Recognizing retrofit projects that are set-up to succeed

presented by: ADVANCED ENERGY CENTRE 
MaRS Cleantech | Ontario, Canada
Our Future Matters

DEVELOPING TALENT
- GROWING Ventures
- OPENING MARKETS

Source:
- policy
- knowledge
- capital
- utilities
- research
- policy
OUR MISSION:

Foster the adoption of innovative energy technologies in Canada

Leverage those successes and experiences into international markets
Too many economically viable retrofits don’t take place in our buildings today...
Answering “will I get my money back?” can be tough

- Variable ROI forecasts
- Unique and complex building characteristics
- Gaps in performance / implementation
- High transaction and due diligence cost
A framework for EE underwriting standards

- Reliability of savings
- Transaction Cost
- Investor risk
Investor Ready Energy Efficiency (IREE) Certification

ICP’s Investor Ready Energy Efficiency™ (IREE) Certification ensures **transparency, consistency, and trust-worthiness** through **best practice** and **independent verification**.

**Administering IREE Certification globally**
Energy Efficiency today...
A consistent roadmap for project development…

- **Baselining**
  - Existing Building
  - Drawings
  - Weather File
  - Energy Usage
  - Energy Rates
  - Occupancy

- **Savings**
  - Model File
  - Calibration Data
  - Bid Packages
  - Certifications

- **D&C + Verification**
  - Cx Plan
  - Cx Authority
  - Test Procedures
  - Facilities Req.

- **OM&M**
  - BMS Points
  - Fault Plan
  - Maintenance Plan

- **M&V**
  - M&V Model
  - Regression Model
  - Adjustments
  - Impact
  - Baseline Adjustments
Different standards to fit project size / complexity

Chosen for any combination of:
- Larger building and investment requirement (i.e. over $650k)
- Multiple ECM’s being proposed
- Significant and interactive effects on total building energy use >10%
# ICP Protocols for Large Commercial Projects

**Objective(s):**

<table>
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<tr>
<th>Baselining</th>
<th>Savings Projections</th>
<th>D&amp;C + Verification</th>
<th>OM&amp;M</th>
<th>M&amp;V</th>
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<tr>
<td><strong>Understand what drives historical energy consumption</strong>&lt;br&gt;Develop baseline regression model</td>
<td><strong>Understand savings from individual ECMs and package of ECMs.</strong>&lt;br&gt;Develop dynamic building simulation</td>
<td><strong>Develop an Operational Performance Verification plan for targeted ECMs.</strong>&lt;br&gt;Identify commissioning resource</td>
<td><strong>Develop an OM&amp;M plan.</strong>&lt;br&gt;Identify processes / roles for reporting, inspection, issue resolution</td>
<td><strong>Develop whole-facility M&amp;V plan</strong>&lt;br&gt;<strong>Appoint M&amp;V resource</strong></td>
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**Standards Referenced:**

- ASTM BEPA standard
- ANSI / BOMA (end-use)
- ASHRAE Guideline 14
- ASHRAE Standard 140
- ASHRAE Guideline 4 / 1.4
- General guidance provided in ICP Protocols
- IPMVP Option C
Launching the ICP Early Adopters Program…
Program objectives

- Introduce ICP and IREE Certification in the Canadian market
- Track key metrics to highlight project applicability and value to stakeholders
- Understand effort required to obtain IREE Certified status
What are the benefits in participating?

#1
Opportunity to be first-to-market for IREE Certification in Canada

Technical support for submission requirements and certification

Peer learning opportunities to share challenges and solutions

Proactive promotion of projects as industry leaders
Participation Commitments

1. Pursue becoming IREE Certified for a project in its development phase

2. Share feedback and outcomes of the process

PARTICIPANT SELECTION
SUMMER 2018

IREE CERTIFICATION
2019

TECHNICAL SUPPORT & SUBMISSION

TWO POST-CERTIFICATION CHECKPOINTS

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