Understanding Market Opportunities to Reduce Energy Spending

A Better City Conversations Webinar Series
CFR – A Strategic Partner for ABC Members

> **10-year track record** in the C&I renewable energy (RE) space

> **+16M MWh/year under contract** for strategy and procurement mandates

> Served **+50 global businesses & institutions** (Including MIT, BMC, Post Office Square)

> Enable large energy users’ transition to **cost-effective, low-carbon solutions** with deep expertise in RE projects onsite & offsite, across all contract types

> **Our services:**

  • RE & water strategy development, stakeholder education & engagement

  • Procurement, analytics, financial modeling, risk management, due diligence, negotiation

  • Performance monitoring, energy portfolio optimization, wholesale/retail procurement
Today’s Speakers

Bob Griffin
Vice President
Business Development

Win Sheffield
Senior Engagement Manager
Client Service & Innovation

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Vice President
Wholesale & Retail Energy Services

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Today’s Discussion

> Solar Massachusetts Renewable Target (MA SMART) community solar

> Massachusetts Clean Peak Energy Standard (CPS) with onsite battery storage

> Understanding and eliminating inefficiencies in retail energy supply (electricity and natural gas)

> Next Steps and Questions

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SMART Community Solar – Overview

The Solar Massachusetts Renewable Target (SMART) is a legislatively-enabled program to drive the development of small-scale community solar projects, providing bill credits to utility customers who subscribe to their output.

Program Details

- Opened in 2018 for “large” projects
  - <5MW / ~6.5M kWh/yr.
- Projects must be sited within customer’s utility territory
- Customer cannot buy >50% of a project’s output; can buy from multiple projects
- 20-year term required
- Incentive payment based on utility’s basic service rate
  - Steps down with each tranche of program capacity (3,200 MW total)
  - Various multipliers (e.g., low-income shared solar, storage)

Benefits to Subscribers

- Enables the development of local clean energy
  - Public health, climate change benefits close to home
  - Renewable Energy Certificates (RECs) kept by utility
- Can subscribe to any off-take quantity
- Additional incentives for projects that share output with low income residents
- Typically built and operated by 3rd-party developer
- Nothing located onsite, no upfront investment

Financial Incentives

- Receive monthly bill credits
  - Capped at 100% of monthly utility cost
- Project developer shares incentive with customer
  - Typically 10% of basic service rate; developer retains 90%
  - Fluctuates with utility rate, but no risk of added costs
- Open to customers with Competitive Retail Supply
- Credits transferable to other sites/accounts or a new subscriber if needed
SMART – Key Considerations for Buyers

Program Considerations

> Standard contract makes participation relatively simple
  • Requires 20-year commitment; can transfer bill credits to other sites, account numbers
> Only customers with Eversource, National Grid, or Unitil accounts are eligible
> Utility retains RECs, so buyers unable to make public claims to using/buying renewable energy
> While significant capacity remains (COVID-19 legislation doubled program cap to 3,200MW), there is a looming bottleneck as developers sell out their current pipeline and look for new sites to develop
  • Eversource East especially constrained

Buyer Considerations

> Buyers with Competitive Retail Supply should evaluate current billing methodology
  • Complete billing: SMART credits applied to total monthly bill
  • Pass through billing: credits applied only to utility delivery costs (i.e., standalone utility bill)
> Minimum annual load of 5M-10M kWh required to attract developer interest
> Most developers require investment-grade buyers or audited financials
  • Some are open to non-IG buyers, but will reduce bill credit rate

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<th>Current Block/Size (MW)²</th>
<th>Total Allocated Capacity (MW)²</th>
<th>Total Pending Capacity (MW)³</th>
<th>Total Remaining Capacity (MW)³</th>
<th>Waiting List (MW)⁴</th>
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Confidential & Proprietary 5
Today’s Discussion

> Solar Massachusetts Renewable Target (MA SMART) community solar

> Massachusetts Clean Peak Energy Standard (CPS) with onsite battery storage

> Understanding and eliminating inefficiencies in retail energy supply (electricity and natural gas)

> Next Steps and Questions
Clean Peak Standard – Overview

The Clean Peak Standard (CPS) is a new, first of its kind legislatively-enabled program intended to meet periods of peak electricity demand with clean generation and battery storage rather than fossil fuel generation.

