



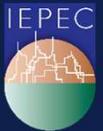
WHEN TRUST MATTERS

Bigger is Different:

The Complicated Energy Efficiency Decision-Making of Large C&I Customers

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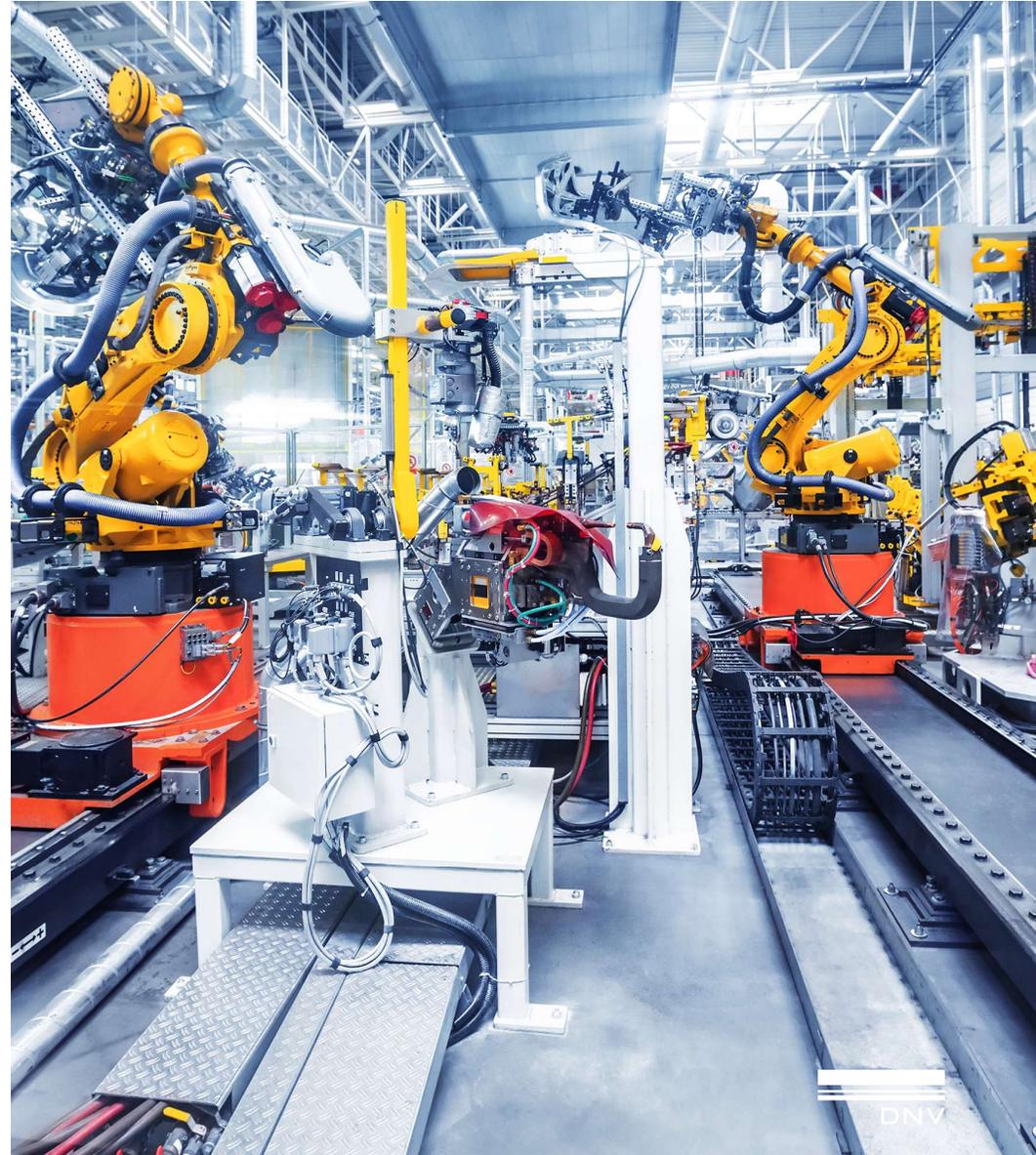
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SAFER, SMARTER, GREENER

Agenda

- Background
- Methodology
- Findings
- Recommendations & Conclusions



Background





Why should we care about large C&I customer EE project decision-making?

- **Large commercial and industrial (C&I) customers often represent a significant share of energy efficiency (EE) program savings.**
 - In CA custom EE programs, the largest 5% of customers accounted for ~60% of total program savings
- **Understanding the EE decision-making processes of large C&I customers can enhance program effectiveness and improve net-to-gross (NTG) ratios.**
- **Custom EE programs are key drivers of utility EE program performance, but decision-making processes in these programs are understudied**
 - Recent literature has focused on large C&I customer decision-making in Strategic Energy Management (SEM) programs

The EE decision-making process for large C&I customers typically differs from that of small and medium C&I customers

They are more likely to:

1. **Develop EE project ideas on their own**
2. **Have in-house resources for energy benchmarking/audits**
3. **Have a long list of CAPEX projects competing w/ the EE projects**
4. **Value increasing production capacity/efficiency as a project driver**
5. **Have internal sources for project funding**
6. **Have corporate sustainability policies**
7. **Have EE projects that are larger, more complicated, longer duration**
8. **Conduct routine maintenance projects w/ energy savings benefits**
9. **Have in-house resources who can implement basic EE projects**



Methodology



Methodology – Researchable Questions

- How do EE projects ideas originate among large C&I customers?
- Who are the EE project decision-makers?
- What factors influence EE project approval other than EE program financial incentives?
- How do program financial incentives impact EE projects?

