



Magnum's Western Energy Hub

Utah Governors Energy Conference

May 21st, 2015



Salt Cavern Storage - An Extremely Rare Asset in a Perfect Location

Salt is the Ideal Storage Medium

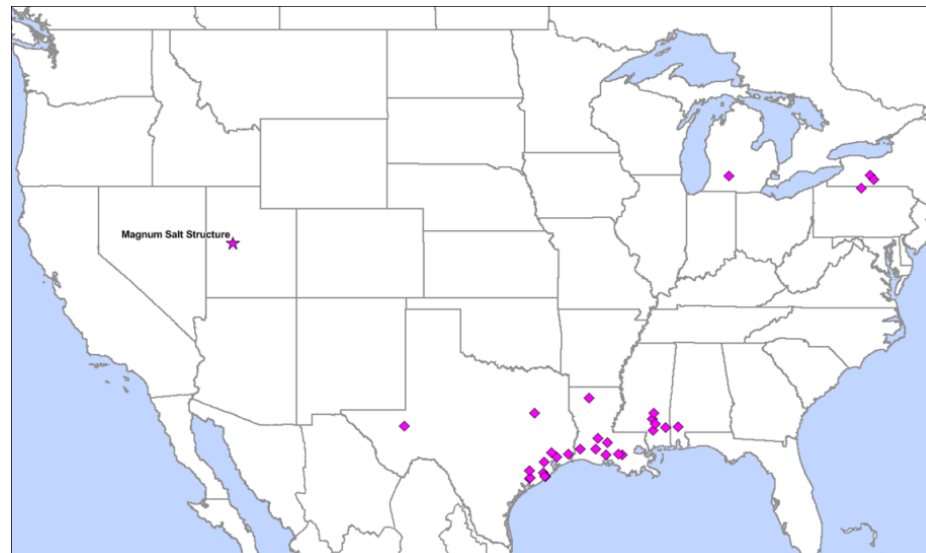
- Recognized by the U.S. Government (Strategic Petroleum Reserve)
- Broadly Utilized by the Energy Industry
- 23 Facilities with Hundreds of Solution Mined Storage Mined Caverns

Magnum Salt Dome is One-of-a-Kind

- Only "Gulf Style" Salt Dome in the Western U.S.
- At the Crossroads of Energy and Transportation Infrastructure
- Strategic Asset for the State of Utah and the West

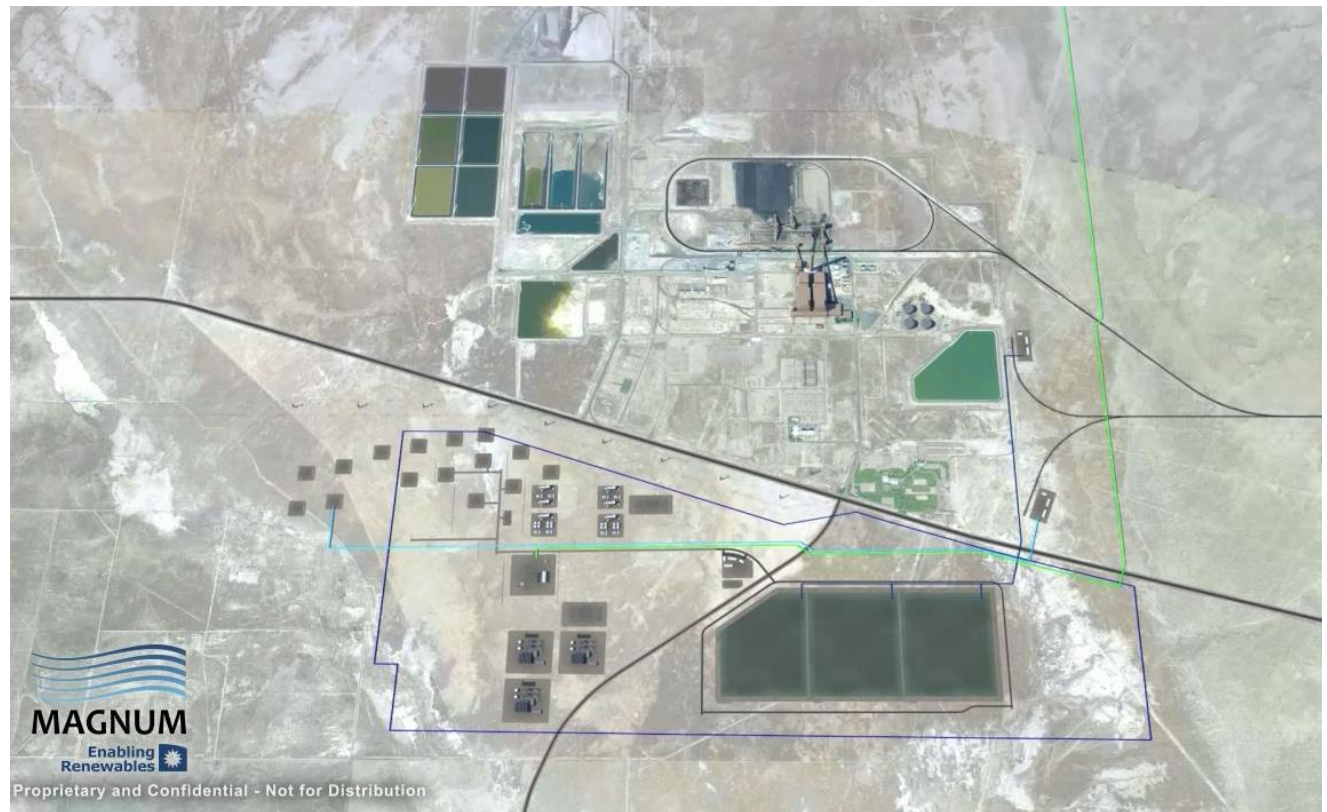
Salt Domes like Magnum's Are the Foundation for Significant Industrial Development. Billions of dollars in investment have been made at similar sites such as:

