

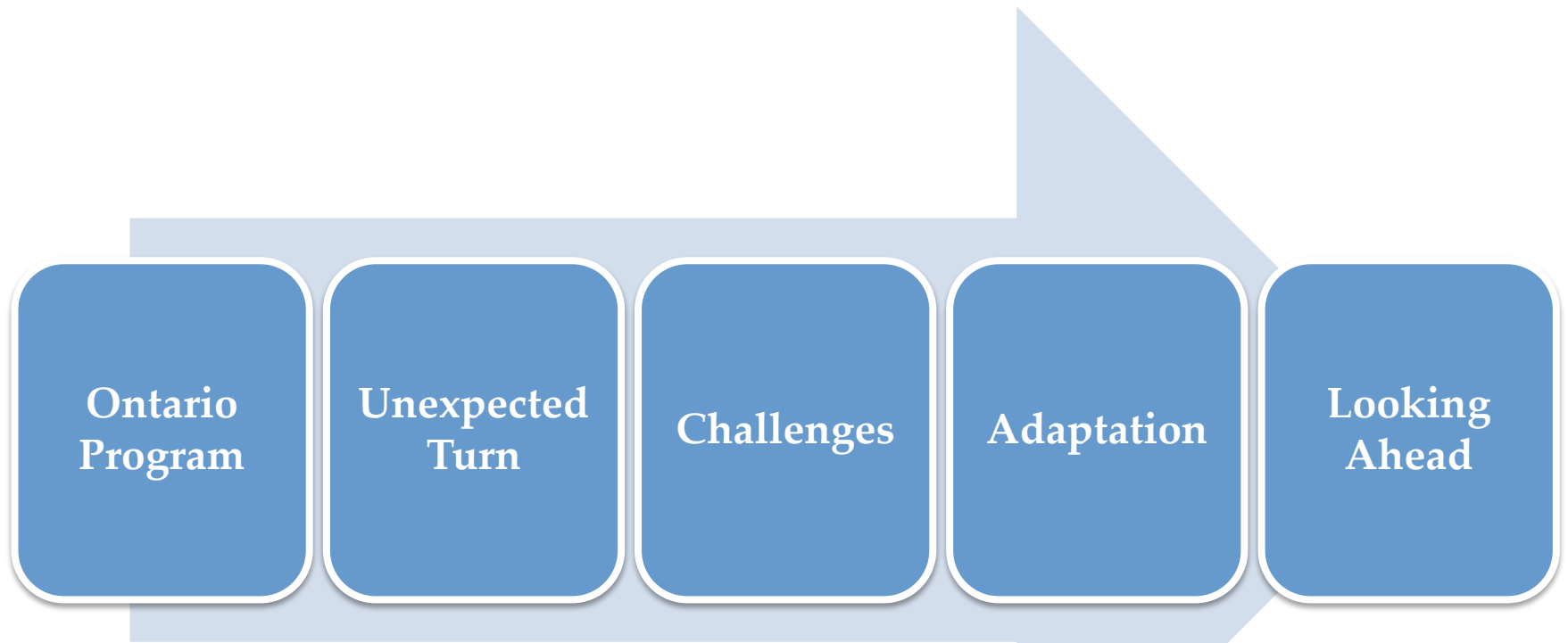
CHP – All Sizes Fit One (Program)

Turning the Agony to Ecstasy with Micro-CHP as a Conservation Resource

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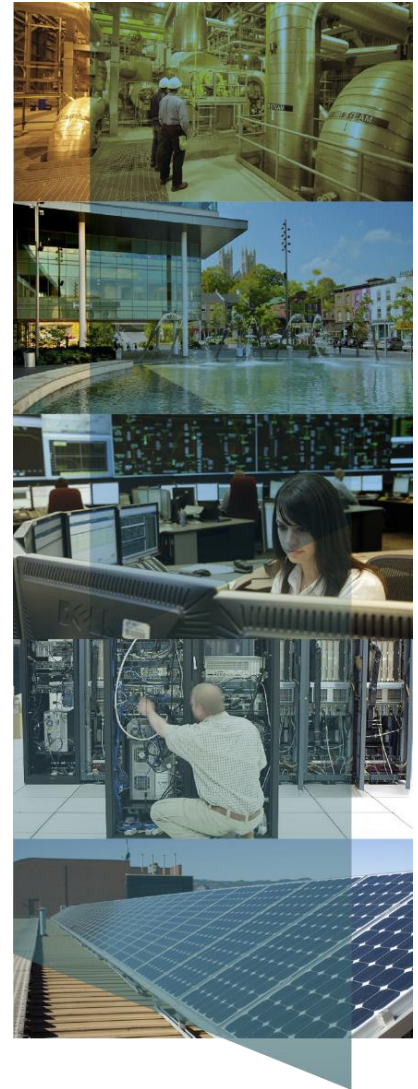
Our Journey Today



