

Planning for Markets

Colorado Interim Energy Committee

Interwest Energy Alliance

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Interwest Energy Alliance

- ▶ Regional non-profit trade association representing nation's leading developers and manufacturers of wind, solar, geothermal, and storage technologies, working with environmental NGOs
- ▶ Promotes the growth of renewable energy and expanded markets in Colorado and five other western states (NM, WY, UT, NV, and AZ)

Renewable Energy Expansion – Strong Leadership

- ▶ 2019 Legislative Sessions:
 - ▶ Colorado, New Mexico, and Nevada all adopted some form of 100% Carbon-Free Mandate or Goal, in addition to increased Renewable Energy requirements
 - ▶ Utah adopted language allowing cities to achieve 100% renewable goals
- ▶ Arizona Corporation Commission considering increase to state Renewable Energy Requirements

Wind energy continues to drive economic growth

- ▶ **Colorado generates 17.3% of its energy from wind in 2018, which is enough to power 944,100 homes**

Direct wind industry employment: **7,000 to 8,000 jobs**

Wind-related manufacturing facilities: **17 manufacturing facilities**

Cumulative wind project investment: **\$17 billion**

Annual state and local tax payments by wind projects: **\$10.5 million in taxes**

Annual land lease payments: **\$10-\$15 million in annual lease payment**

- ▶ **Environmental Benefits**

3.8 billion gallons of annual water savings

29 billion equivalent bottles of water saved

7.4 million metric tons of CO₂ emissions avoided (equal to 1.6 million autos)

Solar energy and storage will attract commercial investment in Colorado

National Ranking: **12th (11th in 2018)**

Colorado homes powered by solar: **249,924 homes**

Percentage of Colorado's electricity from solar: **2.96%**

Solar Companies in State: **473 (48 Manufacturers)**

Total Solar Investment in State: **\$3.26 billion**

Prices have fallen **34% over the last 5 years.**

Growth Projection: **2,636 MW over the next 5 years**

The Colorado Energy Plan also includes **275 MW of storage resources**

How to Meet 100%

- ▶ Beyond Colorado, Nevada, and New Mexico, states on West Coast have their own strong renewable energy standards.
- ▶ **In order to achieve our legislatively adopted goals and mandates in a timely, affordable manner, regional coordination is critical.**
- ▶ An integrated Western power market will enable the pairing of diverse, high-value renewable resources across the Western Region, benefiting ratepayers, enhancing grid reliability, and spurring competition and capital investment.

Why do we want a wholesale market in Colorado?

We need to make better use of our grid.

- ▶ We have expensive excess requirements because each utility covers all of its own needs rather than sharing across a larger geographic region, allowing more diversity
- ▶ Our transmission planning is inefficient, requiring coordination between multiple utilities, which is slow and cumbersome, impeding Colorado's clean energy goals and delaying cost savings brought by expansion of renewable portfolios.
- ▶ Stacked (layered) fees are paid by generators to use the grid

How would a market be different?

- ▶ Single market operator
- ▶ More efficient use of the existing grid
- ▶ Facilitates competition among multiple sellers to reduce costs
- ▶ The market operator dispatches based on least-cost analysis, always considering reliability and transmission limitations
- ▶ The market operator helps facilitate regional transmission expansion and resulting capital investment
- ▶ A market has an independent monitor to protect consumers
- ▶ Resource planning and clean energy goals can be left to the state commissions

What will it take?

- ▶ Action by a forward-looking Colorado Public Utilities Commission
 - Docket to implement markets inquiry under S.B.19-236 soon
 - Will review and analyze market options, including reliability, economic and consumer impacts
 - Will require further analysis in future utility resource plans
- ▶ Legislative action can guide regulatory review and promote interstate coordination between leaders and decision-makers
- ▶ Governors can establish goals
- ▶ FERC approval

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