Transmission and A Clean Energy Future: An Environmental Conundrum

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- Climate change poses the greatest threat to biological diversity in human history
- Trees moving upslope at rate of 1 to 3 feet a year.

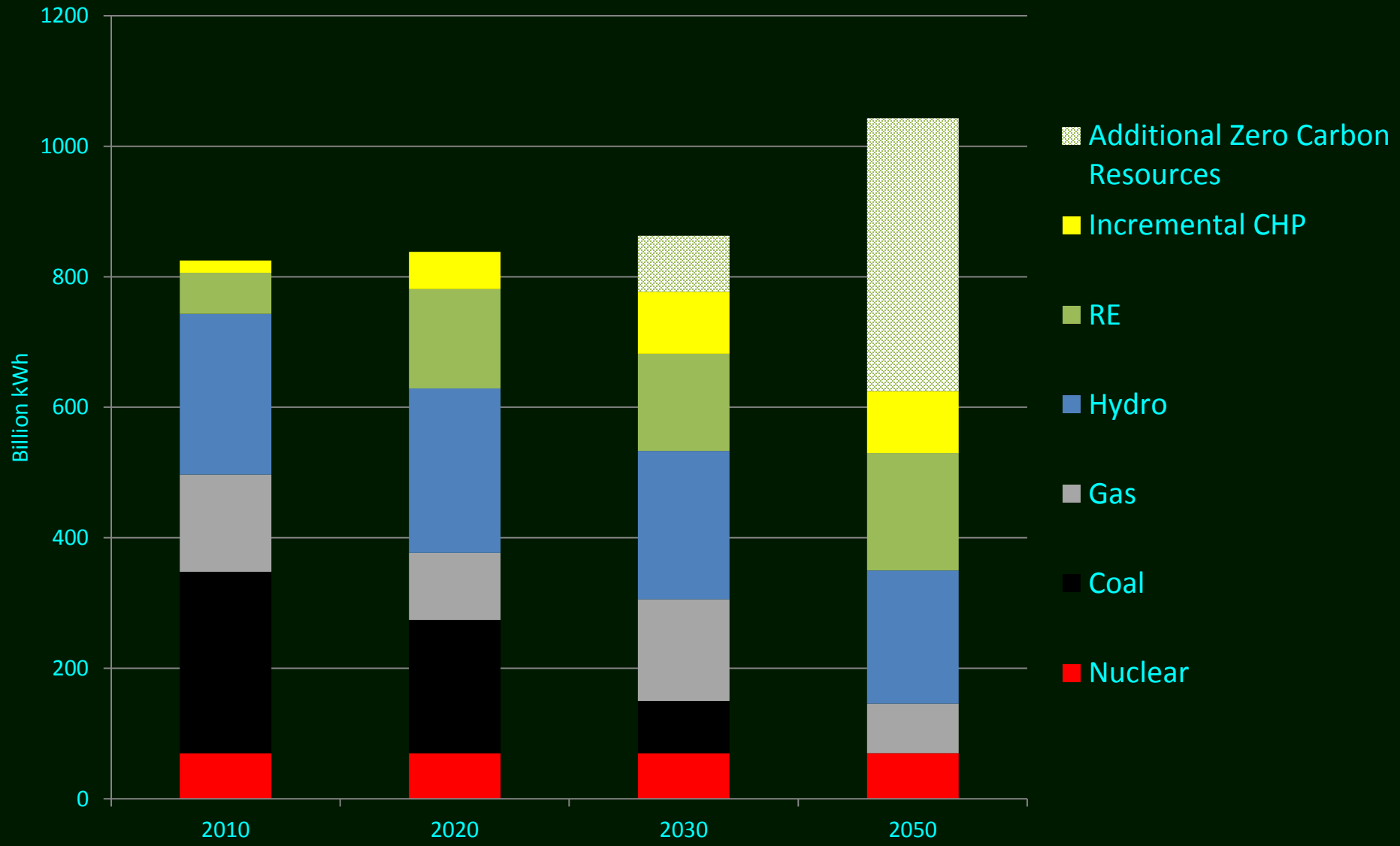
Clean Energy Future

www.cleanenergyvision.org

Benefits:

