

National Association of Energy Services Companies

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The National Association of Energy Service
Companies (NAESCO)

Who is Timothy Unruh?

- Bachelors, Masters and Doctorate in Electrical Engineering from Wichita State University
 - Major Study Area – Electrical Power Systems
 - Major Study Area – Digital and Computer Systems
 - Dissertation Area – Power Quality
- Entered the workforce as a Power Quality Engineer with a Utility Marketing Organization

What roles have I played?

- Industrial Energy Efficiency
- Energy Services Company (ESCO) Projects
 - K-12 School
 - State and Local Governments
 - Federal Government
- Federal Energy Management Program
 - Federal Government Energy use
- Deputy Assistant Secretary of Renewable Power
 - Wind, Solar, Water, Geothermal, Grid Modernization
 - About \$500 Million Annual Program

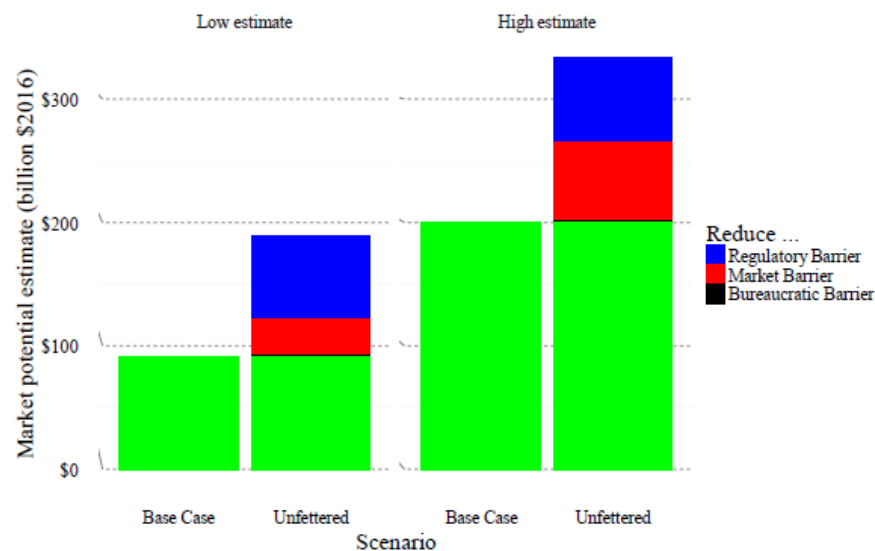
National Association of Energy Service Companies (NAESCO)

- A trade organization providing support to the Energy Service Company industry
- Providing Cost-Effective Energy Retrofits with Guaranteed Savings

- Market Potential:

- Over \$300B

- 2014 over \$5B



Who we are

AcuityBrands.

- Energy Service Companies

- Building and other Improvements

- Energy Efficiency
- Renewable Energy
- Operations Cost Reduction

- Energy Savings Agreements

- Power Production
- Combined Heat and Power

- Own, Operate or Manage

AMERESCO 
Green • Clean • Sustainable

SIEMENS

Johnson
Controls 

NORESICO
United Technologies

ENGIE



TRANE

PHILIPS

Schneider
Electric 

AECOM

What Does an Energy Service Company (ESCO) Do?

- Project Developer for Energy Retrofits:
 - Mechanical and Electrical Systems
 - Utility Rate Structures
 - Rate Negotiation
 - Demand Reduction Strategies
 - Renewable Power
 - Other Energy Related Improvements
- Leverages Local Resources to Design and Build

What Does an Energy Service Company (ESCO) Do?

- Uses enabling legislation that allows Savings Achieved on Project to be used to repay cost of retrofits
- ESCO provides guarantee of savings
 - Payment of a savings shortfall
 - Annual reporting
- Most projects done by an ESCO are in on government buildings (public, schools, hospitals)

What drives an ESCO project?

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- Need to replace aging equipment

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- Need to replace aging equipment
- What about
 - Reducing costs
 - Reducing emissions
 - Interior environment
 - Sustainability

New drivers for projects

- Resiliency
- Reliability
- Cyber and other Security

- Done through:
 - Microgrids
 - Advanced Controls
 - Integrated Planning

- Challenge is how to value these new drivers

My perspective of efficiency

- Worked under the DOE mantra of:
 - Efficiency First, then
 - Renewable Energy
- That “sequence” is getting harder to fulfill
- Renewable Energy becoming much lower in cost
 - Wholesale cost down, BUT
 - Retail Cost not reflecting wholesale drops
- Where will future electricity prices go...

Efficiency future opportunities

- Synchronous Generation is being reduced on the grid
- Services provided by synchronous generation are becoming an issue
- Storage, in battery form is viewed as the “holy grail” for the power grid
- Efficiency has the ability to deliver ‘storage-like’ services to the grid as well
- These new Distributed Energy Resources may be the solution to a grid with higher penetrations of RE