EVERSOURCE

CNG SCG UI

Part of the AVANGRID Family

# Building Systems (RCx/HVAC)

# 2021 Programs and Initiatives

- Energize CT  Retro-Commissioning  Program
- HVAC Midstream and Downstream Update
- Reflections and Directions for HVAC Modernization Demonstration Programs
- Opportunities Under Development

# 2021 Energize CT Retro-Commissioning Program

- What retro-commissioning is…..
- What retro-commissioning is not……..

# Energize CT Retro-Commissioning Program

- RCx Service targeted to large commercial building markets
- Qualifying facilities must be:
  - Minimum 100,000 sq. ft.
  - Have a functioning EMS system with DDC and trending capability

# Energize CT Retro-Commissioning Program

- RCx Services delivered by contracted commissioning professionals
- Control contractors can benefit by encouraging their customers to participate in the RCx Program
- Encourage controls contractors with qualifying candidates for the RCX Program to reach out to list of approved Commissioning Professionals

# Typical RCX Program Measures

- Improve Scheduling Of Lighting & HVAC Equipment
- Enable Or Enhance Economizer Controls
- Optimum Start Function With Warm Up & Cool Down
- AHU Supply Fan Static Pressure Optimization & Reset
- Simultaneous Heating & Cooling
- CHW System Low Temperature Differential And CHW System Bypasses
- VFD Issues On Fans & Pumps .
- VAV Box Minimum Flows And Setpoints
- Condenser Water Reset
- Add BAS Control Scheme To Electric Unit Heaters & Reheats
- Improve Airflow Management And Setpoints In Data Centers
- Improve And Validate Demand Base Ventilation Systems
- Adjust Sequence Of Operations For EMS Equipment
- Reset Chiller Discharge Temperatures
- Flow Changes resulting in Reset on Pump And Fan Speeds
- Improve Free Cooling Opportunities
- Cooling Tower Fan Speed Controls
- Improve Demand Control Ventilation Strategies

# Midstream & Downstream HVAC Rebates

- Added New Measures: Thermostats (must control cooling and replace manual thermostat), faucet aerators, & low-flow showerheads
- Increased incentives for Mini-Split ASHP Systems. As of April 1, 2021, we will deny mini-splits that do not qualify per the new criteria in the table below.
- Removed HVAC & Dual Enthalpy Economizer Controls
- For more information, go to www.energizect.com/your-business/commercial-and-industrial-online-rebates

| Air Source Heat Pump Equipment (only mini-split systems) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Size | | Type | Tier 1 | | Tier 2 | | Qualification |
| Tons | BTUs | | Minimum Qualifying SEER/EER/HSPF | Rebate $/Ton | Minimum Qualifying SEER/EER/HSPF | Rebate $/Ton | |
| < 5.4 | < 65,000 | Central/Ducted or Ductless Multi-Zone | ≥16 SEER; ≥9.5 HSPF | $250 | ≥20 SEER; ≥10 HSPF | $500 | Energize CT QPL |
| | | Ductless Single Zone | ≥18 SEER; ≥10 HSPF | $250 | ≥22 SEER; ≥10 HSPF | $500 | Energize CT QPL |

* Ductless mini split systems must have Inverter Technology.

