Gas REV
Geothermal Demo

2018 AEC
Chong Lin, New Energy Solutions
Agenda

- About Us
- Benefits of Heat Pump Technology – Gas & Electric
- Long Island Gas REV Demonstration
- Benefits of Utility Involvement
An International Energy Company with a Local Presence

7 Million Customers
Our New York Business

- 4 million gas and electric customers
- 8,000 employees
- New York represents 60% of National Grid’s U.S. business
- $10.7 billion of rate base
- $1.5 billion annual O&M budget
- $1.2 billion of annual capital spending
Benefits of Heat Pump Technology – Electric Grid

- New York Electric Demand 2016

Source: EIA Power Trends 2016
Benefits of Heat Pump Technology – Gas Grid

- 3 million housing units in NYS do not have access to natural gas
- In National Grid NY service territory
  - Over 1 million buildings heating with oil or propane
- Provide low-cost, renewable heating and cooling
- GSHP accounts for less than 1% of statewide HVAC load

Long Island REV Demonstration

- Project will provide cost-effective, renewable heating and cooling technology to 10 residents
- Same pipes and fusing techniques used in the gas world
- Provide environmental and health benefits, energy bill savings, carbon savings, and increased comfort levels.
- Partnering with NYSERDA to collect and analyze data and LIPA/PSEG-LI on EE programs
National Grid’s First Utility
Geothermal Installation
Lessons Learned

- Mobilization costs can be reduced with district loops
- Knowledge of the local geology is crucial
- Energy efficiency is required for retrofits
- Seemingly identical houses but not identical loads
Performance Data

Unit 7 - 01/03/18 to 01/06/18 - Hourly (Steady-State, Q>27)

- Refrig Heating COP (-)
- Comp Power (kW)
- Ref Capacity (MBtu/h)

LINE = RT036, 9 gpm, 1200 cfm, full load
Green Pts = Full Load
Benefits of Utility Involvement

- Co-marketing - increase awareness and confidence
- Leveraging data analytics for customers aggregation – minimize mobilization costs
- Long-term financing of utility assets and customers
- Recognizing utility systems benefits – rebates and rate design
- Increase volume to remove market barriers
Thank You

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