- Mont Belvieu, Texas
- McIntosh, Alabama



Western Energy Hub - A Foundation for Numerous Businesses

- **Natural Gas Liquids Storage – Commercialized**
- **Compressed Air Energy Storage (CAES)**
- **Natural Gas Fired Generation**
- **Natural Gas Storage**
- **Petroleum and Refined Products Storage**
- **Other Support Businesses and Businesses that use Available Feedstocks**



Magnum CAES - Preliminary Development Complete

Compressed Air Energy Storage

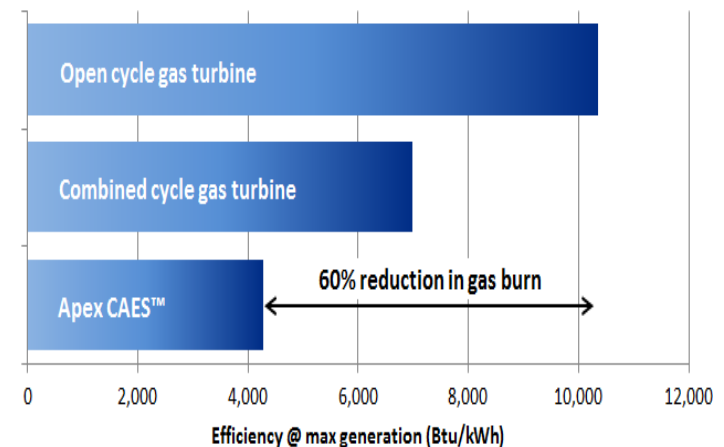
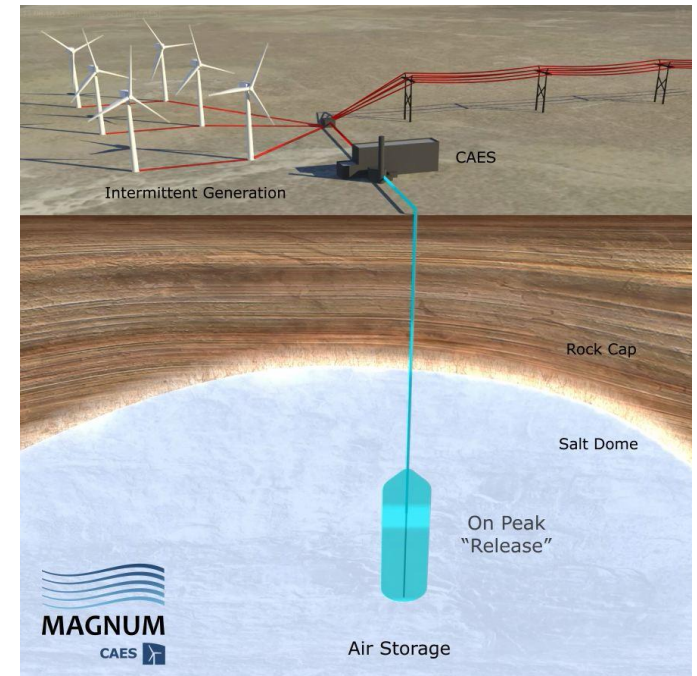
- Demonstrated bulk storage technology
- Utilizes off-peak renewable power to compress air into an underground salt cavern
- Compressed air stored and then released during periods of high demand as a reliably firmed and shaped electric product

