



STATE OF RHODE ISLAND
**ENERGY EFFICIENCY &
RESOURCE MANAGEMENT COUNCIL**

Rhode Island Combined Heat & Power Annual Stakeholder Meeting

Wednesday, June 22, 2022

3:00 - 4:00 PM



STATE OF RHODE ISLAND
**ENERGY EFFICIENCY &
RESOURCE MANAGEMENT COUNCIL**

- 3:00-3:05** Welcome & Introduction
- 3:05-3:30** Overview of Rhode Island's CHP Program
Michael O'Brien Crayne, RI Energy
- 3:30-3:45** CHP Financing Opportunities
Toby Ast, Rhode Island Infrastructure Bank (RIIB)
- 3:45-4:00** Additional Stakeholder Discussion / Public Comment



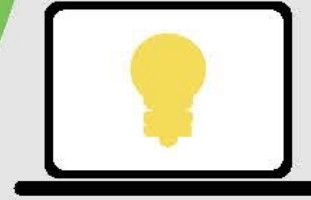
3

Ways you can join the
energy efficiency
conversation

The Rhode Island Energy Efficiency & Resource Management Council (EERMC) is a group of stakeholders that serves all customers to ensure the utility is investing in the least expensive resource – energy efficiency. Learn more at www.rieermc.ri.gov



STATE OF RHODE ISLAND
**ENERGY EFFICIENCY &
RESOURCE MANAGEMENT COUNCIL**



Learn about energy efficiency policies and programs in Rhode Island: www.rieermc.ri.gov and www.energy.ri.gov



Attend a public EERMC meeting about energy efficiency. Meeting schedules and materials are available online: www.rieermc.ri.gov



Public comment is welcome at all EERMC meetings. We want to hear from you!



Rhode Island Energy™

a PPL company

Rhode Island Energy Annual CHP Meeting

June 22, 2022

Agenda



Rhode Island Energy™
a PPL company

- Current Offerings
- Current Challenges and Opportunities
- 2023 Program Direction
- Feedback and Recommendations

Current Offerings

2022 CHP Incentive levels

Incentive levels are determined by total system efficiency, implementation of EE measures, and fuel source, and are applied to CHP nameplate capacity

| Site and System Criteria | Incentive |
|---|--------------------|
| Wasted energy, back pressure turbines, and extraction turbines | \$900 per net kW |
| CHP with total system efficiency $\geq 55\%$ - $< 60\%$ | \$900 per net kW |
| CHP with total system efficiency $\geq 55\%$ - $< 60\%$ with customer implementing energy efficiency measure equal to 5% of site energy or maximum load reduction | \$1,125 per net kW |
| CHP with total system efficiency $\geq 60\%$ | \$1,000 per net kW |
| CHP with total system efficiency $\geq 60\%$ with customer implementing energy efficiency measure equal to 5% of site energy or maximum load reduction | \$1,250 per net kW |
| CHP that utilizes between 25% - 49% opportunity fuels, renewable natural gas, or biogas as a fuel source | \$1,225 per net kW |
| CHP that utilizes opportunity fuels, renewable natural gas, or biogas as the primary fuel source | \$1,250 per net kW |

Current Offerings



Rhode Island Energy™
a PPL company

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 and Opportunities

Challenges

- Interconnection
 - Time, money, and third-party complications
- Long lead times
 - 12+ months from project design to installation (longer for larger systems)
 - Notification process and approvals for systems above 1MW

Opportunities

- Renewable natural gas and opportunity fuels (e.g., sludge, methane, food waste)
 - WWTF, landfills, universities
- Micro CHP systems
 - Multifamily units
- Industrial and manufacturing

Micro CHP – Lochinvar 24 kW Unit

Lochinvar 24 kW CHP Unit

- Thermal-following induction generator
- Rhode Island installations (all multifamily):
 - 4 locations in 2021
 - 1 completed and 2 in-progress in 2022
 - Additional locations under evaluation

Unitized Installation

- ~\$225,000 equipment and installation cost
- Lochinvar works with contractors who can quickly install units

Interconnection

- Ongoing efforts and considerations on bringing the 24kW system through a simplified interconnection pathway



2023 CHP Program Direction



Rhode Island Energy™
a PPL company

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
- Equitable distribution of incentives

