

Outline for Nashville Panel Presentation  
Xcel's Colorado Energy Plan  
**Erin Overturf, Western Resource Advocates**

1. Background: the Colorado resource planning process
  - a. Vertically integrated utility
  - b. Phase I/Phase II process
  - c. Focused on competitive solicitations
2. Xcel's 2016 ERP Application – Phase I
  - a. Anticipated adding some renewables, gas
  - b. Dispute about evaluating existing resources within ERP
  - c. \$0/ton cost of carbon, with non-zero sensitivities, including Social Cost of Carbon
3. The Stipulation
  - a. Timing: after Phase I, before RFP complete
  - b. Key terms:
    - i. Early retirement of Comanche Units 1 & 2
      1. Comanche 1: 325 MW coal unit, retiring no later than 2022 instead of 2032
      2. Comanche 2: 335 MW coal unit, retiring no later than 2025, instead of 2035
      3. Located in Pueblo, CO
    - ii. Commitment that overall bill impacts associated with the plan would “be neutral or result in savings for customers, on a present value basis.”
    - iii. Robust consideration of costs: accelerated depreciation, decommissioning, avoided fuel, replacement resources, renewable integration costs, coal cycling, transmission, interconnection, power delivery, fuel delivery.
    - iv. Ownership targets
      1. 50% of renewables
      2. 75% of “dispatchable and semi-dispatchable”
        - a. Purposefully worded to be technology neutral, focusing on capacity value, allowing storage to compete with gas
    - v. Specifically identified new transmission injection capacity in Pueblo as a result of the unit retirements.
  - c. Diverse support, including the utility, large customers, residential consumer advocates, labor organizations, conservation groups, and IPP developers.
4. Commission consideration and approval of Stipulation
  - a. Evaluated whether any modelling inputs or assumptions must be updated as a result of the Stipulation and potential new resource need.
  - b. Required presentation of a “least cost” Colorado Energy Plan portfolio
5. Competitive Solicitation
  - a. 418 bids, including record-low prices for renewable resources and battery storage, which garnered national headlines
6. The final Colorado Energy Plan
  - a. Resource mix:
    - i. 1,131 MW wind
    - ii. 707 MW solar
    - iii. 275 MW battery storage
    - iv. 383 MW *existing* gas plants (off-contract)

- v. Ownership:
    - 1. 58% dispatchable/semi-dispatchable utility-owned
    - 2. 27% renewables utility-owned
  - b. Saves \$213 million PVRP compared to keeping Comanche Units 1 & 2 running. When accounting for the societal costs of GHG pollution, the benefits of the CEP are over \$1 billion.
  - c. Once fully implemented in 2026, Xcel's Colorado system will be approximately 53% renewable, and CO<sub>2</sub> emissions will be 60% lower than in 2005.
  - d. Significant replacement resources located in Pueblo County (525 MW solar + 225 MW storage), resulting in net tax base benefit to the county.
  - e. Approved in September 2018
7. Since the Colorado Energy Plan...
- a. PUC is considering adopting new rules requiring the evaluation of existing generating resources in each ERP to identify additional opportunities to reduce emissions *and* save customers money.
  - b. In December 2018, Xcel announced a goal to reduce carbon emissions from its entire operating system 80% by 2050 and achieve carbon neutrality by 2050.
  - c. The Colorado General Assembly is considering House Bill 19-1261, which would establish economy-wide greenhouse gas emission reduction. If adopted, the bill would set targets of 50% reductions by 2030 and 90% reductions by 2050 and empower the state air regulator to promulgate enforceable rules consistent with achieving those targets. *Stay tuned on this...*

## Comings Outline for NCRA

### **1. Renewables and storage are the becoming the replacement of choice**

- a. NIPSCO (great example)
  - i. Issued an all-resource RFP
  - ii. Extensive stakeholder engagement
  - iii. Conducted capacity expansion modeling with those bids and its existing units
  - iv. Found that it should accelerate retirement of its coal and replace with “lower cost renewables including wind, solar and battery storage.”
- b. Consumers (good example)
  - i. Modeling allowed for early coal retirements—though it was limited to select years
  - ii. Found that replacement with solar, wind and storage was lower-cost than coal
  - iii. IRP involved stakeholder meetings, testimony and hearings
- c. Duke NC (bad example)
  - i. Did not allow for early retirement of existing resources
  - ii. Did not encourage competitive bidding
  - iii. Limited forum—no testimony or hearing and little stakeholder opportunity

### **2. Sources of pressure on utilities to adopt or avoid renewables**

- a. SPP, MISO and PJM have brought in substantial merchant RE that suppresses prices, putting economic pressure on coal and NG generation.
  - i. Show chart of SPP wind vs coal generation in last 10 years
- b. Self-commitment of coal (which happens in MISO and SPP) is utilities trying to have it both ways—be part of the market but not truly compete.
  - i. Without economic dispatch, coal units push renewables and storage out of contention.
  - ii. Ratepayers are overpaying and subsidizing the rest of the market
- c. Vertically-integrated utilities are can be virtual islands where their units don't have to compete.
  - i. Show chart of Duke NC's coal fleet capacity factor in last 10 years. It was 36%
  - ii. Southeast has no RTO and, therefore, less economic pressure.
  - iii. Advocacy, stringent regulation and transparency are more crucial to V-I utilities that are not in RTOs. If the utilities don't feel pressure, they will tend to the status quo.

### **3. We have to continue to pressure utilities to assess all resources fairly**

- a. Utilities need to model new and existing resources against one another in order to have a true least-cost plan
- b. Utilities need to issue competitive RFPs--but even that's not enough because if the utility competes in its own RFP, it often wins

- i. Avoid “hard-wired” RFPs, which are all too common. The terms of the RFP should encourage outside bids.
- c. Change the forum to encourage transparency
  - i. More stakeholder engagement leads to a better outcome

Motivate regulators—who are also ill-served by secrecy--to pressure the company to open up

## **NCRA Panel Discussion**

Matt Vespa

### **Using Non-Fossil Solutions to Meet Reliability Needs Historically Provided by Gas Plants: California Case Studies**

- I. Background on Requirements for Local Area Reliability
  - a. Local area must have resources to meet need in event of N-1-1 contingency under 1-in-10 peak demand conditions
  - b. Local areas can be built-out so limited opportunity for utility scale renewables
  - c. Gas historically used as resource to maintain reliability in local areas
  
- II. Puente
  - a. 260 MW gas plant approved by CPUC to meet local area need. Stopped during environmental review.
  - b. Low cost transmission solution identified with remaining need by non-fossil resources (mainly energy storage)
  - c. Different duration storage requirements to meet load curve
  
- III. Oakland Clean Energy Project
  - a. Replacing need from aging jet-fueled plant getting RMR contracts
  - b. Transmission and clean energy solutions to meet local area need
  - c. Tailored to load shape in sub-area
  
- IV. Metcalf Replacement
  - a. Existing generator in constrained area made retirement announcement to get higher priced RMR contract
  - b. CPUC authorized 467 MW of storage as replacement
  
- V. Gas/Storage Hybridization
  - a. Improvements to emission profiles of existing generation