



Emerging Technology Program

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Challenge

- Discover:
 - Products that claim to save therms
- Prove:
 - Therm savings can be tested, verified and documented

Source of technologies & products

Participation requirements

- Apply online
- No cost to applicant

Who submits products?

- Manufacturers
- Vendors

Product types

- Residential
- Commercial
- Industrial

Product Information

Company Name

Product Name

Primary Use/Function

Target Market (select all that apply)

- Single-Family Commercial
 Multi-Family Residential Industrial
 Other

Question

Yes No

- | Question | Yes | No |
|--|--------------------------|--------------------------|
| 1 Does this technology/product reduce a customer's consumption of natural gas while delivering the same or superior service as compared to the system it replaces? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Will your technology result in electricity savings for consumers? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3a Is your technology commercially available in the U.S.? If yes, proceed to question 4. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3b Will your technology be commercially available in the U.S. in the next 6 months? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Is this technology/product currently receiving incentives (rebates) from one or more North American energy utilities? If unknown, answer "no". | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 In addition to natural gas savings, are there other performance benefits to your technology? Examples include: quieter performance, simplified installation, reduced maintenance requirements, increased indoor air quality, water savings, etc. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Can your technology be retrofitted to existing equipment? | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Has this technology/product been evaluated by recognized professionals (engineers, architects, contractors) to confirm its compatibility with existing building practices and systems and its ease of installation? | <input type="checkbox"/> | <input type="checkbox"/> |
| 8a Has this technology/product been installed at multiple sites in North America? If no, skip to Question 9a. | <input type="checkbox"/> | <input type="checkbox"/> |
| 8b To the best of your knowledge, is this technology/product currently in operation at all sites where installed? | <input type="checkbox"/> | <input type="checkbox"/> |
| 9a Is there an available service network to support your product in the Nicor Gas territory? If yes, proceed to question 10. | <input type="checkbox"/> | <input type="checkbox"/> |
| 9b Do you have the capacity to build/establish a service support network in the Nicor Gas territory? | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 Does your product/technology require mitigation measures for noise, vibration, emissions, or other safety issues? | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 Does the installation of your technology require upgrading of ancillary equipment? | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 Based on the price that this technology/product will sell for 18 months from now, will it save enough energy to pay for itself in 5 years or less? | <input type="checkbox"/> | <input type="checkbox"/> |

Contact Information

Name

Title

Company

Testing and measurement

Gas Technology Institute (GTI)

- Writes action plan
- Our pilot roadmap



Technical review committee

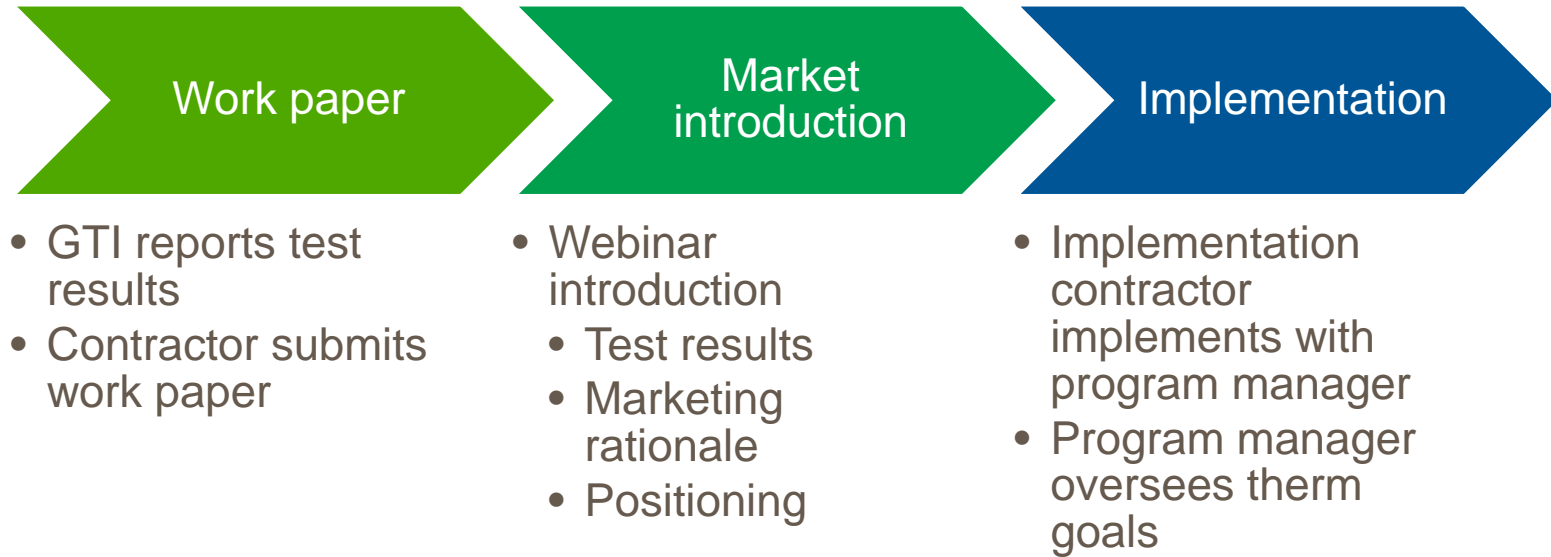
- Reviews action plans
- Selects and approves pilots
- Sets priorities