2023 CHP Program Direction



Rhode Island Energy™
a PPL company

Program Direction and Considerations

- Encouraging leading with efficiency to lower overall site load to be met by CHP systems
- Increased focus on leveraging renewable natural gas and opportunity fuels, with enhanced incentives
- Examination of net GHG impacts in addition to kWh and therm impacts to determine system qualification
- Smaller/Micro CHP systems

Feedback and Recommendations



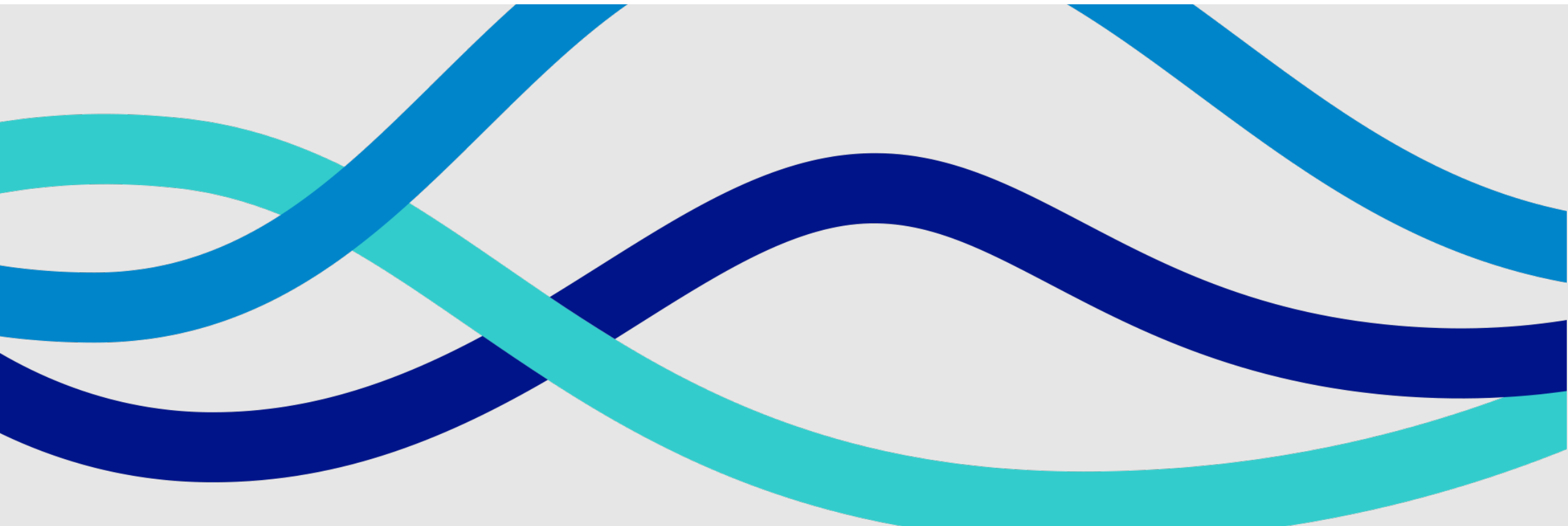
Rhode Island Energy™
a PPL company

- Comments?
- Questions?
- Suggestions?



