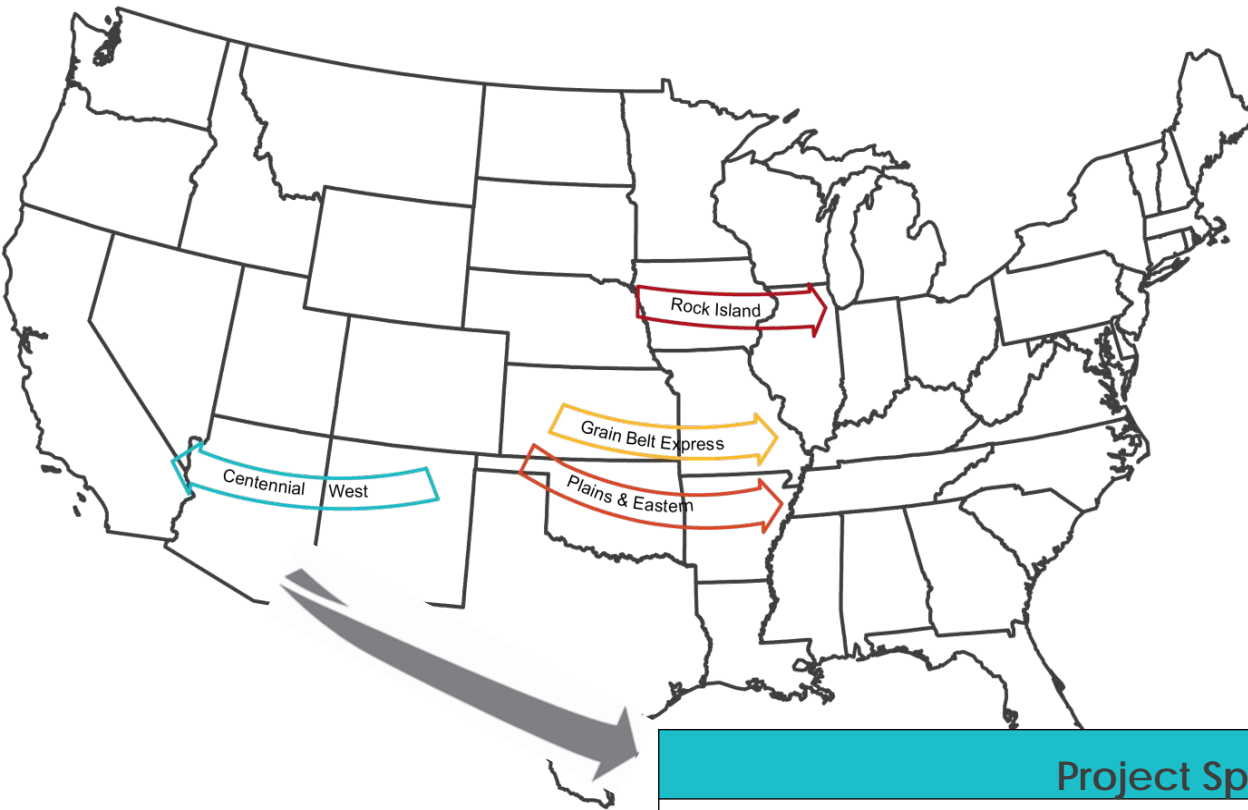
HV→DC

Large demand centers



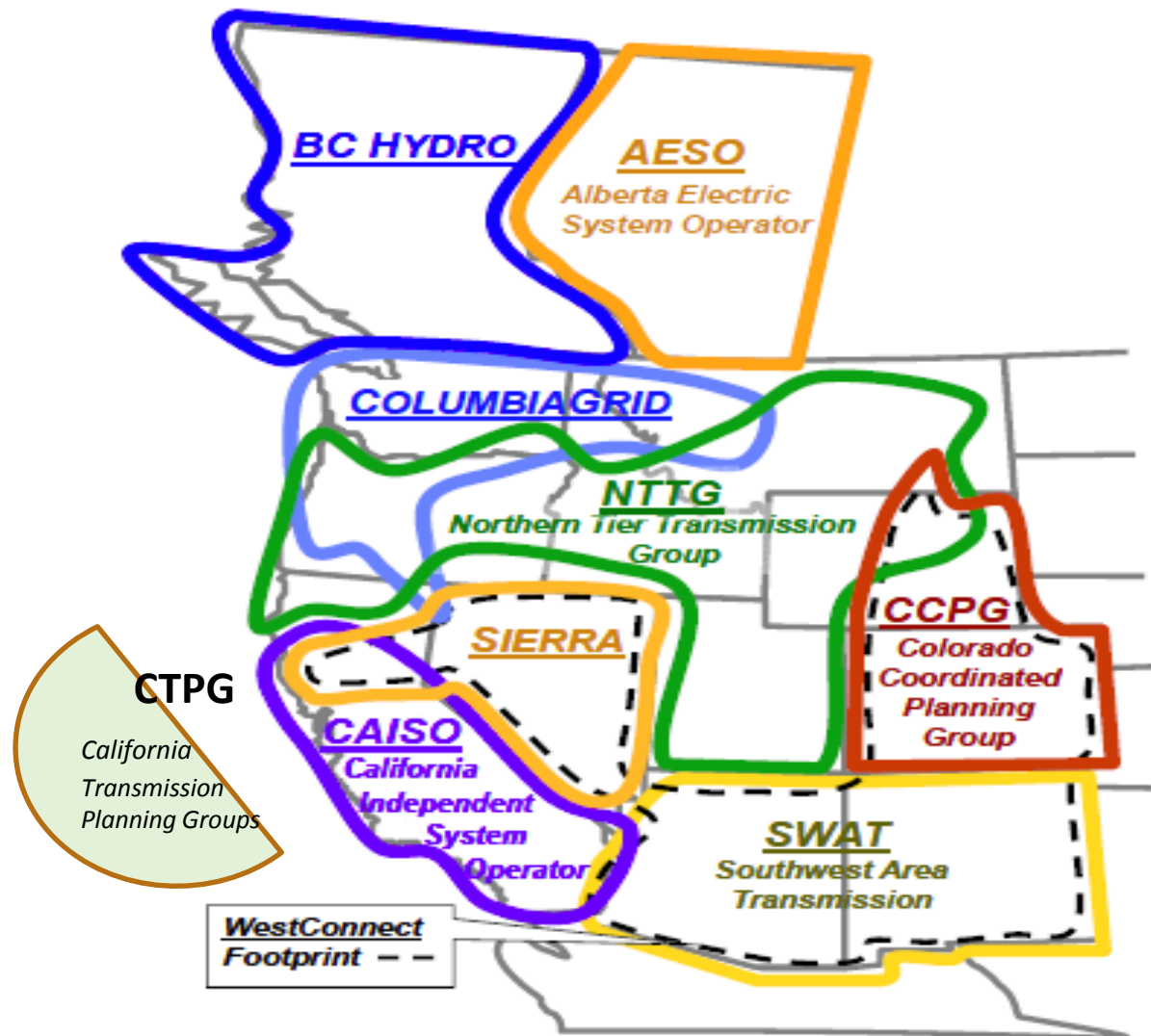
Integrating large clean energy sources with demand centers

Centennial West Clean Line will transmit 3500 MW of New Mexico renewable power to California

