

# Session II: Energy Efficiency in Public Buildings

Facilitator: **Kathleen Meil**

Senior Director of Policy and Partnerships, Maine Conservation Voters

**Belle Ryder**

Assistant Town Manager, Town of Orono

**Doretta Colburn**

Chair PEERWaterford

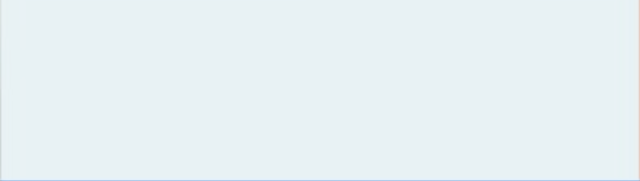
**Jasmine Lamb**

Chair, Pleasant Point Resilience Citizens Committee

**Ross Anthony**

Governor's Energy Office





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Session 2/ Energy Efficiency in Public Buildings  
**Belle Ryder, Assistant Town  
Manager, Town of Orono**

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# Infinite Needs, Finite Resources

Aging buildings



Desire to spend less & emit less



Desire for data-driven decisions



Limited staff time and expertise

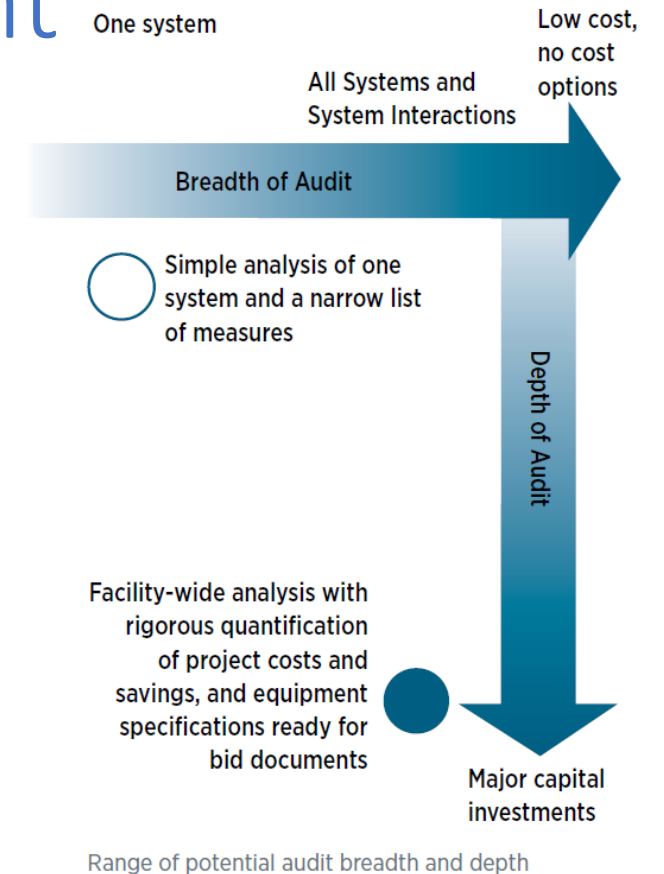


Comprehensive  
baseline study and  
future action plan



# Know What You Have Plan For What You Want

- Define the scope
  - Which buildings?
  - What data will you provide?
  - How comprehensive a review are you requesting?
    - ASHRAE Standard 211 defines 3 levels
  - Will the consultant identify grant opportunities?
- Provide goals



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# Know What You Have Plan For What You Want

- How will you use the report?
  - Operational Fixes
  - Capital Improvements
  - Grant Applications
  - Benchmarking



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# Town of Orono Energy Audit

- **5 Buildings**

- Town Office - 28 years since major renovation
- Public Works - 8 years old
- WPCF - 17 years since major renovation, 58 years old
- Birch Street School - 16 years since conversion
- Keith Anderson – Old.

- **Level I: Site Assessment or Preliminary Audits** identify no-cost and low-cost energy saving opportunities, and a general view of potential capital improvements. Activities include an assessment of energy bills and a brief site inspection of your building.