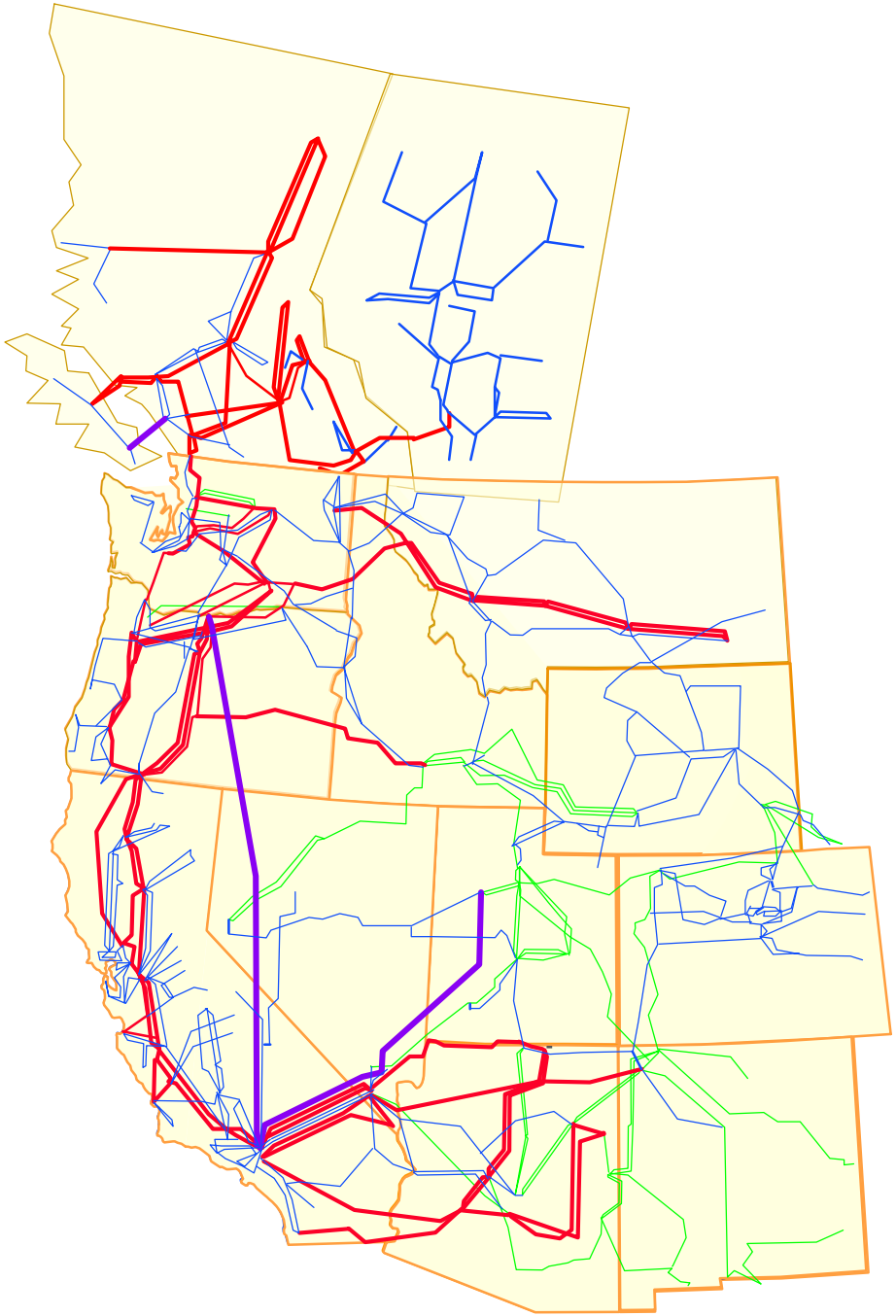
- Environmental: biodiversity, water, ecosystems
- Public Health: prevention, cost reduction
- Economic: jobs, global competitiveness
- National Security: more reliable supplies

CEV Generation Portfolio



Transmission: An Enabler of a Clean Energy Future?