IESO at a Glance

The Independent Electricity System Operator (IESO) works at the heart of Ontario's power system – ensuring there is enough power to meet the province's energy needs in real time while also planning and securing energy for the future. It does this by:

- **Balancing** Supply and Demand
- **Securing** clean sources of supply
- **Planning** Medium and Long Term
- **Overseeing** the electricity wholesale market
- **Fostering** Conservation Culture [saveONenergy](#)



Background: saveONenergy Process and Systems Upgrades Initiative (PSUI)

Launched: late 2011

Savings target: 48 MW

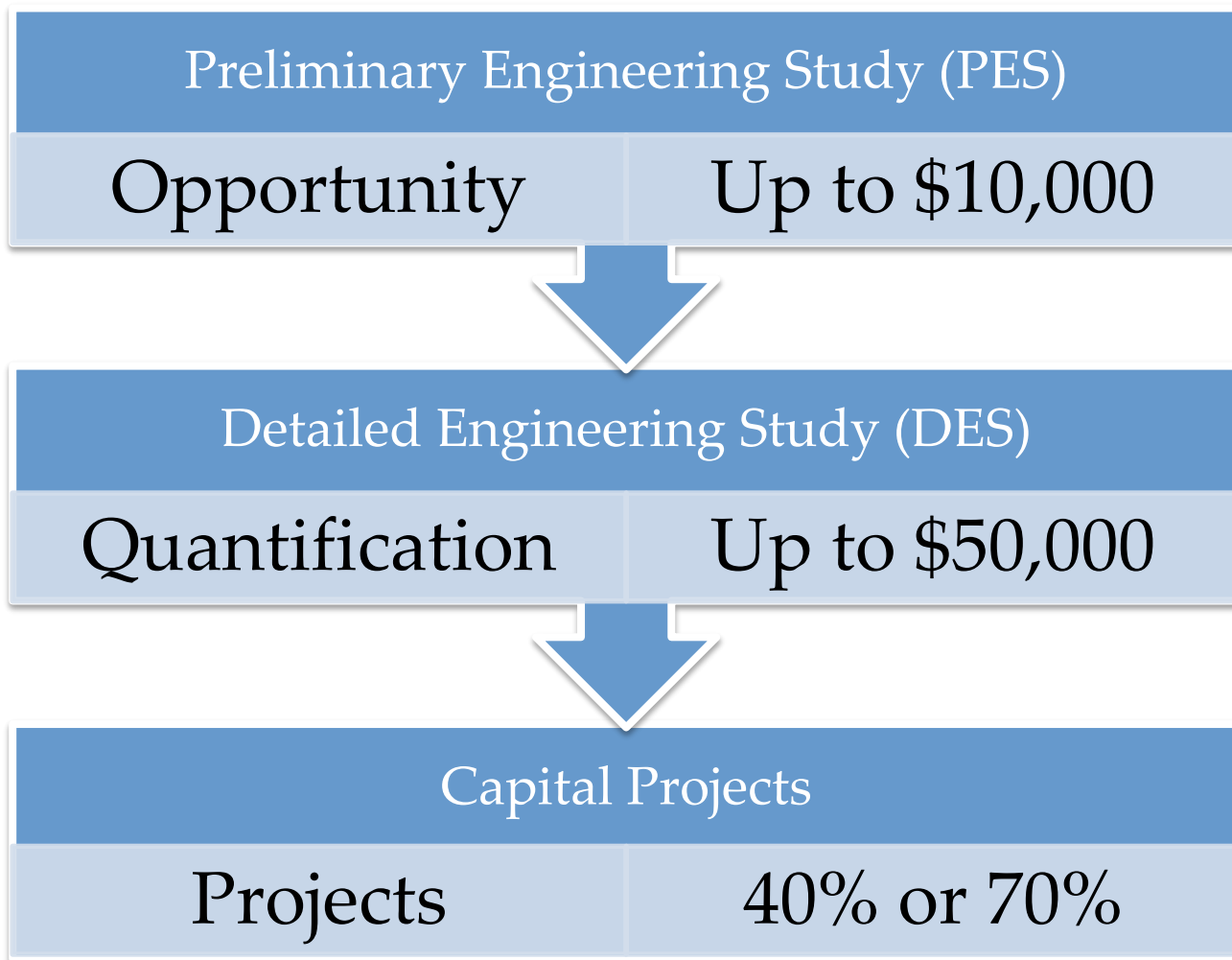
Target market: Industrial Process & Systems Upgrades