# Observations from HVAC Modernization Demonstration Programs

## Chiller Plants- 600 tons and larger

- Encouraged plant auxiliary controls

## Boiler Plants- 3,000 MBH and Larger

- HW to HW/Steam to HW/Steam to Steam

## RTUs- 80 tons aggregate capacity minimum

- Must include equipment that is at least 10 years old

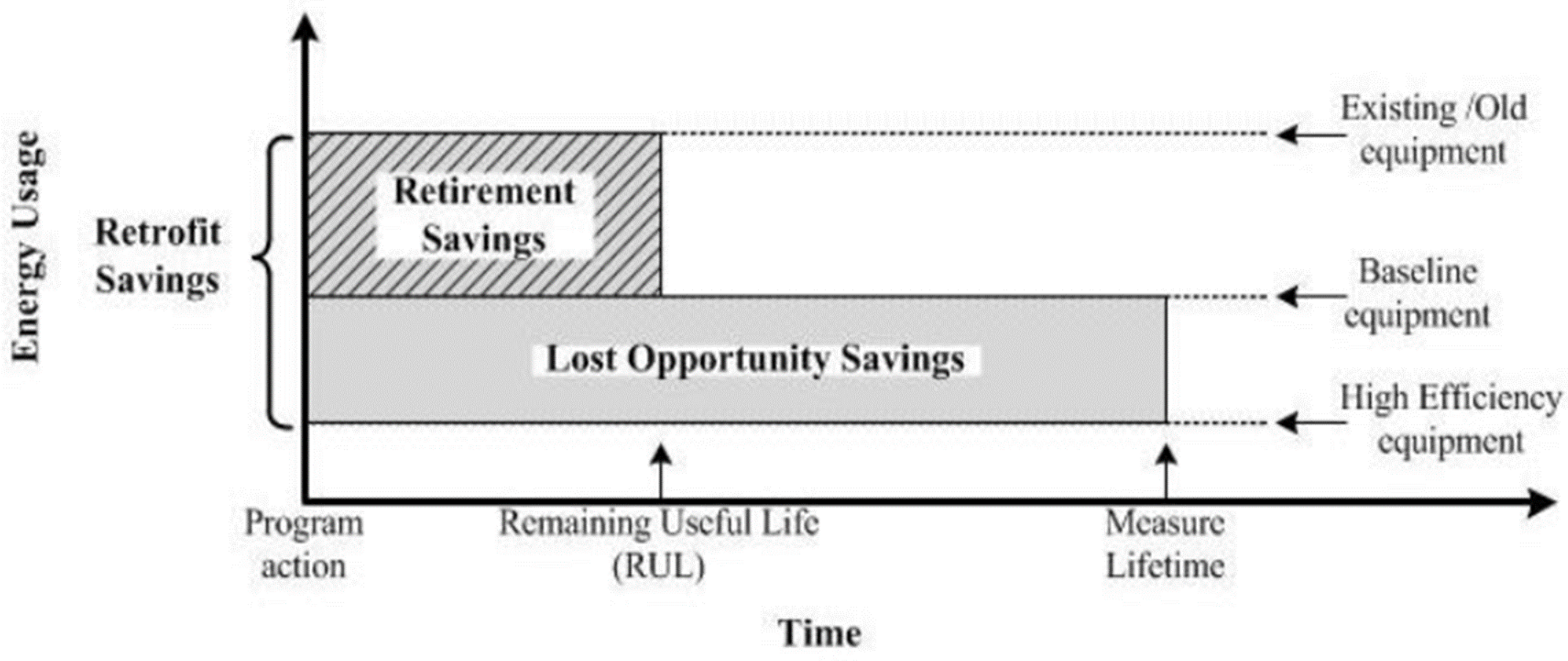
EVERSOURCE

CNG SCG UI

Part of the AVANGRID Family

energize CONNECTICUT

# Observations from HVAC Modernization Demonstration Programs



# Observations from HVAC Modernization Demonstration Programs

- Modest participation in chiller and boiler RFPs
- Benefit Cost Ratios (BCR) for many projects were lower than anticipated
- Boiler projects submitted were all post measure life
- Most of the RTU projects savings did not come from EER performance

# 2021 HVAC Opportunities Under Consideration and Development

- Process Chiller and Boiler Initiative
- RTU support for roof curb costs
- Opportunity for retrofit of early life RTUs with fan controls and DCV
- Consideration for future RFP Programs

# 2021 HVAC/Refrigeration Maintenance Opportunities Under Development

The Companies working on the development of prescriptive incentives for HVAC and refrigeration maintenance measures

| Category | Energy Efficiency Maintenance Measure |
|---|---|
| HVAC | DCV |
| HVAC | Optimize economizer controls |
| HVAC | Scheduling of fans, pumps |
| HVAC | Chilled water, condenser water, hot water and discharge air temperature reset |
| HVAC | Boiler pressure reduction |
| HVAC | Static pressure reset |
| HVAC | Optimal start stop |
| Steam | Steam trap repair |
| Steam | Reduce steam boiler pressure |
| Compressed Air | Air leaks |
| Compressed Air | Pressure reduction |
| Refrigeration | Lower condenser pressure |
| Refrigeration | Optimize condenser fan operations |
| Refrigeration | Optimize evaporator fan operations |
| Refrigeration | Reduce defrost heat |
| Refrigeration | Anti-sweat door heat controls |
| Refrigeration | Floating head pressure controls |
| Refrigeration | Cycle evaporator fans on/off |



Danielle Poulin
danielle.poulin@eversource.com
Paul Tangredi
Paul.tangredi@eversource.com
Jessica Abrera
Jessica.abrera@uinet.com

EVERSOURCE

CNG SCG UI

Part of the AVANGRID Family

# Thank you