

# California Renewable Energy Transmission Initiative (RETI): A Wind Industry Perspective

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# RETI: A Wind Industry Perspective

- ✦ **Transmission Planning & RETI**
- ✦ **RETI's Limitations**
- ✦ **Where should we go from here**



# Planning Relevance

- ✦ A suitable process for identifying backbone transmission facilities that will facilitate renewable energy integration under most, if not all, reasonable development scenarios
- ✦ Especially critical given timeline for transmission vs. resource development
  - It can take many more years to develop transmission projects than it takes to develop the resources that they integrate



# What RETI Cannot & Should Not Do

- ✦ High-level processes such as RETI cannot and should not substitute for
  - FERC Open Access transmission process
  - Site-specific, intensive environmental studies and permitting reviews
  - Competitive resource acquisition processes
- ✦ Hence, RETI should not be used to “fine-rank” or, worse yet, pick winning resource development areas



# Relevance of Rankings

- ✧ RETI screened out many renewable resource areas due to economic and environmental “show stoppers”
  - Eliminated areas lacking cost effective resources or were prohibited
  - For other areas, RETI rankings provide indicative information of potential cost and environmental concerns
- ✧ RETI analysis inherently too high-level to prejudge commercial prospects or environmental impacts of development areas
- ✧ If care is not taken, dangers include:
  - Drive up land values in favored areas
  - Discourage competition by disfavoring other areas
  - Prejudge environmental impacts inaccurately
    - Sites identified as having low environmental concerns could turn out to have significant environmental issues
    - Sites that appear to have concerns may in fact be compatible with carefully designed renewable energy development



# Examples of Ranking Misapplications

## ✧ Generation:

- Iron Mountain CREZ received good environmental ranking despite efforts to preserve habitat
- Santa Barbara CREZ received poor environmental ranking despite approval of project permits and support of local environmental groups

## ✧ Transmission:

- TANC sponsor SMUD withdrew due partly to political pressure regarding initial RETI CREZ rankings
- RETI Environmental Work Group methodology for wind footprint using 100% of lease area made Lassen North CREZ and Lassen South CREZ look less favorable
- Additional analysis revealed these CREZs to have better prospects
- System benefits, such as diversity of production profiles, reliability, and congestion would have made these CREZ very attractive, but not incorporated into RETI analysis due to scope