Rhode Island Energy™

a PPL company



Thank You

Michael O'Brien Crayne – Senior Engineer – MOCrayne@RIEnergy.com

Funding Combined Heat and Power Projects



**RHODE ISLAND
INFRASTRUCTURE BANK**

Toby Ast

C-PACE Business Development Manager

(401) 270-5870

www.riib.org

tast@riib.org



We Invest in Rhode Island



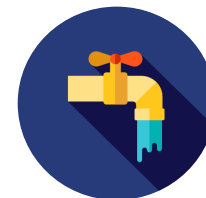
Local Municipal



Quasi-state agencies, Public colleges

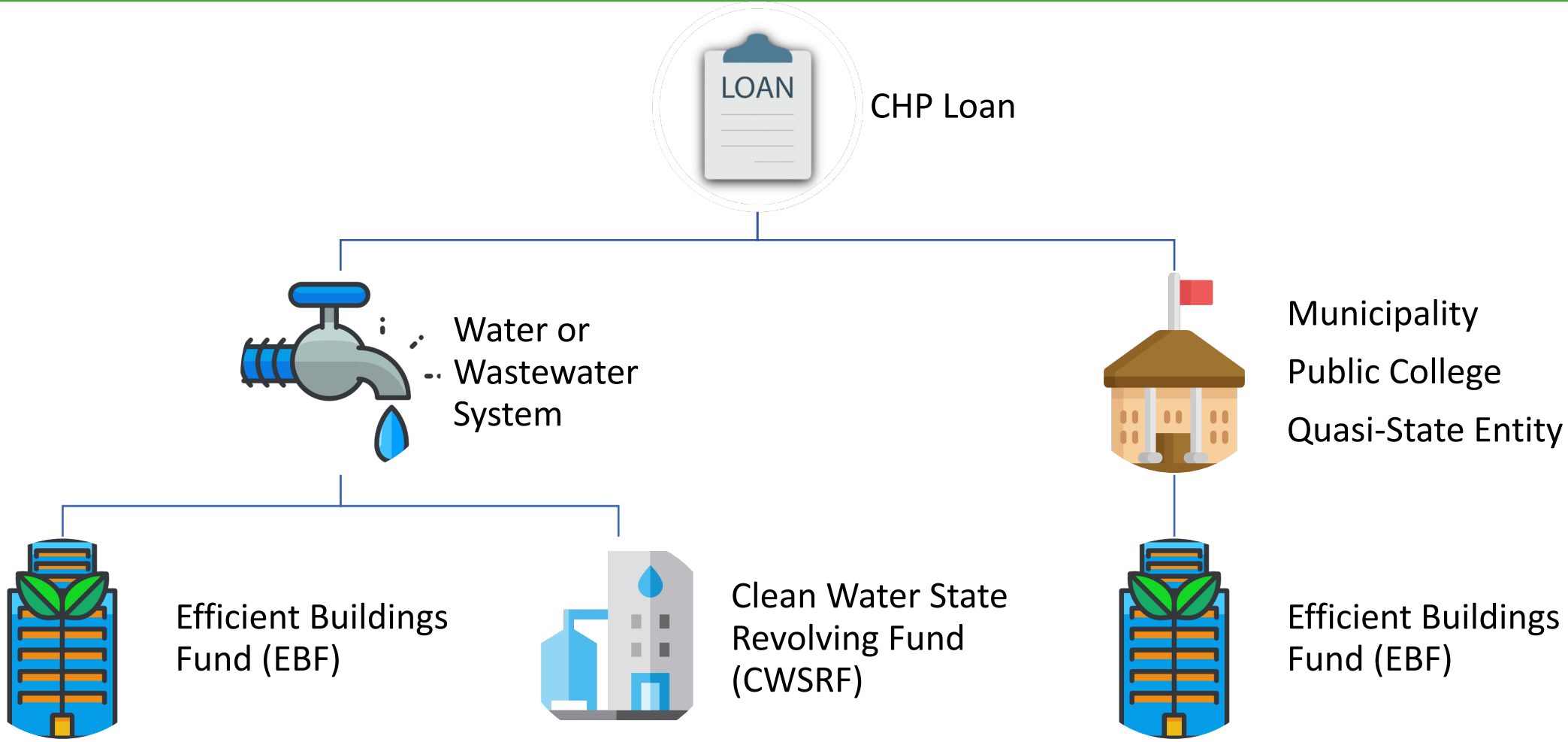


Commercial Entities



Residents

Public: Long Term, Below Market, 100% Financing



RIB = Solutions for Commercial Borrowers

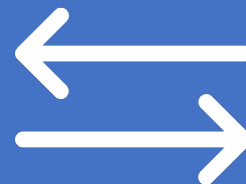
- ✓ 100% financing
- ✓ Long payback period
- ✓ **No balloon payment**
- ✓ Fixed rate
- ✓ Covers all hard and soft costs
- ✓ Retroactive Finance Available

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
- ✓ All standard commercial property types
- ✓ **Works with 3rd party ownership**
- ✓ **Complements tax credit programs**

Applicability



CHP Case Study: Meridian YMCA

- CHP undertaken to reduce energy costs associated with pool heating
- \$312,800 project cost financed over 19 years
- \$695,000 in gross savings

“If you can have a better system that is cleaner, more efficient, that saves you money – that’s exciting. **There was no out-of-pocket expense and no recurring expense because the savings from this new energy source will pay for the financing.** This isn’t just about the YMCA winning it’s about the community as a whole winning.”

– John Benigni, CEO, Meriden YMCA

Contact Me to Get Started!

Toby Ast

C-PACE Business Development Manager

(401) 270-5870

tast@riib.org

www.riib.org

www.ri-cpace.com