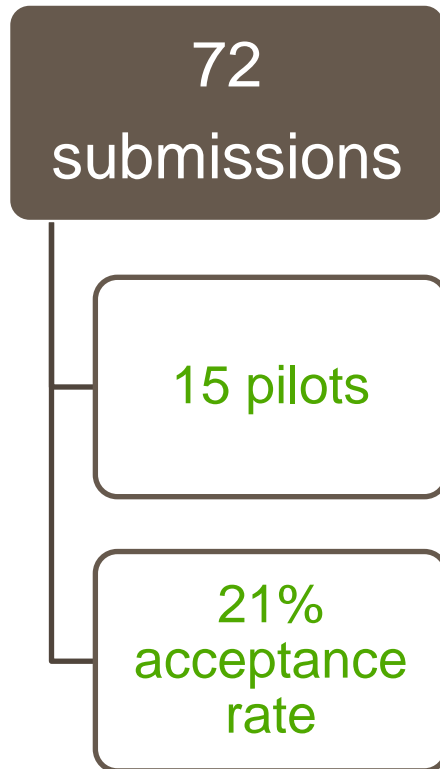
Pilot setup

- Recruit test sites
- Install and measure
- Collect data

The ETP process



Active pilot assessments

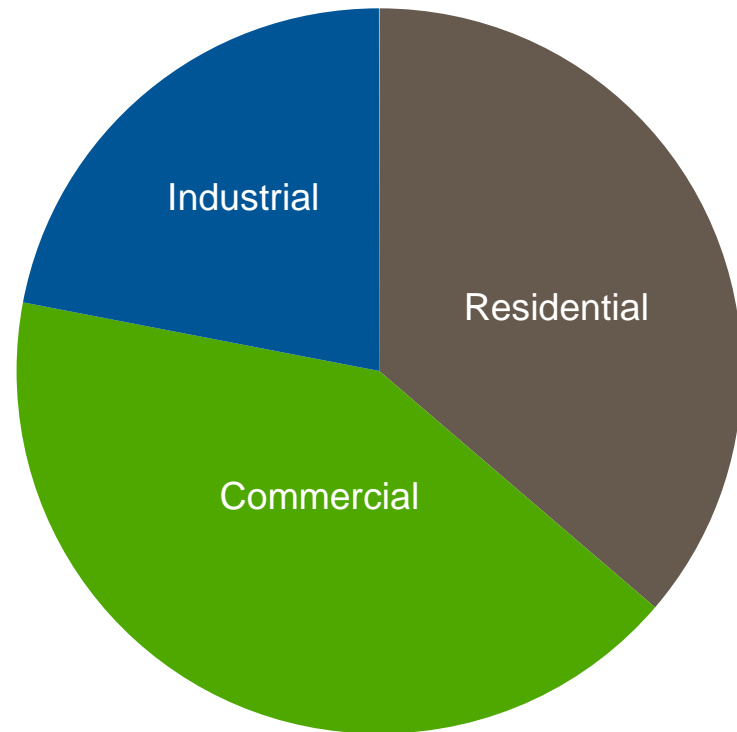


Pilot examples:

- Condensing rooftop units
- Low-flow showerhead
- Water heating control system
- Ozone laundry
- Combined space and water heating
- Air curtains
- Home energy management system
- Wireless steam trap monitor
- Wireless pneumatic commercial thermostat
- Commercial stepping clothes dryer

Lessons learned: product mix

- Watch product mix of:
 - Capital-intensive
 - Seasonal traps
 - Heating season
 - Non-heating season
- Balanced approach
 - Avoid over-representation of any one category