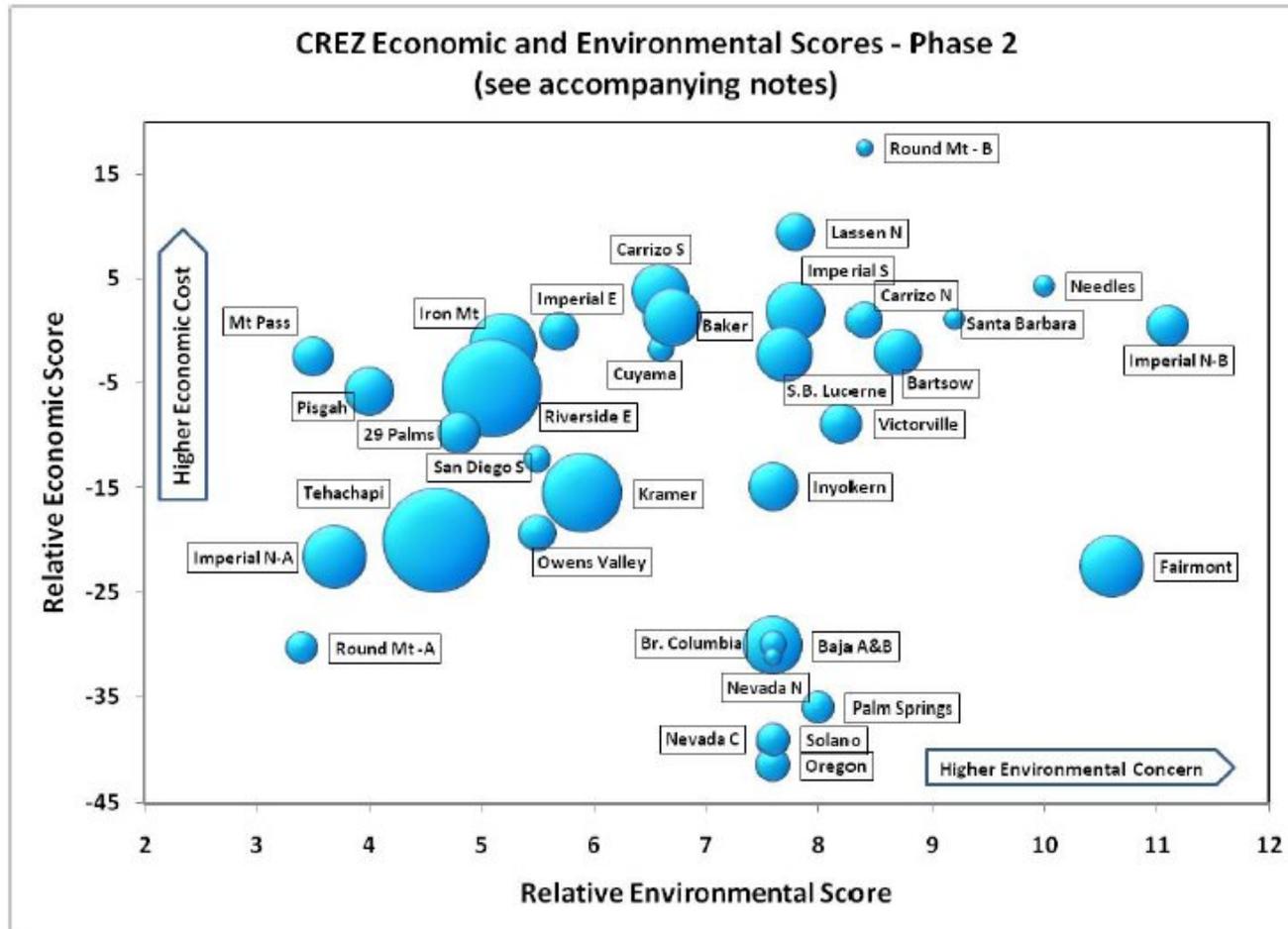
# Examples of Ranking Misapplications

## Generation Ranking

- ✦ 5 of environmental criteria based on footprint
- ✦ Lack of consensus on how to calculate footprint of wind energy generation projects
  - Both the wind industry and some environmental stakeholders disagreed with using 100% of lease area to estimate wind disturbed area for all criteria
  - Compromise shows rankings using NREL's estimate of 2-5% wind disturbance of lease area
    - NREL included turbines, roads, lines, substations, etc.
  - Clearly visible in “bubble charts” that this factor dramatically alters Phase 2A CREZ rankings