Magnum CAES Site Benefits

- Proven salt storage
- Location is ideal – adjacent interconnection
- Utility-scale storage and generation capability
- One-of-a-kind in the region
- Cost-effective solution

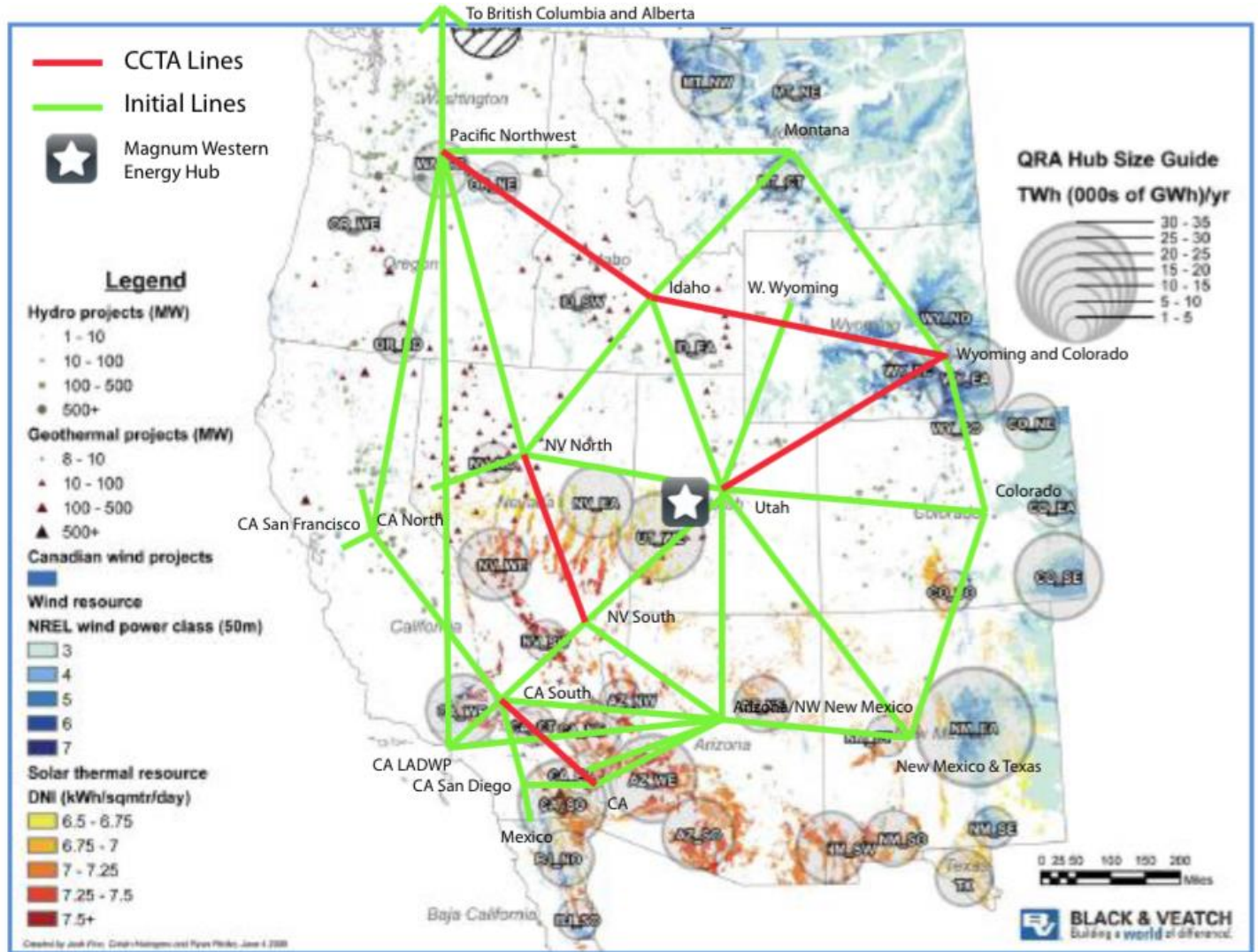
Technology Benefits

- Strategic asset
 - Stabilizes grid during low usage
 - Allows integration of intermittent generation without impact to baseload assets
 - Provides operational flexibility
- Low cost and efficient
 - Lower generation and dispatch costs by shifting off-peak power to on-peak
 - Optimizes existing transmission line capacity
- Environmentally friendly
 - Enhances integration, development, and utilization of renewables
 - Minor source permitting and minimal footprint



