

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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