Incentives: Studies and Capital Projects

Includes Waste Energy Recovery and CHP (generation)

Conservation CHP: 65% Annual Overall System Efficiency

saveONenergy PSUI Process



Gas-fired Conservation CHP (CCHP)

Mechanical to
electricity
generation

Max of 10 MW

65% minimum
overall annual
system efficiency
(OSE)

No power sale

Max 40% of project
costs

An Unexpected Turn

Extent of Micro CCHP (< 250 kW)

- ~HALF < 250 kW
- 50% of total applications
- 85% of projected savings

Attracted non-targeted market segments

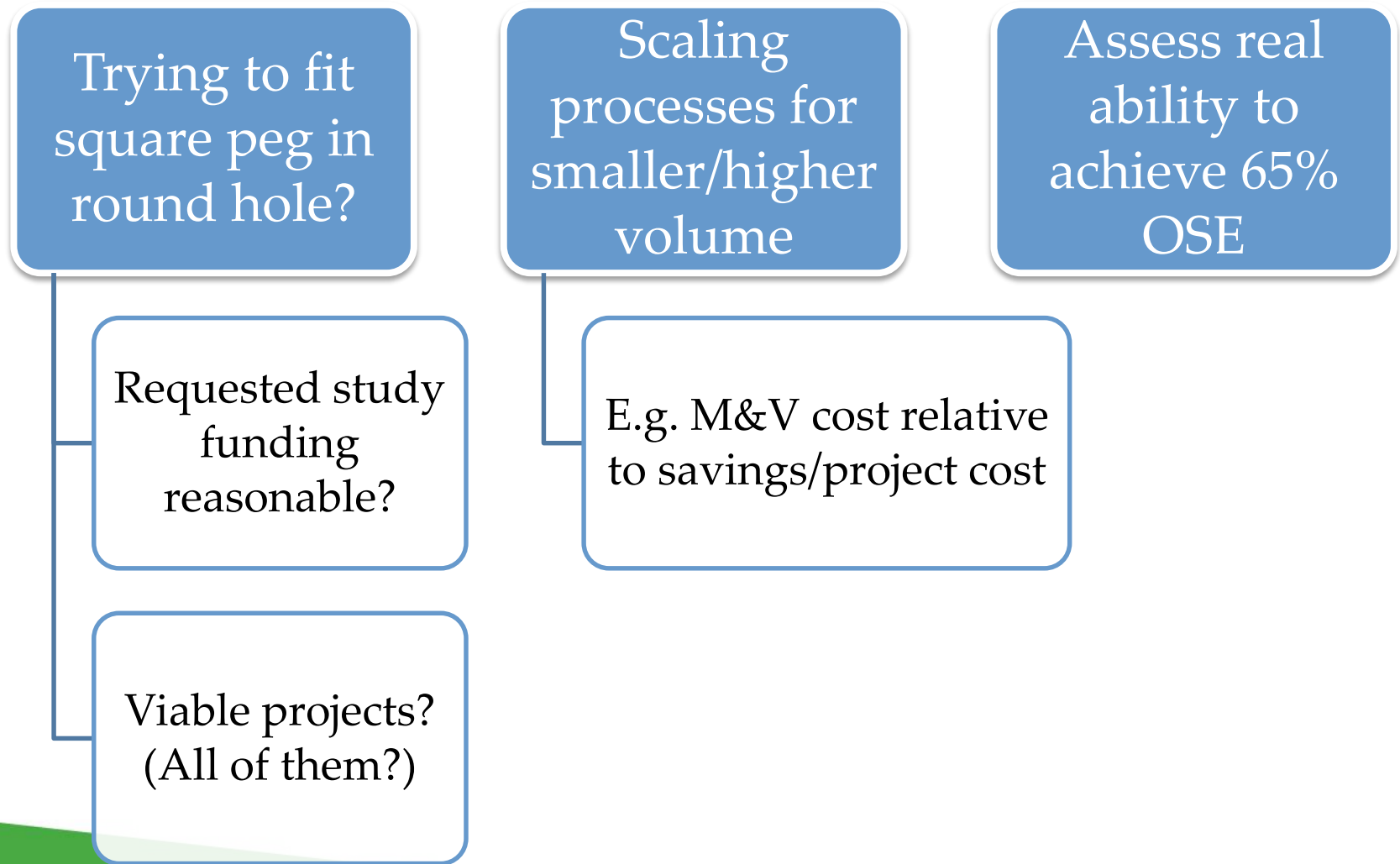
- Real Estate Investment Trusts
- Hotels
- Long-term healthcare

