



Energy Storage: Trends & Ontario's Opportunity

November 27th, 2012

Cleantech Practice – 2011 snapshot



240
SERVICE PROVIDER HOURS

170 JOBS CREATED

\$1.2M
MARKET INTELLIGENCE

\$106M
RAISED

100
ACTIVE CLIENTS

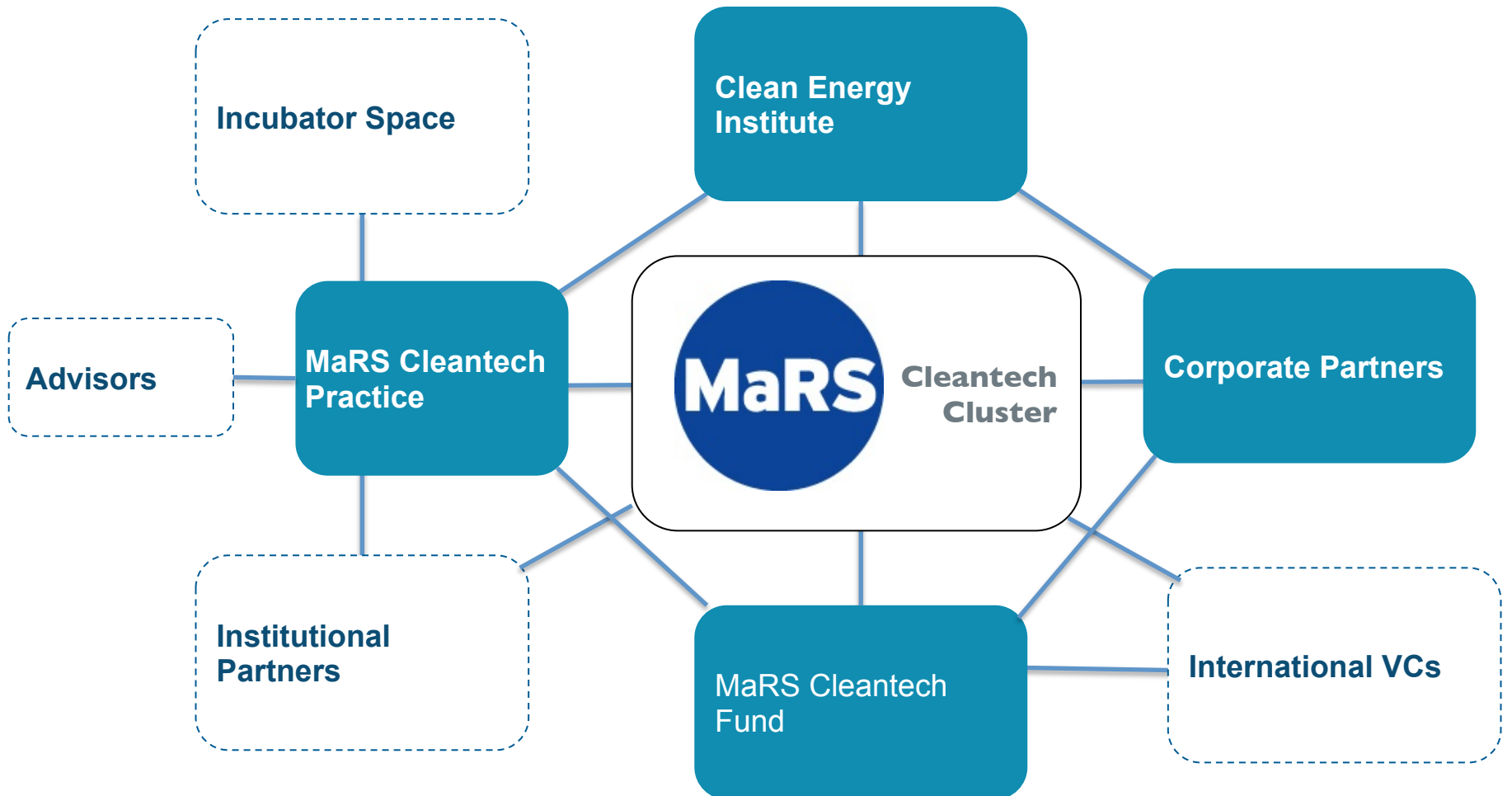
\$59M REVENUE

1371 EDUCATIONAL HOURS



MaRS Cleantech

Growing to meet the needs of the innovation ecosystem



Clean Energy Institute (CEI)

