



Rhode Island Combined Heat & Power Annual Stakeholder Meeting

Thursday, June 6, 2024
3:00 - 4:00 PM

Agenda



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- 3:00 - 3:05** Welcome & Introduction

 - 3:05 - 3:30** Overview of Rhode Island's CHP Program
Daniel Tukey, Rhode Island Energy

 - 3:30 - 3:45** CHP Financing Opportunities
Greg Miller, Rhode Island Infrastructure Bank

 - 3:45 - 4:00** Additional Stakeholder Discussion & Public Comment

About the EEC



The Energy Efficiency Council monitors the state's energy efficiency programs to maximize cost-effective energy savings for all Rhode Islanders through comprehensive stakeholder representation and expert technical evaluation.

- Visit eec.ri.gov to learn more about the EEC and RI energy efficiency programs
- Attend an EEC public meeting and participate in the energy efficiency planning process



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Rhode Island Energy Annual CHP Meeting

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Agenda



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- What is CHP?
- Current Offerings and Incentives
- Program Challenges
- 2025 Program Direction
- Feedback and Recommendations

Combined Heat and Power Overview

What is CHP?

- CHP is the simultaneous generation of electric and thermal energy, usually from a single fuel source

How Does it Work?

- A generator is coupled with an engine to produce electricity
- Heat that is normally rejected through the radiator and exhaust of the engine is captured

Where is the Efficiency?

- The captured heat is utilized for hot water, space heating, or manufacturing
 - The repurposed heat reduces the thermal fuel requirement that would otherwise be needed
- The overall efficiency of CHP systems can be as high as 85%

Current Offerings

2024 CHP Incentive Levels

- Incentive levels are determined by system type (e.g. fuel cell vs CHP) and fuel source (e.g. natural gas or biogas)
- Eligibility CHP projects must reduce carbon emissions related to overall site energy use by a minimum of 30% to receive incentive

System	Incentive
Fuel Cell	\$700 per net kW
Combustion-Based CHP with total system efficiency $\geq 60\%$	\$800 per net kW
CHP (fuel cell or combustion-based) that utilizes more than 25% opportunity fuels, renewable natural gas, or biogas as the fuel source	\$1,050 per net kW



Current Offerings

Incentive Cap and Timing

- Incentive is capped at 70% of total project costs
- A minimum of 20% of the incentive is withheld until the system is operational and commissioned

Optimal Operations and Maintenance Incentive

- Provides customer with a post-commissioning incentive for maintaining or increasing the total system efficiency
- Capped at \$20/kW-year (\$1.66/kW-month) for natural gas-fired systems, and \$50/kW-year (\$4.16/kW-month) for systems that utilize biogas, for a period of up to 10 years
 - Eligible to any project with a net output >1MW
 - Payments made after unit is operational and provides demonstrated load reduction
 - Paid semiannually based on metered load reduction (net daily kW output during ISO-New England on-peak periods averaged over each six-month period)

Current Challenges



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Challenges

- Interconnection
 - Time, money, and third-party involvement
- Long lead times
 - 12+ months from project design to installation (longer for larger systems)
 - Notification process and approvals for systems above 1MW
- Equitable distribution of incentives
 - Currently capped at 70% of total project cost

2024 CHP Program Direction



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Regulatory Environment

- Least-Cost Procurement Statute
 - “The energy-efficiency annual plan shall include, but not be limited to, a plan for identifying and recruiting qualified combined heat and power projects”
 - The development of the CHP plan shall consider:
 - Economic development benefits
 - Customer energy and cost savings
 - Energy supply costs
 - GHG emissions standards and air quality benefits
 - System reliability benefits
- 2021 Act on Climate
 - Net-zero emissions statewide by 2050

2025 CHP Program Direction

Program Direction and Considerations

- Encourage customers to lead with efficiency to lower overall site load before installing CHP systems
- Increased focus on leveraging renewable natural gas and opportunity fuels
- Reduce incentive levels or incentive cap
- Provide incentive based on kWh output rather than kW of CHP system
- Narrowing of program eligibility to customers with critical infrastructure (Public health and safety facilities such as WWTF and Hospitals)

Feedback and Recommendations



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- Comments?
- Questions?
- Suggestions?



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Thank You

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Financing CHP Upgrades with C-PACE and EBF



RHODE ISLAND
INFRASTRUCTURE BANK

About the Infrastructure Bank

Rhode Island Infrastructure Bank is Rhode Island's central hub for **financing infrastructure improvements for municipalities, businesses, and homeowners**. We leverage limited capital in a revolving fund to offer innovative financing for an array of infrastructure-based projects including

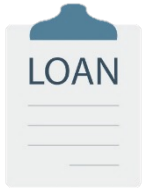
- waste water, stormwater, and drinking water
- roads and bridges
- energy efficiency and renewable energy
- brownfield remediation



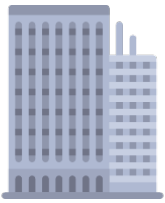
What is C-PACE?