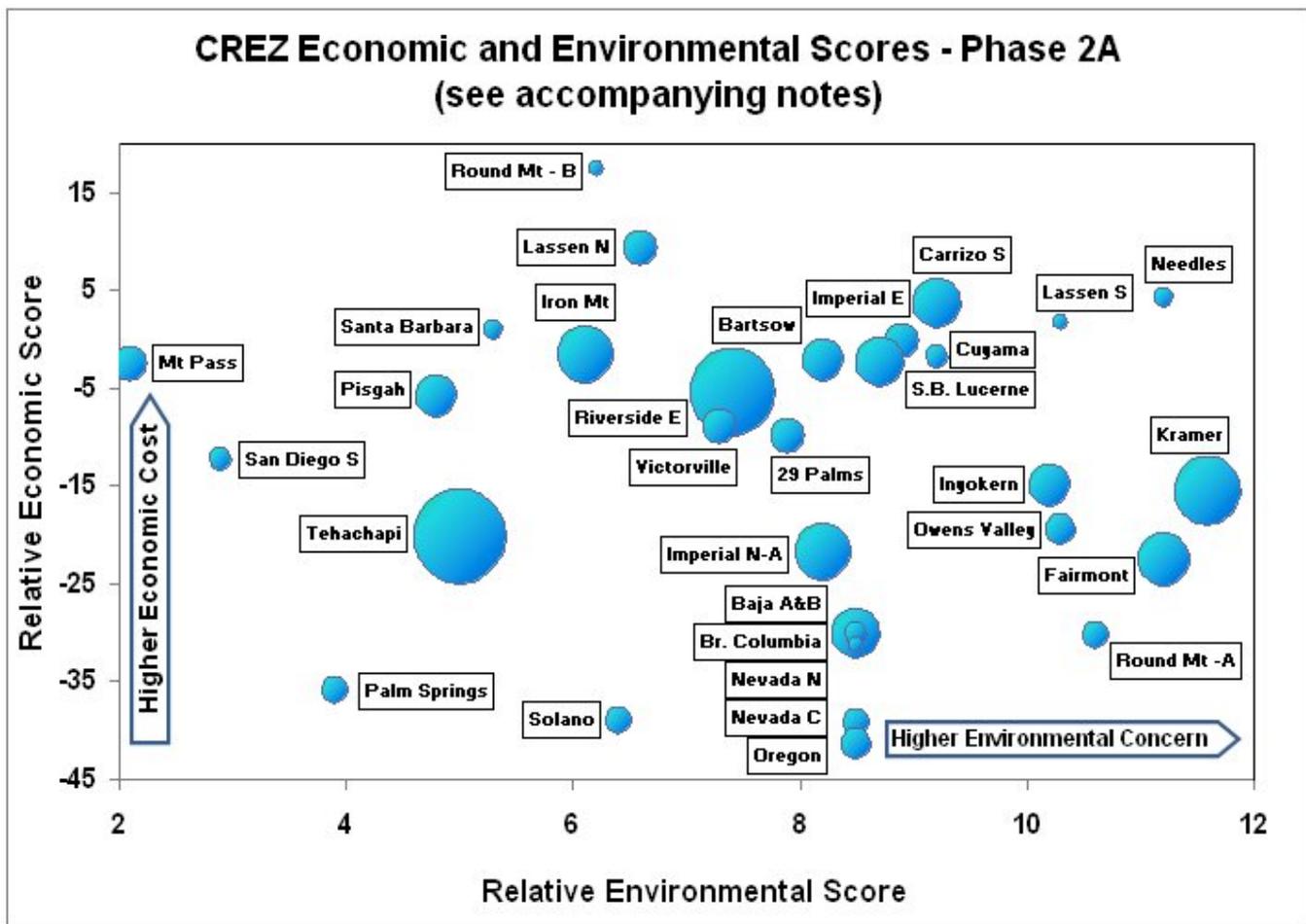


# EWG Enviro/Econ Chart





# Wind Enviro/Econ Chart





# Economic Uncertainty

- ✦ Even a modest consideration of the uncertainty in assumptions and data used to economically rank CREZs show that economic rank can readily change
- ✦ The uncertainty bands of most CREZ overlap
  - In other words, the rankings between CREZ are within the band of uncertainty