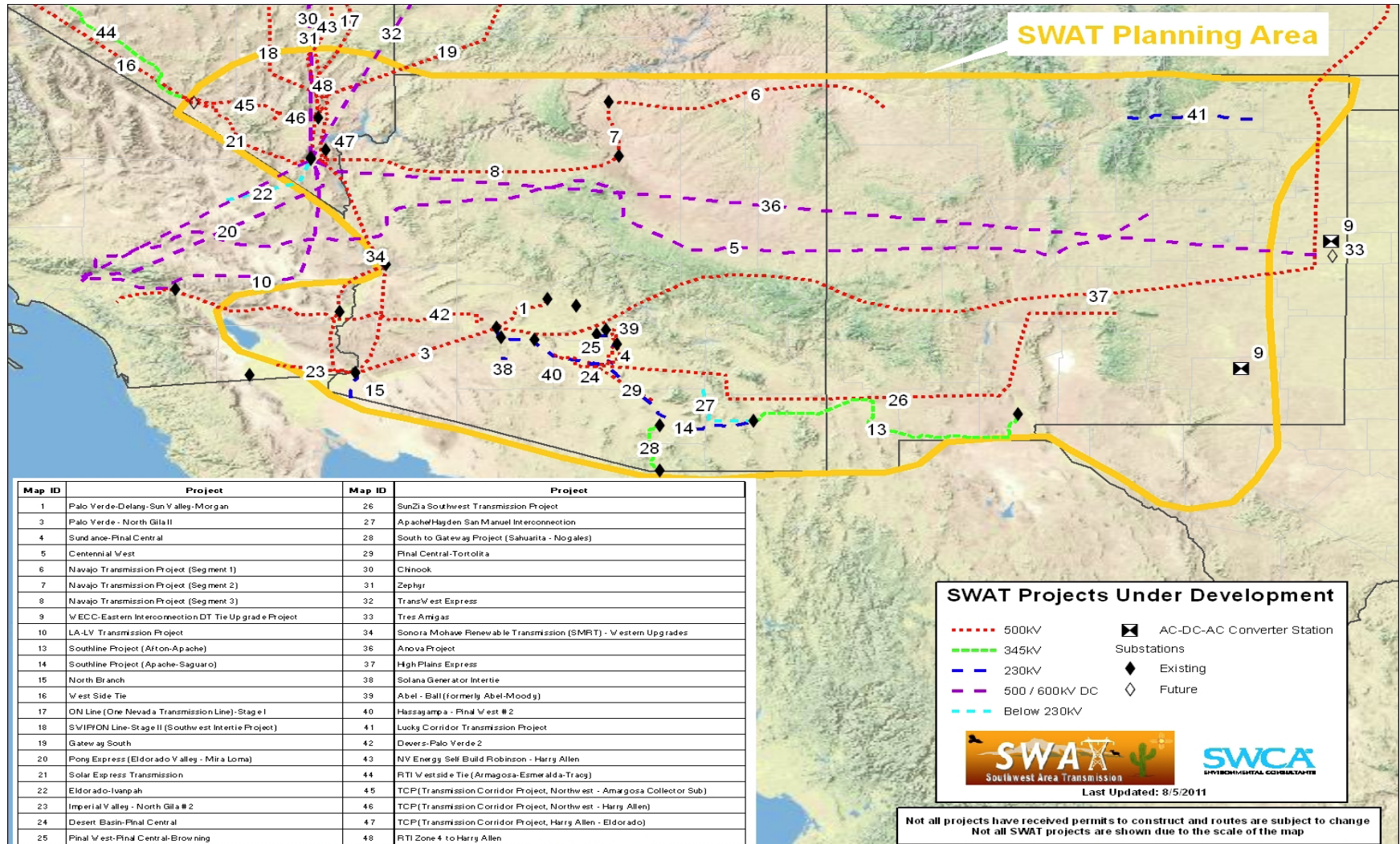


| Project Specifications | |
|--------------------------|-------------------------------------|
| Transmission Capacity | 3,500 MW |
| Technical Configuration | ±600 kV DC bipole transmission line |
| Approximate Length | 900 miles |
| Target Utilization Rate | 50+% |
| Approximate Capital Cost | \$2.5 billion |

