

# RCx Insights and Best Practices from Utilities

Ryan Stoianowski  
Senior Program Manager, **ComEd**



## Learning Objectives

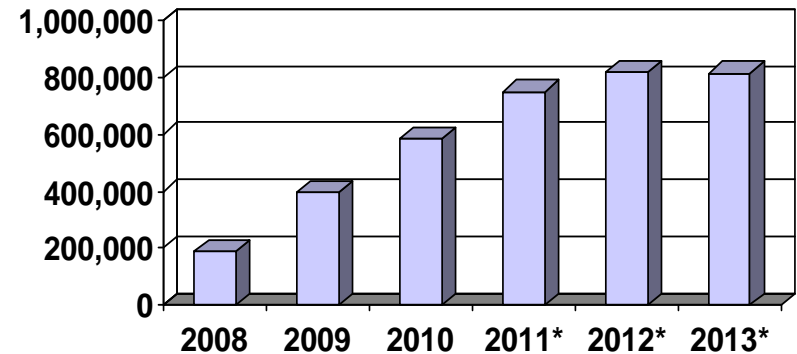
1. **ComEd's RCx Program and all its flavors**
2. **Case studies for Commercial, Industrial, and Hospital**
3. **Program design changes and lessons learned**
4. **Anticipated future direction of the program**

# Smart Ideas Background

## ✓ What is the Smart Ideas Program?

- Provides incentives for energy efficient upgrades and incentives
- Part of Illinois energy legislation passed in 2007
- Program implemented by ComEd, Ameren Illinois, and the Illinois Department of Commerce and Economic Opportunity
- ComEd goal: Reduce energy consumption by 1.2 million MWh over the first 3 years

**Smart Ideas for Your Business  
Energy Efficiency Goal (MWh)**



\* Estimated based on planning projections

# Retro-Commissioning

## Two Types: Commercial Building and Compressed Air

### Building Retro-Commissioning

- Incentive is the cost of engineering study and M&V
- Study performed by ComEd-approved service provider
- Electric-only
- 500 kW and larger
- 150,000 sq ft and larger
- Measure implementation deadline
- Customer implementation requirement of \$10,000 or \$20,000



# Retro-Commissioning

Two Types: Commercial Building and Compressed Air

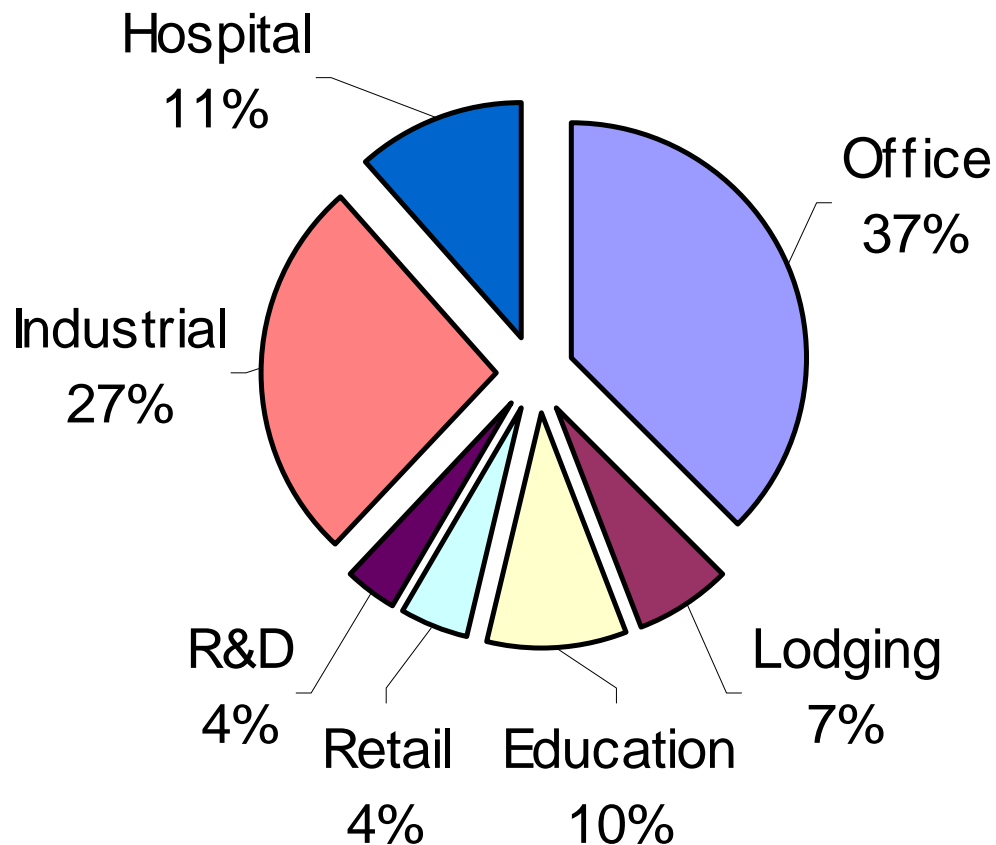
## Compressed Air Retro-Commissioning

- Two tracks
  - 100 – 499 HP
    - Incentive pays for portion of study
    - Customer leak-fix requirement (50% by volume)
  - 500 HP and larger
    - Same incentive structure as commercial bldg
- Customer is paid \$0.01/ M&V kWh



# Retro-Commissioning – Program Year 2

## MWh Savings by Building Type



# Case Study – Chicago History Museum

- Pilot project – 2008
- 235,000 sq ft
- Value of incentive: \$43,296
- Annual energy savings: 491,754 kWh
- Annual cost savings: \$40,000
- Total implementation cost: \$11,400
- Payback period: < 4 months



# Case Study – Chicago History Museum

## ✓ Measures Implemented

- Control OA volume based on CO2 levels
- Economizer operation
- Fan scheduling
- Hot water temperature reset
- Chiller optimization

# Case Study – Advocate Good Samaritan Hospital

- PY2 project
- 966,172 sq ft
- Value of incentive: \$50,400
- Annual energy savings: 666,768 kWh
- Annual cost savings: \$59,462
- Total implementation cost: \$82,999
- Payback period: < 17 months

# Case Study – Advocate Good Samaritan Hospital

## ✓ Measures Implemented

- Optimize central plant CHW system
- Repair economizer dampers
- Repair faulty humidity sensors
- Revise economizer mode setpoint

# Case Study – Caterpillar

- PY2 project
- Total compressed air: 7,650 hp
- Value of incentive: \$71,348
- Annual energy savings: 3,437,667 kWh
- Annual cost savings: \$134,013
- Total implementation cost: \$18,800
- Payback period: < 2 months

# Case Study - Caterpillar

## ✓ Measures Implemented

- Compressor control optimization
  - Match delivery to demand
  - Reduces number of compressors online
  - Significant during weekends and low production
- Leak identification and repair

# Program Lessons Learned

- Incentives need to be profitable for RSPs
- Customers need accurate baselines
  - Energy usage
  - Equipment condition
- Repeat business and referrals are critical
- Can lead horses to water, but can't make them drink

# Anticipated Future Direction

- Monitoring-Based Commissioning – Pilot
- Different incentive systems for RSPs?
- Implementation incentive for customer?
- Collaboration with gas utilities
- Studying viability of smaller buildings
- Cost-effectiveness

# AIA Quality Assurance



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Thank you!

Ryan Stoianowski

Senior Program Manager – ComEd

630-576-6850

[ryan.stoianowski@ComEd.com](mailto:ryan.stoianowski@ComEd.com)