CEI's mandate and objectives

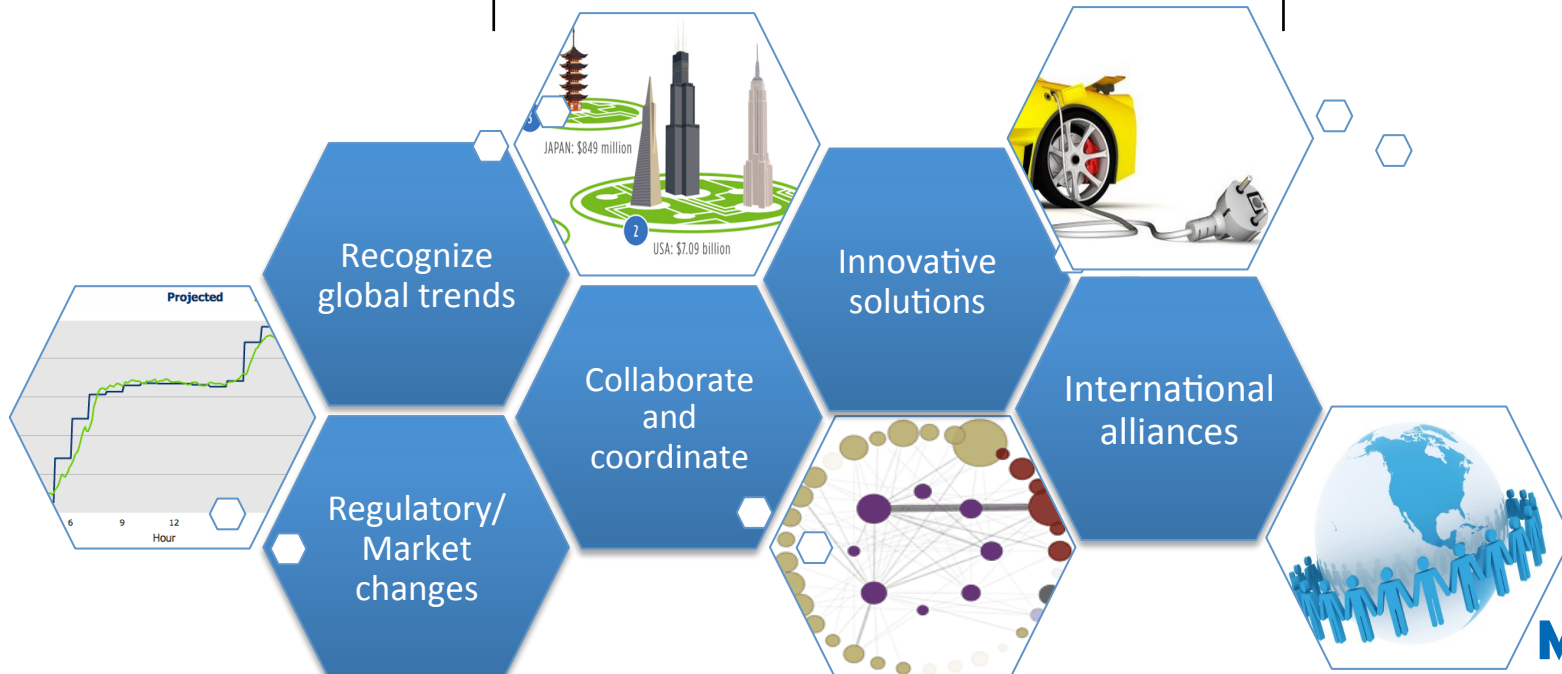
Objectives

Build knowledge and leadership, positioning Ontario at the forefront of future export opportunities