Program Details

> Program opened in August
> Provides Clean Peak Energy Certificates (CPECs) to resources that reduce load or supply clean generation peak demand periods
  • Each MWh generates 1 CPEC
  • Multipliers based on time of year, performance during monthly peak hour increase CPEC quantity
> CPECs are sold to utilities and retail electric suppliers under long-term contracts
> 3rd-party ownership allowed
  • Most storage projects will be onsite to maximize revenue

Benefits to Subscribers

> Program intended to help further reduce local emissions from electricity generation
> Standalone battery storage positioned to benefit the most from CPS
  • Onsite storage can provide backup power, increased resilience
  • Can be paired with onsite solar
> Use cases can evolve over time based on market signals
> 3rd-party ownership structure enables low-risk revenue sharing under ESPC model

Financial Incentives

> Receive monthly revenue share with project owner
  • Detailed analysis required to calculate savings potential
> Flexibility of storage enables “revenue stacking”
  • CPEC revenue
  • Demand response revenue
  • Peak demand charge reduction
  • Wholesale energy arbitrage
> Enables reduced electricity spend with no capital expense or O&M cost
CPS – Key Considerations for Buyers

Program Considerations
> Only customers of Eversource, National Grid, or Unitil are eligible
> Because the program is so new, no contracts have been approved to serve as a base case for other participants
  • Some uncertainty around CPEC pricing, which will be driven by supply relative to compliance requirements
  • 1.5% of annual electricity sales in 2020 must be met with CPECs; increases 1.5%/yr. until reaching 46.5% in 2050
> No unique sustainability claim can be made, beyond announcing participation in CPS

Buyer Considerations
> While multiple revenue streams are available, value to participants will require in-depth load analysis and working with storage providers to assess
> Minimum monthly peak demand of 700-800 kW required due to current cost of battery storage relative to revenue streams
  • 2MW+ monthly demand is safest bet to ensure feasibility
> Hosting batteries onsite necessitates work with insurance providers
  • A 2MW system is roughly the size of a 50-ft. shipping container; outdoors or parking lots are good locations for siting to minimize insurance risk
  • May be some room to include any added costs in contract with provider
> Most developers require investment-grade buyers or audited financials
  • Some are open to non-IG buyers, but will reduce revenue share percentage to compensate

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<td>2050</td>
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> Meet CFR

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Four Inefficiencies That Underlie Retail Supply Opportunities

Understanding the sources of retail inefficiencies & overspending helps identify opportunities to capture savings

* Analysis based on large commercial general service customer. Estimates built from published rate class and does not include distribution charges.
** O&M and interest cost recovery estimated from utility parent company financial statements. System losses and ancillary charges estimated to be 7% of cost. Demand charge estimated using PLC and RPM pricing for utility territory. Other cost elements taken directly from published utility prices for rate class.

Source: Published utility cost information for mid-Atlantic utility within PJM; CFR analysis
# Understanding Potential Retail Supply Inefficiencies

## Broker/Supplier markups on retail supply

- **Problem:** Lack of transparency when it comes to broker and supplier fees – often fees and margins are not communicated or understood completely and can increase over time via renewals
- **Impact:** Margins embedded in several parts of the bill are difficult to isolate and can result in overpaying
- **Action:** Align fees with value created

## Poor integration of new solutions

- **Problem:** Suppliers and providers are bringing more creative options to market – competitive options can exist even in historically regulated markets
- **Impact:** Regulations and rules are evolving rapidly across all markets, opening up opportunities to competitively source new, cost effective options
- **Action:** Find opportunities to capture new solutions and coordinate efforts across procurement to integrate effectively

## Product structure mismatches with goals

- **Problem:** Costs and risks can vary depending on product structure and term
- **Impact:** Tradeoffs between limiting volatility and reducing costs may not reflect organization’s goals
- **Action:** Outcome should be tied to organization’s goals. Establish an ongoing process to understand and measure impacts, pivoting quickly to react to changes in demand and market

## Failure to capture portfolio value

- **Problem:** Procurements are often handled in isolation as contracts expire, irrespective of other commodity purchases or product structures
- **Impact:** This can result in missing out on scale and more favorable commercial terms and language
- **Action:** Potential hedges exist across energy procurement – or risks can be unintentionally magnified. Find hedge value and synergies by synchronizing activities across the portfolio
Next Steps & Questions

> Please reach out to ABC and CFR if interested in learning more the programs discussed today (SMART, CPS, retail procurement)

> Any questions?
Accelerate your organization’s switch to renewable energy with a trusted advisor and tailored solution