When ‘What if’ Becomes ‘What is’: A Utility Perspective on Renewables, Storage and Other Disruptive Technologies

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UT Energy Week

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OUR ROLE IN THE MARKET

- Competitive ERCOT wholesale and retail electric energy market since 2002 for investor-owned players

- Regulated delivery utilities – do not generate, own, or sell electricity

Reliable delivery through the application of technology
EQUILIBRIUM???
TEXAS’ CHALLENGE: POWERING OUR FUTURE GROWTH

26M PEOPLE
2014

50M PEOPLE
2050

$  $  $  $  $ INCREASED INVESTMENTS

ECONOMIC GROWTH

7

OF THE FASTEST GROWING AREAS IN THE U.S

TEXAS LEADS:

COMPETITION 1999
ENERGY INFRASTRUCTURE 2005
ADVANCED METERS 2005
ENERGY STORAGE NEXT STEP

ENERGY STORAGE WILL BRING

- RELIABILITY
- AFFORDABILITY
- FLEXIBILITY
- EFFICIENCY
- INDEPENDENCE
- SECURITY

1 AUSTIN
4 DFW
10 HOUSTON
20 SAN ANTONIO
2 MIDLAND
3 ODESSA
6 LONGVIEW

FORBES FASTEST GROWING CITIES (FEB. 2014); FORBES FASTEST GROWING SMALL CITIES (SEPT. 2014)
UTILITY EXPERIENCE WITH ENERGY STORAGE

ONCOR’S INITIAL INSTALLATION

GLOBAL UTILITY PROJECTS

- Department of Energy
- Detroit Edison
- Duke Energy
- Italy
- Pacific Gas & Electric
- San Diego Gas & Electric
- Southern Cal Edison
- United Kingdom
Grid integrated energy storage is the only technology that allows utilities to accomplish all of the following:

- Improve reliability by providing backup power during short-term outages
- Defer transmission and distribution investment through extending grid element life and optimization of system
- More efficiently and flexibly use existing power resources
- Improve voltage regulation
- Address renewable integration and grid stability
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