Challenged common conventions for economic viability

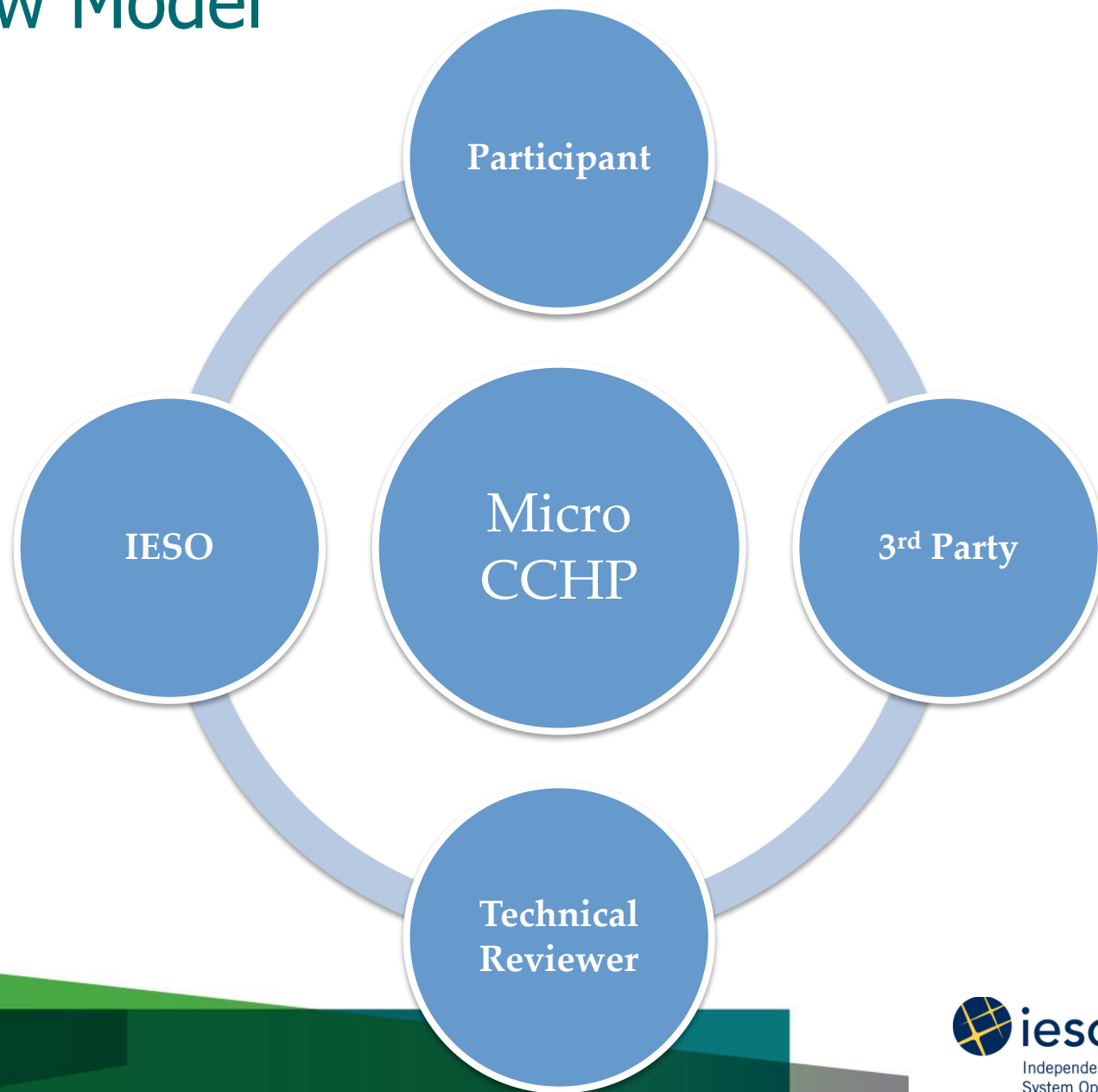
Innovation by the Numbers

	Micro-CCHP (<250 kW)	Other CCHP
Project Applications	16	49
Est. Demand Savings	.78 MW	74 MW
Est. Energy Savings	6,837 MWh	624,940 MWh
PES	115	86
DES	19	154
Study Est. Demand Savings	9.7 MW	188 MW
Study Est. Energy Savings	86,083 MWh	1,440, 348 MWh

Challenges



A New Model



A New Process

Participants working with “facilitators”

Open communication lines with all parties

Adoption of a batch vs. case-by-case approach

Development of standard models for:

- Operation
- OSE
- M&V Plan

Early collaboration/acceptance of 3rd party models

Looking Forward

Innovations:

- Domestic hot water (DHW)-based CCHP
- Absorption and steam chillers for summer load

Market actors enabled quick deployment

Other sectors with similar investor environments?

Questions



Thank You!

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