1. What are the current regulatory processes governing transmission siting?

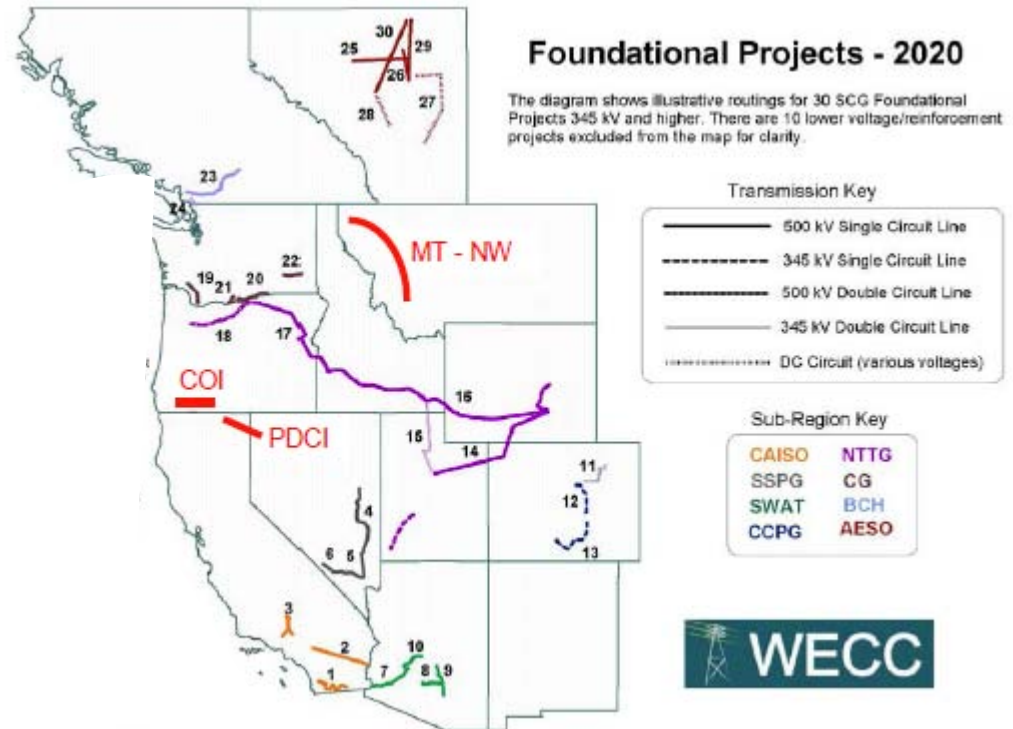


SWAT Projects Under Development



Federal Government Rapid Response Team

- Created August 31, 2001 Executive Order
- Within 120 have at least 15 projects named and posted on a website with all relevant information to expedite the projects.
- The CEQ will then work to deploy various technology tools to help the effectiveness and efficiency of the agency to coordinate the environmental reviews.