- To reduce carbon to IPCC 2050 target
  - Need over 100,000 MW new utility scale RE even with aggressive EE, DR, and DG
  - **25,000 miles of new transmission lines**



WECC Existing Transmission System

	230 kV HVAC
	345 kV HVAC
	500 kV HVAC
	± 500 kV HVDC

Western Electricity Coordinating Council

Potential Renewable Energy Land Impacts

Generation = 1.07 million acres

Transmission = 0.5 million acres

Total = 1.5 million acres

Climate Change Impact:

- 3.6 million acres killed by beetles in CO and WY

Environmental Conundrum

Long-term vs. short term concerns

- Stave off a biodiversity disaster by developing and transmitting renewable energy now

- Protect important wildlife and landscapes now no matter long term climate concerns

<u>Hurdle</u>

- Human nature to focus on short term, tangible, impacts close to home

Minimizing Transmission Impacts

Environmental Data Task Force (EDTF)

EDTF

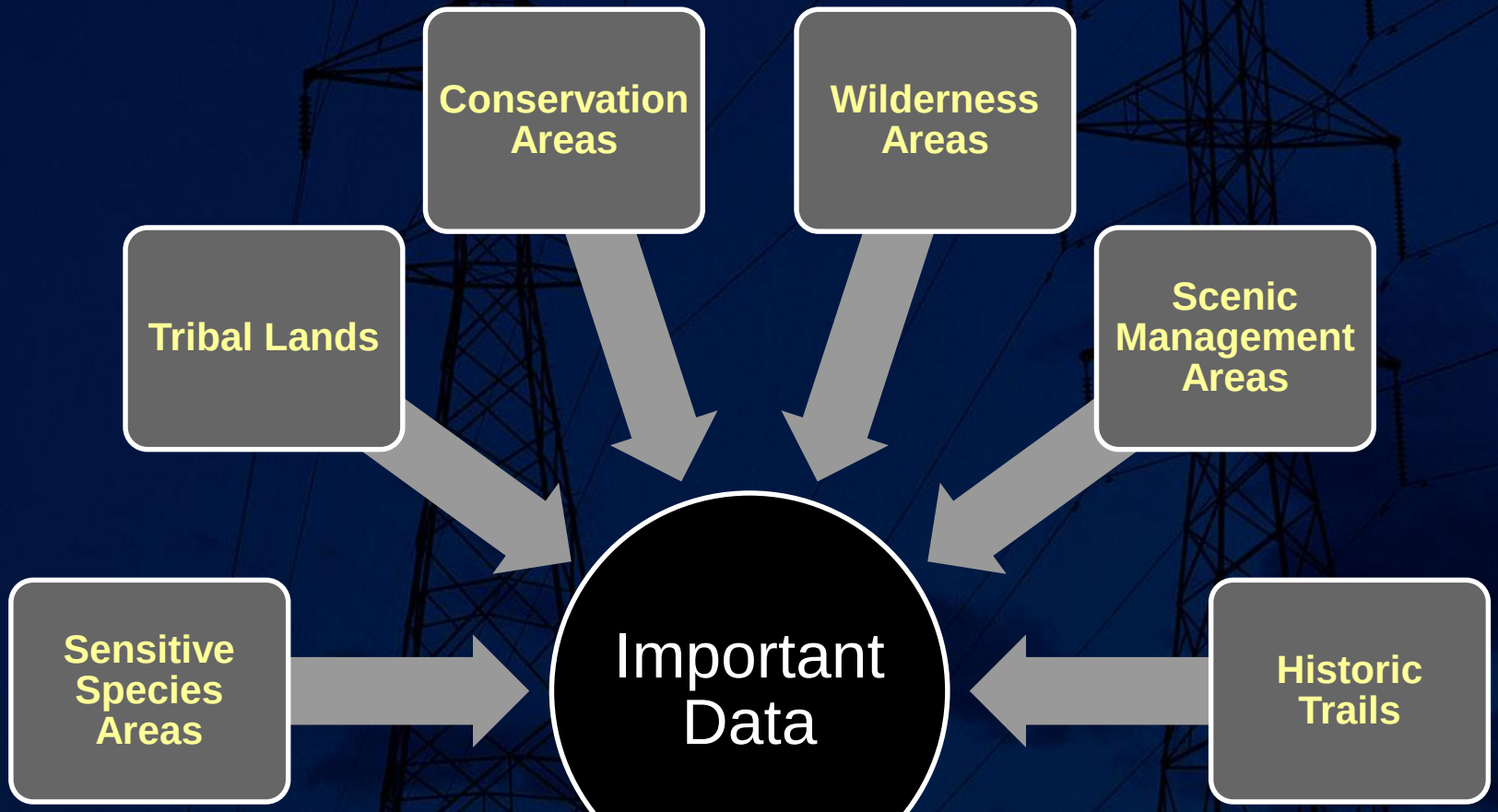
Goal

Develop recommendations to incorporate information on land, wildlife, cultural, historical, archaeological, and water resources into the transmission planning process