APEX CAES © 2015

Magnum CAES – Poised to Connect Renewable Energy to Market



WECC Common Case Transmission Assumptions (CCTA)

Magnum Generation – Preliminary Development Complete

Natural Gas Fired Electric Generation

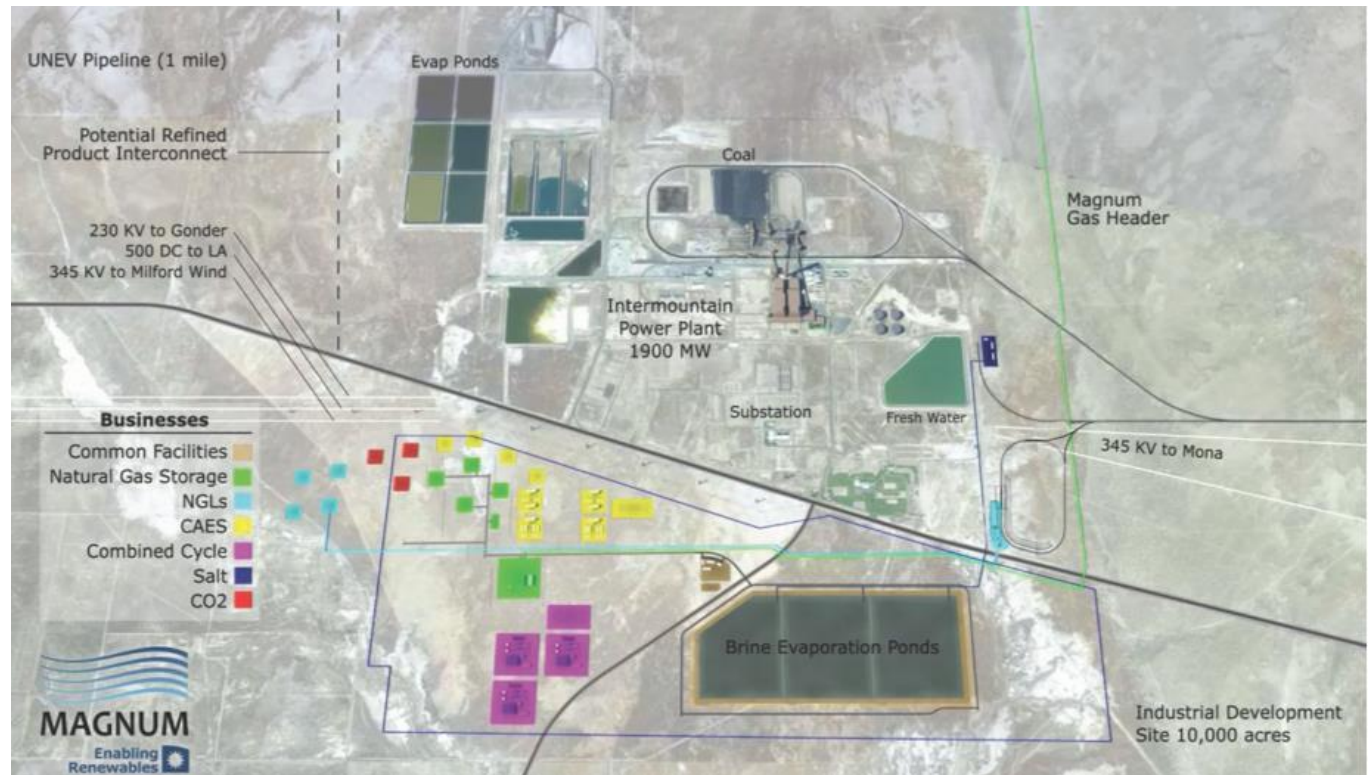
- Flexible equipment selection and development options

Technology Benefits

- Known and proven technology
- Cost-effective and scalable
- Meets increasingly restrictive regulatory requirements

Magnum Generation Benefits

- Ideal location - meets Five-Finger test
 - Development site can accommodate multiple units
 - In an attainment area
 - Ready interconnection to interstate electric and gas systems
- Ready integration into electric system
- Access to high-deliverability storage





Thank You

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