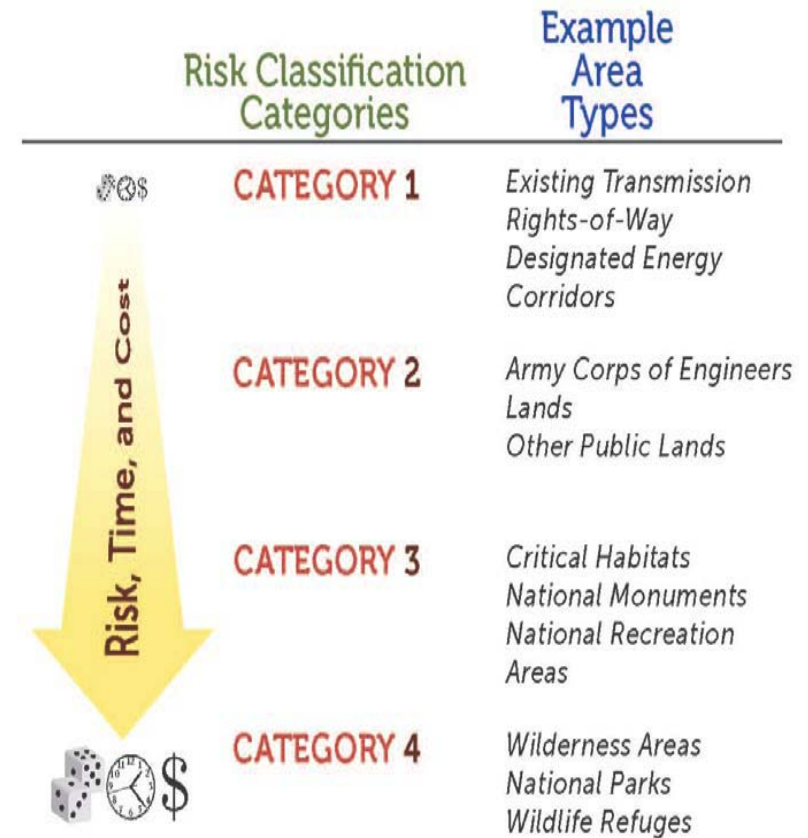
Additional Thoughts on Permitting

- State and Federal balance
 - CEQA and NEPA requirements
 - National corridors
 - **Upfront** consulting
 - Long term perspectives - 50 years
- Costs/ Priorities
 - Diversity
 - Adaptation
- Process Improvements
 - Long-term capital planning tools