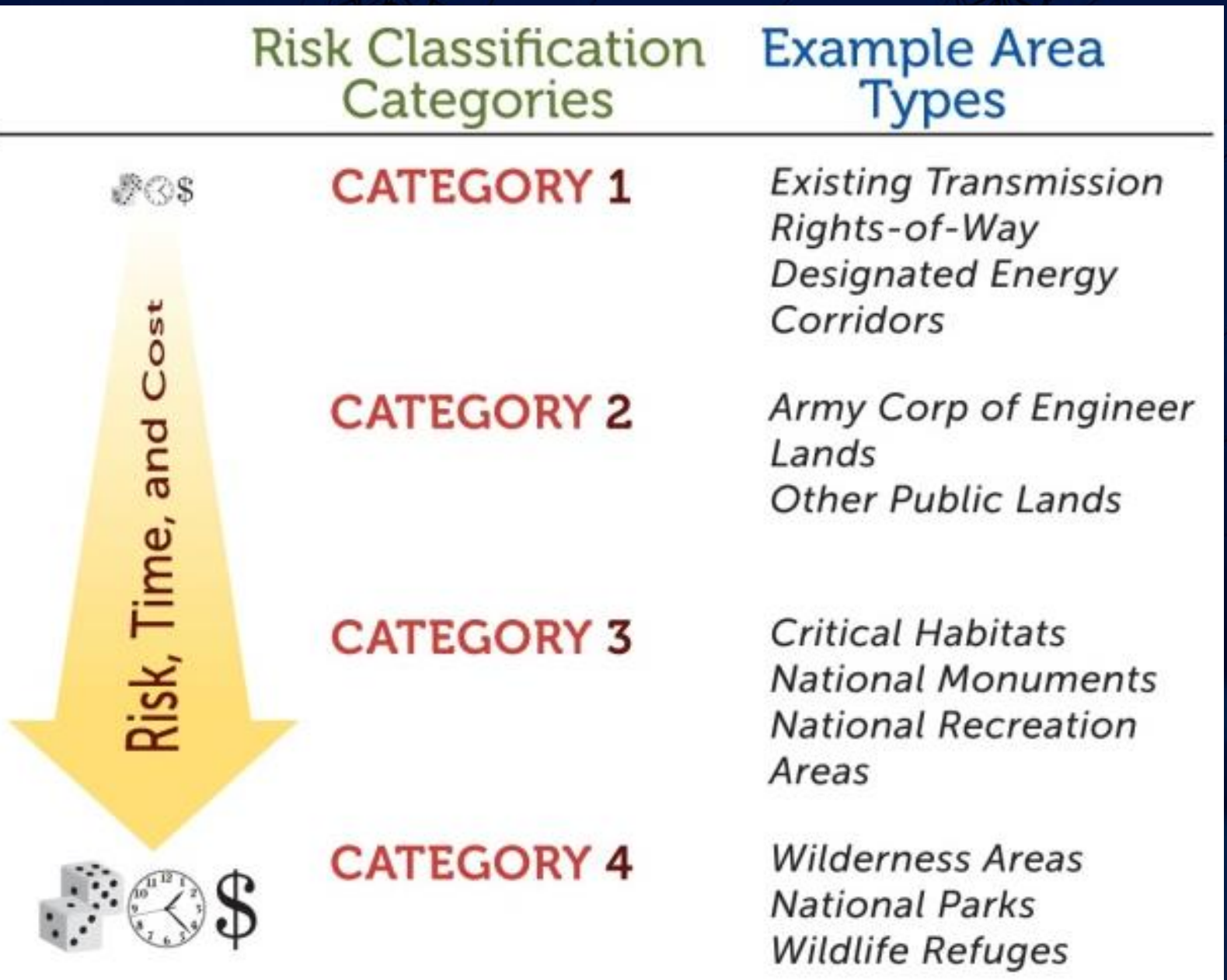
Major Products

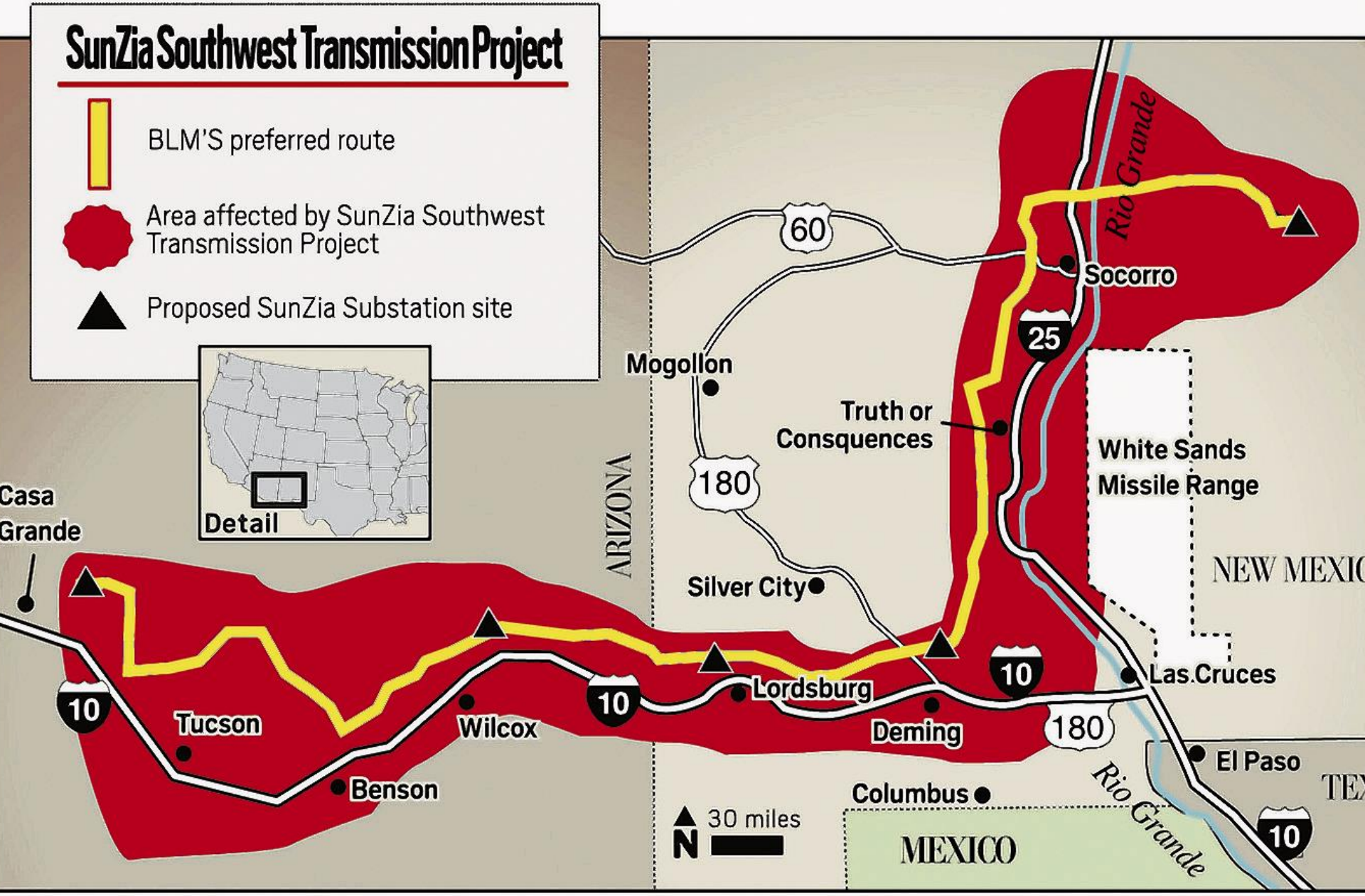
- Preferred Land and Wildlife Data Sets
- Landscape Development Risk Classification System (over 100 different land area types)

Environmental/Cultural Data
(Examples)



EDTF Risk Classification System





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Climate Change and the Power Grid
WECC Scenario

What are the most significant system impacts in the Western Interconnection that could result from changes to the climate and to what extent do those system impacts present risks to electric system reliability?

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