Methodology – Researchable Questions

- What has been the impact of corporate sustainability policies on EE project decision-making?
- What factors can stall/derail EE projects?
- What EE program features can enhance large C&I program engagement & program influence?

Methodology – Sources

- Findings based on ~30 in-depth interviews with large C&I customers participating in custom EE programs
- Customers participated in custom EE programs in California, New Jersey, and Ontario
- Interviews were focused on understanding EE project-decision-making to inform NTG estimates
- Interviews were completed over the 2023-2024 period

Findings



How do EE project ideas originate?

Most common sources

- 1 Benchmarking energy consumption of buildings or equipment
- 2 Conducting facility energy audits
- 3 Replacing equipment that was performing sub-optimally or becoming expensive to repair/maintain
- 4 Enhancing capacity/efficiency of production
- 5 Following routine maintenance protocols

Other Observations

Large C&I customers primarily develop project ideas without EE program assistance

Therefore, the first point of project influence for EE programs is usually the facilitation of an existing project idea

Who are the key project decision-makers?

Determining factors

Do they have a dedicated energy manager who is benchmarking consumption?

If so, this was usually the first decision-maker who selected project among range of options

Does the EE project have to go through the company's CapEx approval process?

If so, there is usually a committee assigned to weigh ROI/payback of projects w/ other competing projects

Is the EE project part of routine maintenance?

If so, the # of decision-makers is often small even though the costs of some maintenance projects (e.g., steam trap replacement, cleaning heat exchangers) may be large

Is the EE project small?

Ad hoc projects costing ~ \$10,000 or less are covered under annual maintenance budgets w/ 1-2 decision-makers

How do EE financial incentives impact EE projects?

Impacts of EE program incentives

Increasing the chance of EE project approval when competing with other CapEx projects

Can expand project scope

More common with widget-based projects

Can accelerate project timing

Good selling point for risk-averse management

Aiding future planning

Encouraging follow-on projects

Impacting routine maintenance practices

One decision-maker noted that positive energy savings from LED retrofits encouraged them to replace burnouts w/ ENERGY STAR/TRC-rated lighting products in their legacy lighting

“[The incentives] do provide us the financial flexibility to project out, not only current year, but also future year projects ... It helps us generate a roadmap for our future workload”

What non-incentive factors influence EE project approval?

Non-EE program incentive project drivers

The opportunities to improve the efficiency of production

For industrial customers, this driver usually trumps all other factors

The prospect of energy savings

Concerns about equipment failure

Good selling point for risk-averse management

“Use it or lose it” funding structures

More common among healthcare, government

The opportunity for O&M cost savings

Corporate sustainability policies

An EE project's chance of approval increases significantly if the EE program incentives/assistance can be paired with these other drivers

Barriers to EE Project Implementation

Factors that can stall or derail EE projects

Concerns about interruption of operations/production

A prior negative experience with an EE program

The commercial real estate market faces multiple barriers

- General lack of knowledge/interest in EE
- Energy audit CATCH-22
- Complicated commercial leasing agreements
- More frequent selling/transfer of properties
- Split incentive barrier

“They're smart when it comes to financing, but when it comes to utilities, it's like you're talking to wall. ... The commercial real estate world is not used to these kinds of decisions. They're building buildings. They're renting space. They're doing tenant fit up. It's all about generating rent dollars, not about generating [energy] savings.”

Recommendations



How can custom EE programs have greater influence over large C&I customer decision-making?

Cultivate relationships w/ corporate energy champions

Allows program to become involved early in project development

Some energy champions only learned about EE programs by chance, indicating need for more program outreach

Important to keep account reps familiar w/ latest EE program offerings

Create bundled carbon reduction projects

Large C&I customers are more willing to disrupt operations if they can implement multiple carbon-reduction projects at same site – e.g., combining lighting retrofit w/ installation of solar panels & EV chargers

Subsidize energy audits

Most important for market subsectors like commercial real estate

Participants in NYSERDA Commercial Tenant EE program achieved 45% of recommended EE projects from audits

How can custom EE programs have greater influence over large C&I customer decision-making?

Make utility key account reps accountable for EE program recruitment

Large C&I customers usually know their key account reps better than EE program staff

Design EE programs with extended incentive windows and lasting continuity

Large, complicated projects can take multiple years to implement

EE program continuity can encourage large C&I customers to include EE projects in long-term plans

Avoid incentivizing routine maintenance projects

Heat exchanger cleanings & steam trap replacement had high free ridership

Help management understand the technical aspects of EE projects

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Questions?

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