Enable the introduction of strategic technologies into our energy system

- Prove local economic value
- Compete in the global market

Bring energy stakeholders together under an economic development mandate

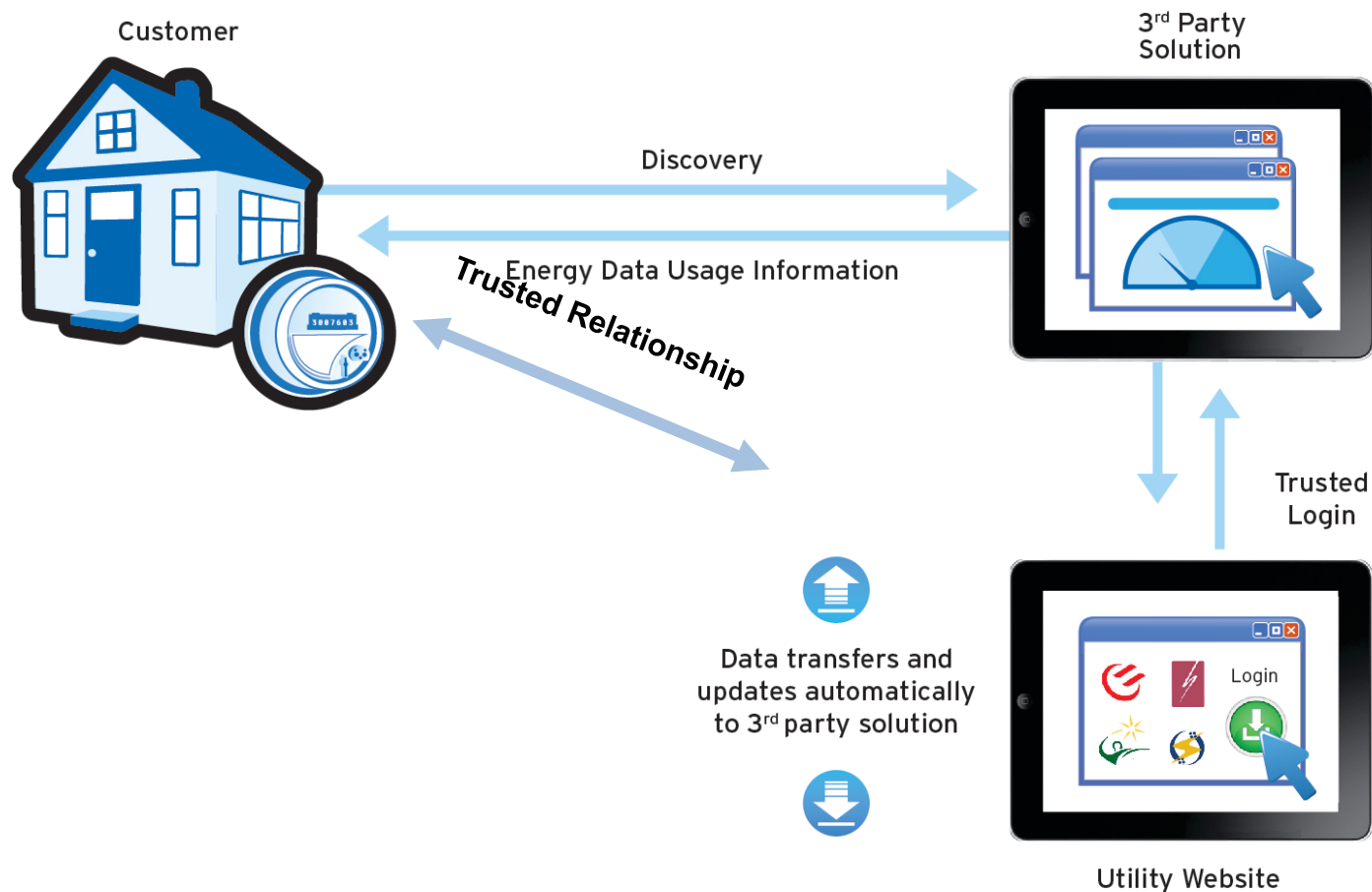


CEI's foundation-building projects



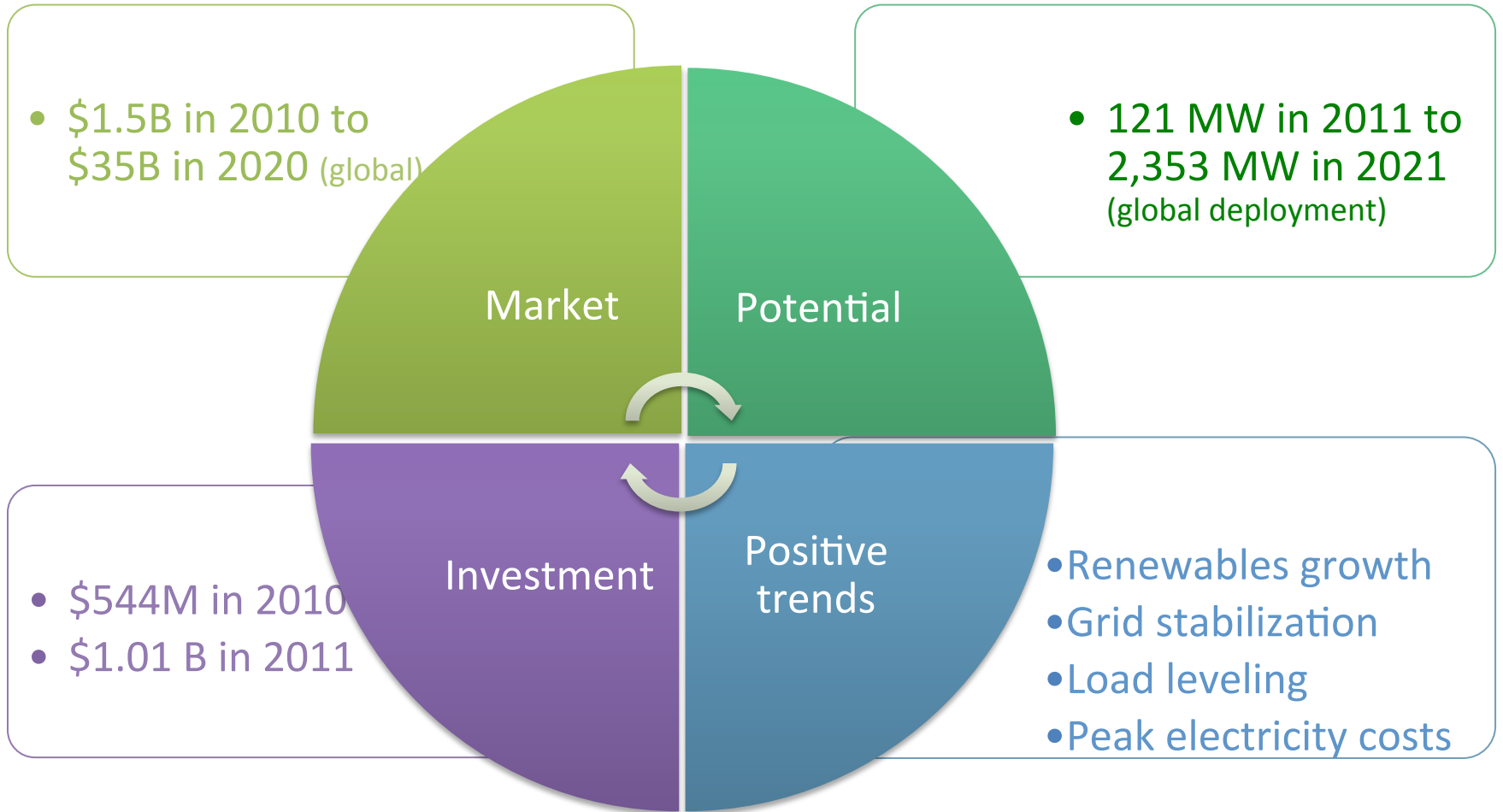
Accessible Energy Data

To capitalize on Ontario's 4.6 million smart meter rollout, educate and improve customer insight; and develop profitable long-term global economic opportunities.



Energy storage

The energy storage boom



In 2011 Ontario energy storage innovators raised \$28M (26% total cleantech funds)

Storage Innovation Trends

Beyond large scale utility electricity to electricity applications

Power to Gas energy storage

Combining attributes of different infrastructure



Linking of the electrical grid and natural gas networks

Community energy storage (CES)

Distributed energy storage solutions



Multiple smaller systems deployed closer to point of use

Micro-grid

Enabling a high percentage of renewables in smaller grids



Balancing supply and demand, and maintaining stability

Energy Storage Next Steps

□ Define the value proposition of the diffuse benefits

- Maximize utilization and strengthen the distribution network
- Renewable integration
- Ancillary services
- Bulk energy storage for reduction of transmission congestion

□ Develop recovery mechanisms that will remove the barriers to enable us to meet short and longer term deployment objectives



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