



COLORADO CAN SAVE MONEY, CREATE JOBS AND REDUCE GREENHOUSE GAS EMISSIONS BY ENABLING TRANSMISSION COORDINATION ACROSS THE STATE

The highest benefits for Colorado in terms of consumer costs, job creation and GHG emissions is when all of the electricity companies in Colorado join the Western Energy Imbalance Market.

Boulder, CO, October 22nd, 2020 – A new study commissioned by Holy Cross Energy (HCE) and the Intermountain Rural Electric Association (IREA) finds that by enabling more efficient and transparent transmission coordination across Colorado the average residential electricity customer could save \$255 per year by 2040 compared with today¹. This amounts to an annual electricity cost saving across Colorado of \$1.76 billion. The coordination of electric grid investments across Colorado also facilitates integration to Western electricity markets, and creates 70,000 new jobs while reducing annual greenhouse gas emissions (GHG) from the electricity sector by 73% from 2005 levels².

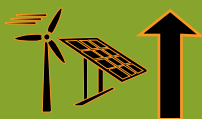
The modeling, prepared by Vibrant Clean Energy

¹ https://www.eia.gov/electricity/sales_revenue_price/
² <https://www.colorado.gov/pacific/cdphe/colorado-greenhouse-gas-reports>

LLC, further finds that Colorado fares better if all the utilities and cooperatives join either the SPP organized WEIS (Western Energy Imbalance Service) or the CAISO organized WEIM (Western Energy Imbalance Market). The most beneficial option is for all of Colorado to join the CAISO WEIM, as it provides lower costs, further reduces Colorado customer bills, enables Colorado to sell its wind and solar electricity to more customers, and grows local jobs across the state, particularly in rural areas. The integration of Colorado with the CAISO WEIM increases cost savings for Colorado consumers by \$270 million annually and creates 6,000 additional new jobs in Colorado. It also facilitates an easier transition to meet the aggressive State-mandated GHG emission reduction requirements



\$1.8 billion cumulative net savings for customers



1,000 MW increase in wind and solar in Colorado



70,000 new jobs by 2040 in the electricity sector



73% decrease in greenhouse gas emissions by 2040

in recently passed state legislation, HB19-1261. “The Colorado electricity sector can more cost-effectively lead the State’s transition to a clean energy future when we can participate in a regional electricity market with coordinated transmission access and planning across the State,” said Bryan Hannegan, CEO of Holy Cross Energy. Patrick Mooney, CEO of IREA, added that “The key is to have fixed or zonal transmission tariffs across Colorado with all entities having equal access to a system developed through coordinated regional or statewide planning.”

The modeling used nationally recognized economic inputs as well as bespoke inputs from the recent Brattle report commissioned by Xcel Energy³. The study utilized the VCE® WIS:dom®-P optimization software to evolve the Western US along with SPP from 2020 through 2040. It combines production cost and capacity expansion to ensure power is supplied everywhere for every 5-minute interval without fail.

According to Dr Christopher Clack, CEO of VCE®, “The study strongly suggests that Colorado can be a key participant in Energy Imbalance Markets, but the benefits are amplified for all regions if the state acts in a unified manner. Furthermore, there are clear steps that the state can take on its own that will benefit all Coloradans without risking reliable, clean and affordable electricity across the state. These benefits will sharply increase if the Energy Imbalance Market advance

into full Regional Transmission Organization.” The study shows that over 1,000 MW of low-cost, clean, renewable wind and solar could be left undeveloped if Colorado continues along its current path. Moreover, local distributed solar PV and storage combine to unlock more flexibility when transmission access is improved.

“The path forward to reducing GHG emissions, lowering electricity costs and increasing jobs across Colorado now has clear steps. Using this study as a guide, Colorado can improve transmission access and tariffs within its borders before all electricity companies join the same Energy Imbalance Market,” said Hannegan. “The final step would be a fully developed Regional Transmission Organization across the West.”

Press release:

<https://www.vibrantcleanenergy.com/wp-content/uploads/2020/10/CO-EIM-Options-PressRelease.pdf>

Study Report:

<https://www.vibrantcleanenergy.com/wp-content/uploads/2020/10/CO-EIM-Options-Report.pdf>

Presentation:

<https://www.vibrantcleanenergy.com/wp-content/uploads/2020/10/CO-EIM-Options-Presentation.pdf>

WIS:dom®-P model output spreadsheets:

<https://www.vibrantcleanenergy.com/wp-content/uploads/2020/10/CO-EIM-Options-Spreadsheets.zip>

3 From docket 19M-0495E: https://brattlefiles.blob.core.windows.net/files/19235_joint_dispatch_agreement_energy_imbalance_market_participation_benefits_study.pdf

About Holy Cross Energy: Founded in 1939, Holy Cross Energy is a not-for-profit rural electric cooperative that provides safe, reliable, affordable and sustainable energy and services that improve the quality of life for more than 43,000 members and their communities in Western Colorado. Committed to leading the responsible transition to a clean energy future, HCE was named the 2020 Electric Cooperative of the Year by the Smart Electric Power Alliance for their work in clean energy. For more information on HCE, please visit www.holycross.com.

About Intermountain Rural Electric Association: Intermountain Rural Electric Association’s 5,000-square-mile service territory includes portions of 11 counties to the east, west and south of Denver. With more than 160,000 customers, IREA is the largest electric distribution cooperative in Colorado and one of the largest in the United States. As a customer-owned cooperative, IREA operates on a nonprofit basis; earnings exceeding expenses are invested in the facilities used to provide electric service and are booked as member equity. For more information on IREA, please visit <https://irea.coop/>.

About Vibrant Clean Energy: A nationally recognized energy grid modeling firm based in Boulder, Colorado. VCE® creates computer optimization software to study pathways for energy systems futures. It also performs studies using WIS:dom® to provide expertise in new arenas of electrification, decarbonization and variable resources. The mission of VCE® is to help facilitate universal, sustainable, and cheap energy for everyone. www.vibrantcleanenergy.com