# Economic Uncertainty Chart

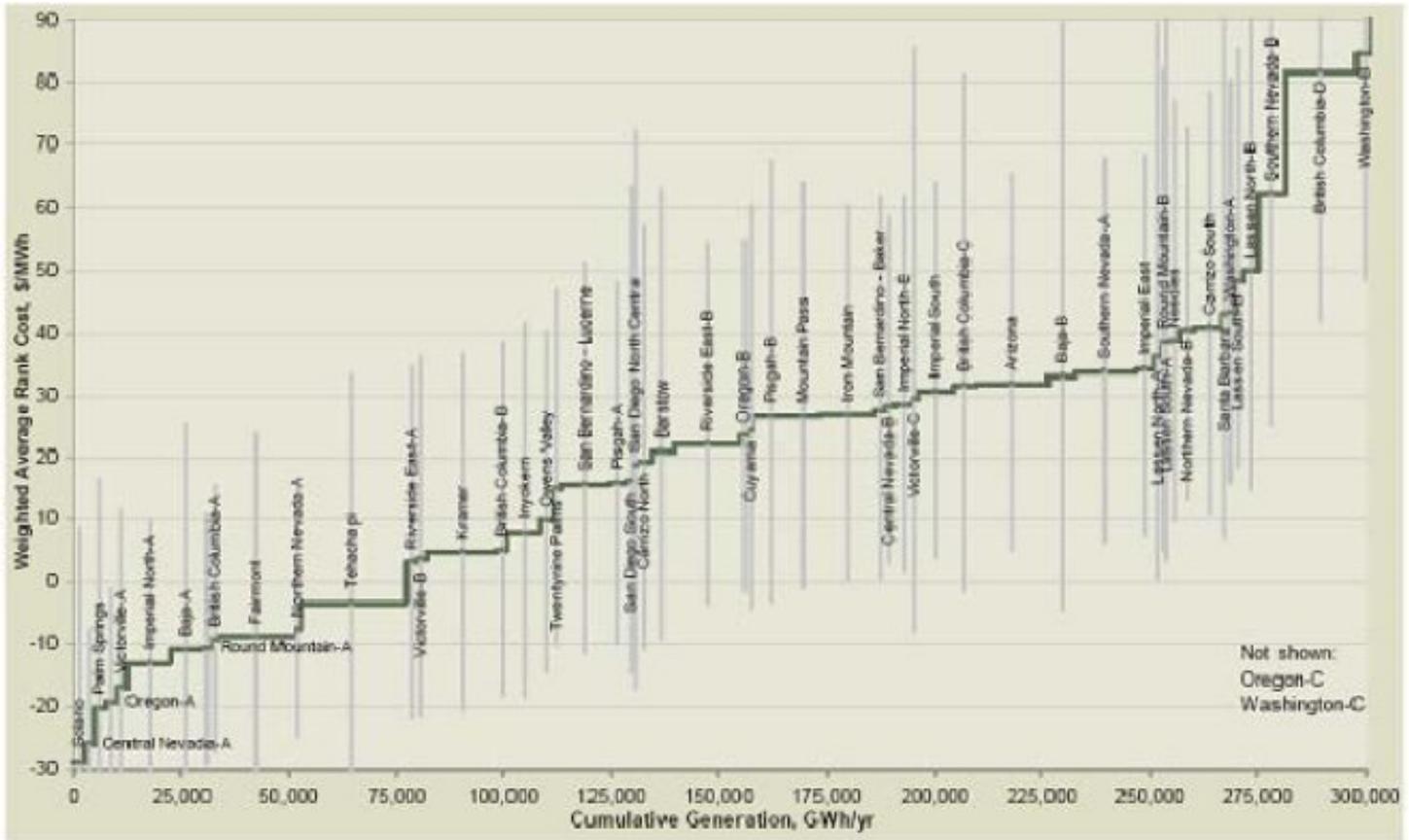


Figure 2-5. Phase 1B CREZ Economic Supply Curve with Uncertainty Band.



# Incorporation of Tax Incentives

- ✦ RETI Phase 1 in 2008 unable to incorporate tax incentives into economic analysis due to congressional delay
- ✦ RETI Phase 2A in 2009 did not have funding to update economic analysis based on American Reinvestment and Recovery Act
- ✦ RETI Phase 2B plans to incorporate the new tax structure into the economic analysis
- ✦ Expected to change CREZ ranking



# Transmission Planning

- ✦ RETI's stakeholder-based approach to “transmission planning” innovative and untried
  - As with any new initiative, there are lessons learned and room for improvement
- ✦ The high priority backbone transmission projects identified by RETI can play a critical role in promoting an economic and environmentally healthy development of renewable resources in and around CA



# Wind Industry Conclusions

- ✦ Uncertain economic and environmental assumptions and data can change rankings dramatically
  - Such ranking should not be relied upon to pass win-lose judgment on particular development areas.
- ✦ Focus of a RETI-type process should be to determine a set of transmission upgrades that will facilitate renewable energy development under most, if not all, development scenarios
- ✦ We should let FERC Open Access transmission process as well as state/federal siting processes, and competitive procurement processes determine which resources actually get built



# CalWEA Recommendations for RETI

- ✦ **Coordinate Planning Between Transmission Service Providers**
  - Promote co-ownership/co-location of lines
  - Eliminate Rate Pancaking
- ✦ **Incorporate final RETI Conceptual Plan into CAISO 2010 Request Window**
- ✦ **RETI should be an indicative guide for transmission planning over the next decade**
  - Upgrades identified by the current RETI would be relevant for many years to come
  - The RETI approach should serve as a mechanism to facilitate meaningful stakeholder participation in CAISO and California Transmission Planning Group processes



# Final Thoughts

- ✧ Analyze scenarios and timing of potential roll-out and regulatory attention, rather than picking favored transmission projects or CREZ
- ✧ Don't limit transmission to the minimum level to achieve the Renewable Electricity Standard (RES)
  - Would create a high risk of not achieving RES
  - Uncertainty of where generation will develop
  - Low cost of additional transmission lines vs. generation
- ✧ Plan for level of renewable energy necessary to meet global warming recommendations by scientists
  - Need for 80% greenhouse gas reduction by 2050
  - Need to electrify transportation sector for emissions reductions will increase long term electric demand



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#### Wind in the Big Picture

Wind energy produces electricity without emitting any pollutants or greenhouse gases at all, requires no mining or drilling, helps preserve habitat and open space, and poses no national security threats. Wind energy could easily and cost-effectively contribute 20% of California's electricity supply by 2020.

#### Wind is part of the solution to the Earth's biggest environmental problems

When you turn your house lights on, chances are that the electricity was generated by a power plant that burns fossil fuels - coal, oil, or natural gas. These sources of energy account for more than 70% of current U.S. electricity generation and 58% of California's electricity generation.

Fossil-fuel-fired power plants are the leading U.S. source of carbon dioxide emissions - a primary contributor to global warming, our most serious environmental problem and one that threatens every species on Earth.

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#### News

**04/01/07** - A Mighty Wind - By Ryan Schuster - Tehachapi area may see nation's largest wind energy project

**02/16/07** - CalWEA Responds to CPUC 2006 Resource Adequacy Report

**01/24/07** - CalWEA Statement on CAISO's Approval of Tehachapi Transmission Project

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