Successful Approach to Industry Program Baseline Market Characterization

Paula Claudino, B.Eng & Mgmt, CEM
Manager, ICF Marbek
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Outline

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- Approach and Methodology
- Analysis of Results
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Background

- Ontario Power Authority **(OPA)** launched:
  - Industrial Accelerator Program **(IAP)** in June 2010 to target direct connect **(DX)** customers
  - Process and Systems Upgrade Initiative **(PSUI)** in April 2011 to target customers **(TX)** served by the local distributions companies (LDCs)

Objectives

- Scope and main objectives of the study were to:
  - Identify **shifts in the industrial market** that would signal market transformation over time
  - Estimate **saturation levels** of energy efficient technologies
  - Provide input for project **savings attribution,** such as free-ridership and spillover effects
  - Provide **input for program design and program delivery** of current and future OPA programs

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Approach & Methodology

- There were four main tasks involved in preparing for and collecting information
  - **Task 1:** Define required information
  - **Task 2:** Define data sources and strategies
  - **Task 3:** Develop data collection instruments
  - **Task 4:** Perform Data Collection

Approach and Methodology

Task 1: Define required information

Category	Information Requirement
Technology	General trends for equipment replacement, maintenance, and spending patterns
	Size, efficiency, age, quantity, and hours of operation of existing equipment, effective useful life of equipment
	Technologies and processes in use
	Updated list of potential energy efficiency measures
Energy Efficiency Experience	Areas of EE experience, sources of information, and training requirements
	Participation in and perception of other incentive programs
Decision Making Procedures for EE Projects	Policies and procedures, "influencers", hurdle rates, ranking of electricity prices, factors in equipment selection process, risk aversion

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Approach and Methodology

Task 2: Define data sources and strategies

- Review of existing documents
- KAM interviews
- TX & DX customer surveys
- TX & DX customer interviews
- Supply chain and service provider interviews

Approach and Methodology

Category	Information Requirement	Research Activity
Technology	General trends for equipment replacement, maintenance, and spending patterns	▪ KAM interviews ▪ TX customer surveys and interviews ▪ Supply chain and service provider interview
	Size, efficiency, age, quantity, and hours of operation of existing equipment, effective useful life of equipment	▪ KAM interviews ▪ TX customer surveys and interviews
	Technologies and processes in use	▪ Review of existing documents Supply chain and service provider interview ▪ KAM interviews
	Updated list of potential energy efficiency measures	▪ Review of existing documents
Energy Efficiency Experience	Areas of EE experience, sources of information, and training requirements	▪ TX customer surveys and interviews
	Participation in and perception of other incentive programs	▪ KAM interviews ▪ TX customer surveys and interviews
Decision Making Procedures for EE Projects	Policies and procedures, "influencers", hurdle rates, ranking of electricity prices, factors in equipment selection process, risk aversion	▪ KAM interviews ▪ TX customer surveys and interviews ▪ Supply chain and service provider interview

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Approach and Methodology

Task 3: Develop data collection instruments

- KAM Interview Guide
- TX Customer Surveys (one per sub sector)
- DX Customer Surveys (one generic guide)
- TX & DX Customer Interview Guide
- Supply Chain and Service Provider Interview Guide

Approach and Methodology

Task 4: Data Collection

Data Collection Activity	Population	Target Sample	Achieved Sample
KAM interviews	5	5	5
TX Customer Surveys	58	30	30
DX Customer Surveys	~thousands	30	27
TX Customer Interviews	30	15	17
DX Customer Interviews	27	15	14
Supply Chain and Service Provider Interviews	~thousands	15	17

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TX customer sample distribution

Sub Sector	Population Size	Survey Sample	Interview Sample
Automotive	3	0	0
Cement	2	1	1
Food	1	0	0
Mining	14	6	2
Paper	15	10	6
Petroleum	8	4	2
Plastic	3	2	2
Metal	10	5	3
Timber	2	2	1

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DX customer sample distribution

Sub Sector	Survey Sample	Interview Sample
Aerospace	1	1
Automotive	3	2
Cement Manufacturing	2	1
Food and Beverage Manufacturing	2	1
Miscellaneous Manufacturing	5	1
Metal Forming	5	2
Paper Manufacturing	1	-
Plastics Manufacturing	2	2
Publishing	1	-
Steel	2	2
Textiles	2	1
Wood Products Manufacturing	1	1

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Analysis of Results

- Results were analyzed to find areas of **consensus, variance**, and **general trends** in the following areas:
  - Equipment Baseline
  - Energy Efficiency Experience in Industry
  - Level of Service Provided by Supply Chain and Service Providers
  - Decision-Making Procedures in Industry
  - Key Challenges Facing Industry

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Analysis of Results

- Market Transformation Indicators **(MTIs)** were defined, based on the results of the data collection activities
- These MTIs can be used to **track the impact** of the programs **over time**

Analysis of Results

- The proposed MTIs are categorized into four main areas:
  - Equipment Efficiency
  - Energy Efficiency Experience in Industry
  - Supply Chain and Service Providers
  - Decision-Making Procedures in Industry

Analysis of Results

Equipment Efficiency

- Reduction in missed opportunities
  - Percentage of companies reporting that all feasible opportunities identified to improve energy efficiency were undertaken
- Market penetration of each set of efficiency measures
  - Implementation of each of the given industrial best practices, where applicable, by end use

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Analysis of Results

Energy Efficiency Experience in Industry

- EMP Development
  - Percentage of participants who have developed an appropriate EMP
- EMIS Implementation
  - Percentage of participants who have implemented an EMIS
- Active control of electricity costs
  - Percentage of participants who report being actively engaged in controlling electricity costs
- ISO 50001 Certification
  - Percentage of participants who have ISO 50001 certification

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Analysis of Results

Supply Chain and Service Providers

- Promotion of energy efficient technologies and equipment
  - Percentage of companies in the supply chain who report actively promoting EE technologies and equipment
- Awareness of OPA programs
  - Percentage of companies in the supply chain that are familiar with OPA programs that would benefit their clients
- Comfort level with OPA programs
  - Percentage of companies actively using available programs to promote their own equipment sales or services

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Analysis of Results

Decision-Making Procedures in Industry

- Formal equipment replacement policies
  - Percentage companies with formal policies in place to replace worn out equipment with high efficiency equipment
- Reduced ROI requirements for energy efficiency projects
  - Percentage of companies who report that they use a different ROI requirement when evaluating an energy efficiency project versus other capital projects

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Key Challenges

- It can be **difficult to recruit** companies to participate in surveys
- Some sub sectors appear to be much less willing to participate, which can **skew the sample**
- It is **difficult to segment** the market appropriately

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Lessons Learned

- Including the **KAMs** in the recruitment process was a key success factor in recruiting plants for the survey and interview process
- The **interviews**, following completion of the remote surveys, were beneficial
- Both the surveys and interviews were a **good length and level of detail**

Questions?

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