 - Scenario-driven planning
 - Inclusion of water & environmental factors
- CAISO and CPUC/CEC/CARB
 - Quantification of impacts on specific ratepayers
 - Cost allocation
 - Permitting/siting coordination

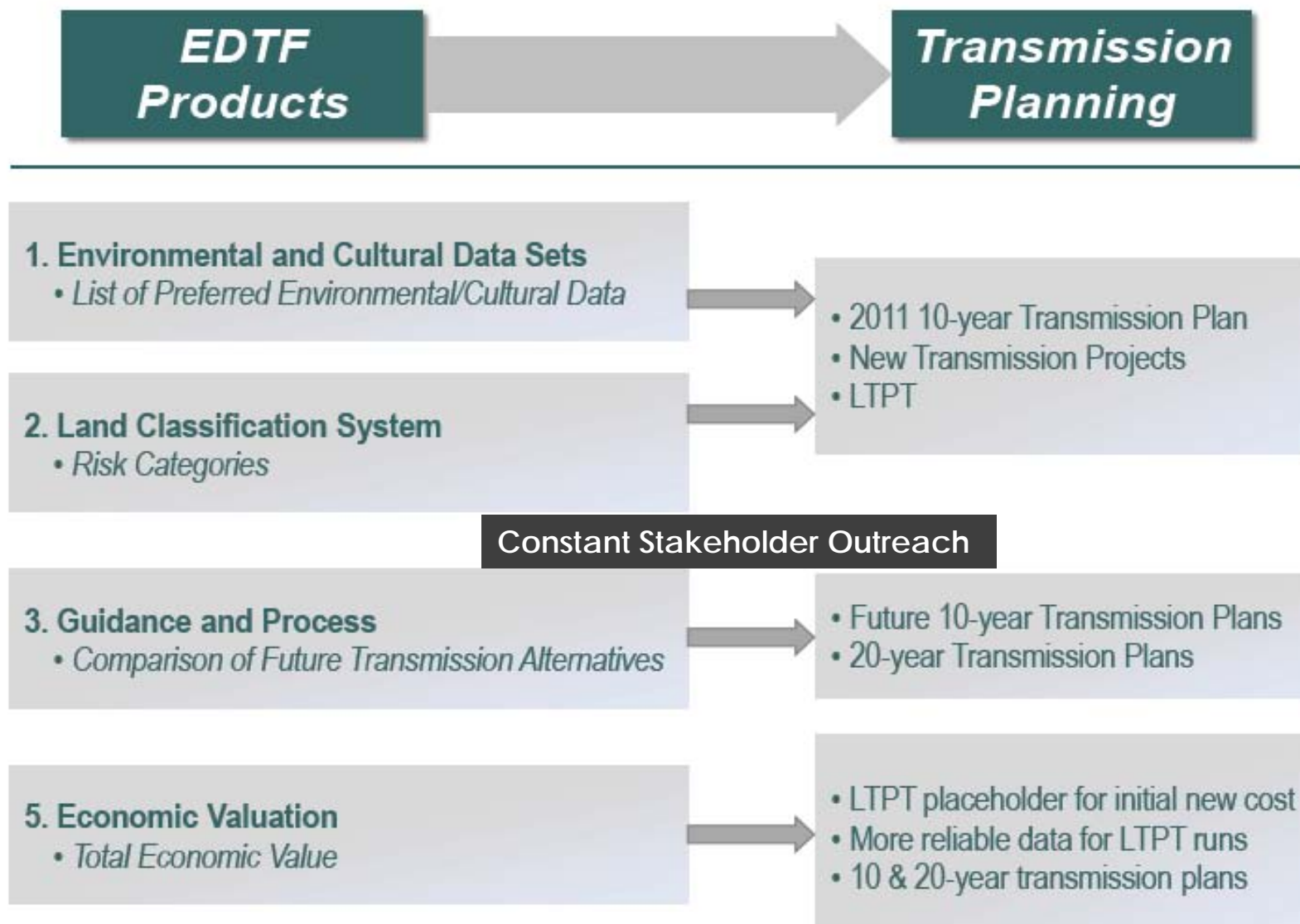
Key is to create cooperative, comprehensive processes

