Battery Storage – The Co-op Way

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*Powering Change & Powering the Future*

**Overview**

- Electric Co-op / 90,000 meters
- 500 MW Summer Peak
- North Denver Metro area
- Separate Smaller Mtn territory
- Double digit growth (%) in sales
- Significant Oil & Gas load
- Profile: 1/3 res - 1/3 com -1/3 indus
- Manage Growth / Control Costs
Battery Storage Project - 4 MW / 16 MWh

- Study began 2015, Board approved 2017
- Size and Duration of Battery based on United Power monthly load profile
- Designed to peak shave during all 12 months of year
- Signed Contract 2017, Operational 2018
- Manage Utility Growth / Peak Shaving
- Contractor SoCore Energy / Engie
- Lithium Ion / Tesla Battery
- Located at our new West Office / off I-25
Business Case

Proven Technology – Lithium Ion

Proven
Business Purpose - Staying Relevant

Battery Storage is Changing the Industry

- Flexible Operation of Grid
  - Voltage / Frequency Support
  - Managing Distributive Generation
  - Peak Shaving / Load Shaping
  - Managing Intermittent Renewables
  - Backup Power
  - Provide Flexibility in Power Mix
  - Create Flexibility in Pricing
  - Partnering with Industry / Cities
  - Providing Creative Solutions
Summary –

• A lot of the Electric Industry has moved to the Distribution Level
  ▫ Generation / Renewables        Battery Storage
  ▫ Peak Shaving                AMI Metering

• Understanding storage is the next logical step in the progression of renewable generation. Without the ability to store energy, renewables will have an artificial cap placed on its utilization.

• As a co-op, we have an obligation to our communities and individual members to explore these new options to meet this ever changing energy environment.

• Status Quo is no longer an option, understanding and utilizing this new technology may very well be critical in how the utility of the future operates and serves its members.