- Commercial Property Assessed Clean Energy (C-PACE) is an innovative financing solution that makes green energy upgrades accessible and affordable.
- C-PACE financing can take what was once a capital expenditure and turn it into a cash-flow positive investment that lowers operating costs, increases asset value, and improves building performance.

Commercial Borrowers



CHP Loan



Commercial Property Owners and Businesses



Commercial Property Assessed Clean Energy (C-PACE)

What does C-PACE offer?

- ✓ 100% financing
- ✓ Long payback period, fixed rate, no-balloon
- ✓ Preserves debt-service ratio (bank perspective)
- ✓ Covers all hard and soft costs

Immediate Cash Flow



- ✓ No personal or corporate guarantee
- ✓ Transfers on sale
- ✓ Expense can be passed through to tenants
- ✓ Preserves borrowing capacity

Flexibility



- ✓ Qualify based on property value
- ✓ Funds most energy and water projects
- ✓ All standard commercial property types

Applicability



Case Study: Green Line Apothecary



CHALLENGE:

Green Line Apothecary invested nearly \$350,000 in energy-saving upgrades at their Providence location, including LED lighting, spray-foam insulation, and high-efficiency HVAC equipment. Rather than leave that capital tied up in the building, Green Line sought a way to leverage those funds to support continued growth of their business.

SOLUTION:

\$327,000 loan via the C-PACE program. Rhode Island C-PACE affords building owners the opportunity to leverage energy efficiency and clean energy measures installed any time after July 2015.

RESULTS:

"At Green Line Apothecary, we are not just green in name only. Our modern version of the neighborhood drugstore means being engaged and responsible members of the communities we serve," said Ken Procaccianti, President & Chief Operating Officer of Green Line Apothecary. "And practicing environmental sustainability is a crucial part to being a community steward. Green Line now serves Rhode Island statewide and looks forward to working again."

Efficient Buildings Fund

- Jointly administered by the Office of Energy Resources (OER) and Rhode Island Infrastructure Bank (RIIB)
- EBF provides long-term, low fixed-rate financing for comprehensive energy savings projects & installation of clean energy units & fixtures
- Financing structured in a way that allows projects to produce immediate positive cash flow savings, net of debt service, for borrowers
- Investment goals are to reduce energy consumption in public buildings by >20%
 - Targeting investments that lead to electric and heating savings and/or investments for renewable energy generation

Program Overview

Attractive, long-term financing for the completion of energy efficiency and renewable energy projects



- Flexible loan structure
 - Up to 15-year repayment terms
 - Loans rates are offered at **33% below RIIB's "AA" rating for EBF program**
- Comprehensive scope – multiple projects in multiple buildings, **small to mid-range** projects
 - Projects include HVAC installation, boiler upgrades, lighting, and windows, and more
- **School Districts projects may qualify for state housing aid**
 - *Long term financing can accelerate the completion of projects compared to a "pay as you go" basis*
- Free, no-obligation technical support to prioritize energy efficiency needs
 - Technical Assistance for OER application
 - Energy audits & Engineering consulting assistance



Town of Westerly Public Works Facility

- Completed comprehensive building upgrades to the Lighting, HVAC and Roof
- Installed rooftop solar array

Case Study: East Providence High School



CHALLENGE:

Effectively financing a major school construction project to lower costs for community residents.

SOLUTION:

Integrated a **\$24 million** loan from the Efficient Buildings Fund into the new school building project's overall financing.

RESULTS:

Energy conservation measures in the new, state-of-the-art high school are projected to save the City over 18.5 million kWh of electricity, and by financing the project through the Infrastructure Bank at below market interest rates, the City will save almost \$1 million on debt service payments.

Our Process



Efficient Buildings Fund

Partner agency subject matter experts review and grade project application



Project is then listed by grade on the Project Priority List (PPL)



Project & Credit Analysis
Bank's advisor conducts a thorough credit review & evaluation of the borrower and project

Board Review
Bank's Board considers and votes on the borrower loan request

Protection
Bank actively monitors project status and borrower financials

Spring 2024 Application Process

Round 16 Schedule	Timeline
Launch application period	Monday, April 22nd
Applications are due to the Office of Energy Resources (via email)	Friday, May 10th by 5pm
Office of Energy Resources notifies applicants of completeness	Friday, May 17th
Missing application components due to Office of Energy Resources	Friday, May 24th
Project Priority List posted for public comment	Friday, June 7th
Public comment period closes	Friday, June 14th
Project Priority List finalized, and selected borrowers notified by Rhode Island Infrastructure Bank	Week of June 17th

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Questions or Comments?

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