Lessons learned: product myopia

Cannot fall in love with technology

- Cannot view in isolation
- Must have actionable market potential

Two components: engineering and marketing

- Different disciplines
- Both are needed

Lessons learned: vendor partners

- Site selection difficult
 - Unexpected
 - Decision process slow
- Active vendor participation
 - Special equipment costs
 - Help with test site recruitment
- Increase partner group
 - Blend of industries

Forming energy efficiency development partners

Healthcare

Hospitality

Warehouse

Multi-family

Retail

Lessons learned: trends

Wireless technologies increasing

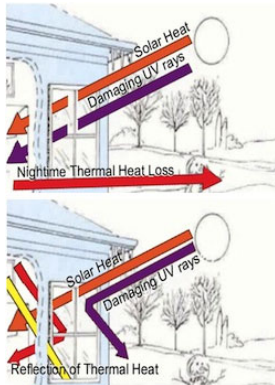
- Benefits
 - Lower installation costs
 - Faster installations
 - Less invasive

Enables other energy efficiency technologies

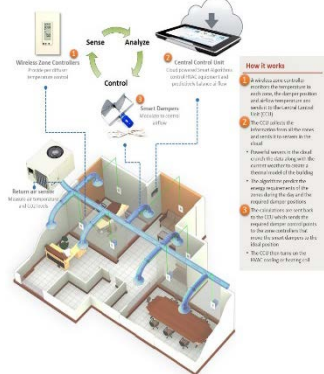
- Mechanical
- Pneumatic thermostats
- Half-smart building

Residential Pilots

Window insulation



Airflow balancing



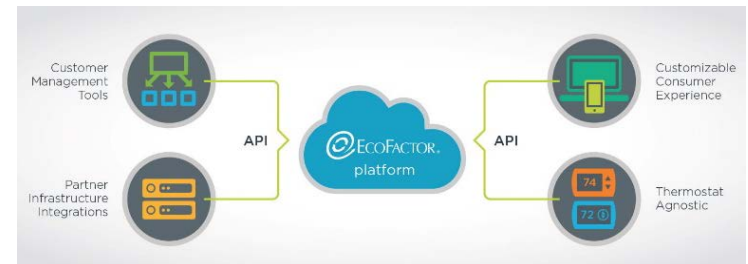
Residential ozone laundry



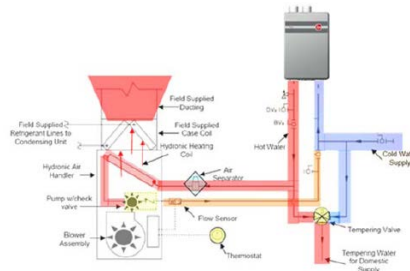
On-demand domestic hot water recirculation



EcoFactor Smart Thermostat



Residential combined space and water



Commercial Pilots

Destratification fan



Commercial Energy Management System



Commercial Modulating Clothes Dryer Retrofit



Commercial ozone laundry



Steam trap monitoring



Condensing Rooftop Unit



Industrial Pilots

Predictive Energy Management

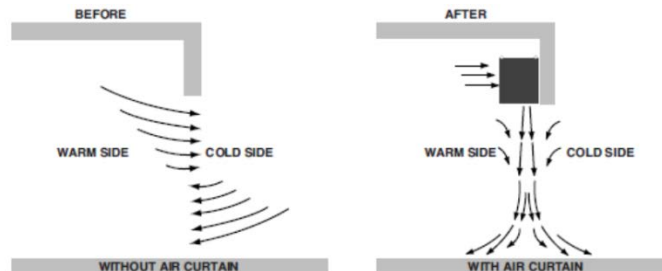
Boiler descaler



Boiler combustion trim controls

IRISvalve™
Continuous Combustion Control System

Commercial and Industrial Air Curtains





Destratification fans

Review the destratification fans public project report.

[Download the report >](#)



Ozone laundry

Review the ozone laundry public project report.

[Download the report >](#)



Air curtains

Review the air curtains public project report.

[Download the report >](#)



HE heating RTUs

Review the high-efficiency heating roof-top units public project report.

[Download the report >](#)



Demand-based hot water recirculation

Review the demand-based domestic hot water recirculation public project report.

[Download the report >](#)



Combined domestic hot water and space heating systems

Review the combined domestic hot water and space heating public project report.

[Download the report >](#)



Non-modulating dryer retrofit

Review the non-modulating dryer retrofit public project report.



Questions?

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