2. How can environmental impacts be appropriately taken into account without causing delays in planning and construction?

- The Scenario Planning Steering Group (SPSG) formed **the Environmental Data Task Force (EDTF)** to develop recommendations on the type, quality, and sources of data on land, wildlife, cultural, historical, archaeological, water resources),
- Transform data into a form usable in WECC's study cases and planning **models**.
 - Stakeholders recommending improvements to an environmental and cultural resource **risk classification system** to guide planning and evaluation of potential transmission alternatives.
 - Recommending **amendments to TEPPC** to incorporate environmental and cultural considerations into WECC's transmission planning process.
 - Working with technical contractors to explore existing data on the public economic values of environmental and cultural resources and services for use in the **long-term planning tool**.

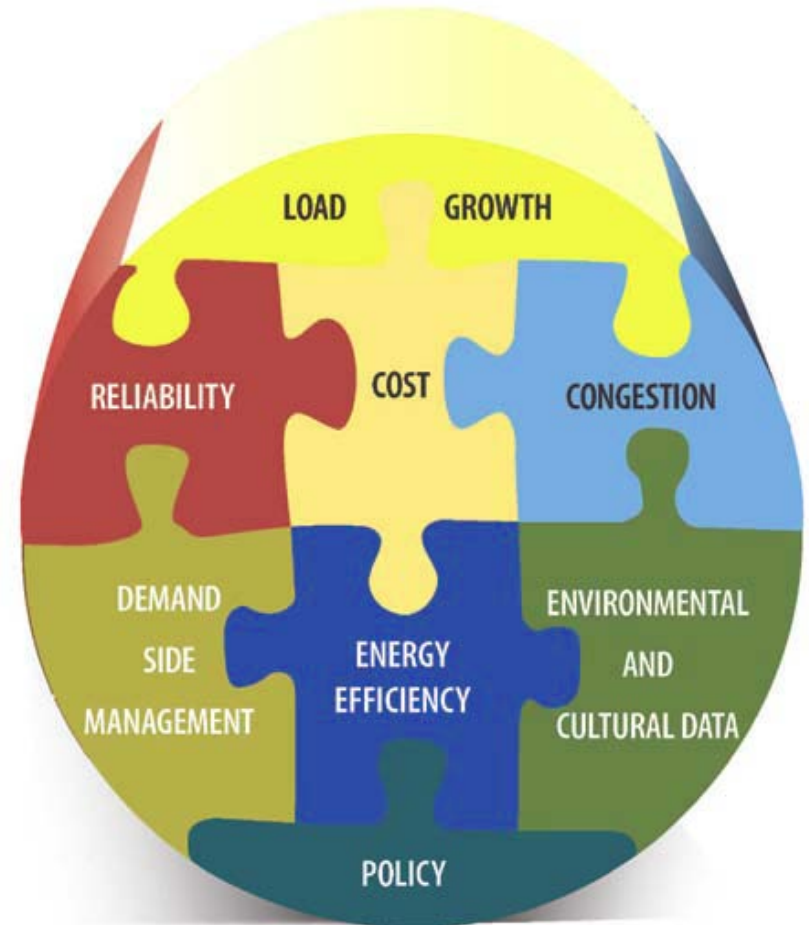


Environmental components incorporated into Planning



3. What are the most effective ways to limit the environmental impacts of transmission expansions: building in existing corridors, using underground transmission lines. building “local-to-load” rather than “distant-to-load”?

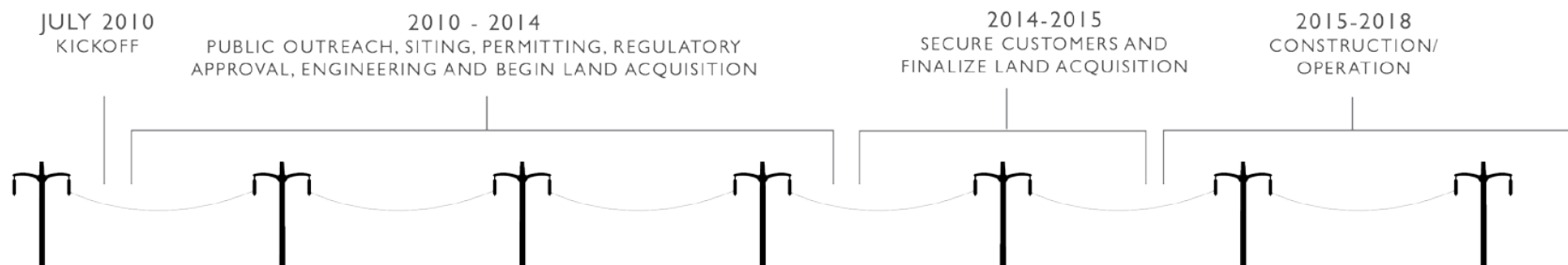
- EDTF created scorecard and provided analysis to help guide the selection of the most appropriate valuation methodology for use in the long-term planning tools . Three levels of criteria.
- Participate in case studies and data sharing
- Up front coordination and analysis (build outreach forums)
- Cross education of critical factors for development (balancing various mission's)



4. What are the major factors that currently determine the length of time from project conception to project operation?

- Increasing avenues for cooperation with all industry parties and agencies
 - Energy Policy Act of 2005 (energy corridors...)
 - American Reinvestment and Recovery Act – coordinated process (DRECP...)
 - FERC Order No. 1000 (open markets...)
- Independently developed projects have been able to secure significant project financing
 - Path 15 (California and Oregon)
 - Neptune Project (New York and New Jersey)
 - CREZ projects (Texas)

CENTENNIAL WEST CLEAN LINE SCHEDULE



Summary – Hopeful attributes to permit, site and build transmission in a responsible and timely manner

- CAISO reworking its queue process- give input
- EDTF new kid on block- helpful models
- Rapid Response Team implementation
- NARUC/FERC partnerships needed
- Avoid duplication of resources-collaborate on mitigation measures
- Do outreach on all levels
- Build transparency and trust

A new grid requires new partnerships between developers, utilities and government and non-governmental organizations

CENTENNIAL WEST

CLEAN LINE

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