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# Benchmarking

## Keith Anderson Community House – EUI = 84 (Poor)

\*EUI = Energy Use Intensity. A benchmarking tool based on energy per square foot per year and relative to the purpose of the building. EUI is compared to national averages of similar use buildings to determine how energy efficient the building is.

**Annual Energy Consumption Values Table**

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	TOTAL
Electrical kWh	378	301	250	321	428	469	451	457	397	338	281	303	4374
Gas thm	21	16.3	74.3	178.7	452.5	756.4	868.9	1190	611.7	285.8	42.2	-	4498



# Ranked Priority Improvements – Low Cost


Operational


- Weather stripping to be repaired on front door 

Grant  
Supported

- Replace existing thermostats with electronic, night setback type with locking covers 

Long-Range  
Capital Plan

- Install an electric heat pump water heater with appropriate valving to allow this water heater to operate during the summer months and allow the boiler to be shut down. 

- Purchase insulating window inserts from WindowDressers for basement, shaded, single-paned or north-facing windows. 

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# Ranked Priority Improvements – Capital

Operational

Grant  
Supported

Long-Range  
Capital Plan

- Roof structure should be structurally improved and a minimum of R40 blown-in insulation should be added to the roof/attic
- Replace existing standard efficiency gas-fired boiler with “high efficiency” condensing boiler



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# Takeaways

- Plan
- Prioritize
- Capitalize

## 4. Water Pollution Control Facility (EUI = Cannot be accurately calculated - needs to be based on plant # beyond the scope of the project)

- Low-Cost
- i. Develop and maintain a door weather-stripping maintenance program

## 1. Birch Street School (EUI = 103 - Poor)

- Low Cost
- Maintain door weatherstripping
- Upgrade the locking coil
- Purchase single paneled doors
- Improve window seals

## 3. Town Office

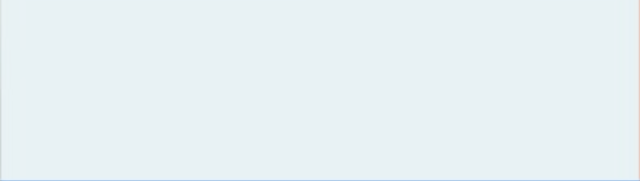
(EUI = Cannot be accurately calculated - shared boiler with Public Safety)

- Low Cost
- i. Main entrance door weatherstripping to be replaced every 3 years
- ii. Replace electric resistance water heater with heat pump water heater. Recommend setting the water temperature at 140F and installing a mixing valve set up at 120F to reduce risk of bacteria build up and presents of legionella. The building has a commercial kitchen, an 80 gal storage tank.

## 5. Public Works Facility (EUI = 52 - Excellent)

- Low-Cost Measures
- i. Develop and maintain a door weather-stripping maintenance program
- ii. Continue annual maintenance for the building control system
- Capital Improvements
- i. Replace existing air compressor with "high efficiency" variable speed air compressor
- ii. Consider installing photo-voltaic (PV) solar panels on the east side of roof to help offset electrical energy consumption

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Doretta Colburn,  
Chair, PEERWaterford

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# The Challenge

- Establishing a Center of Refuge
- Considering the most vulnerable
- Building broader communication within the town



# Process

- Community organizing – PEERWaterford
- Develop Select Board support
- Networking within the community



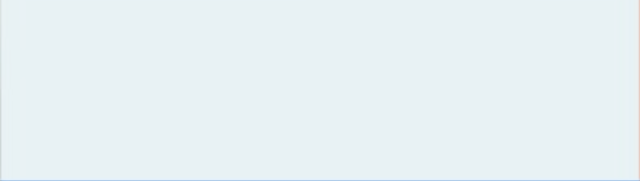
# Solutions/Results/Insights

- Improved readiness in times of crisis
- Bridge building within the community
- Grassroots organizing is possible, exciting and rewarding!



“There is no power for change greater than a community discovering what it cares about.” *Margaret J. Wheatley*

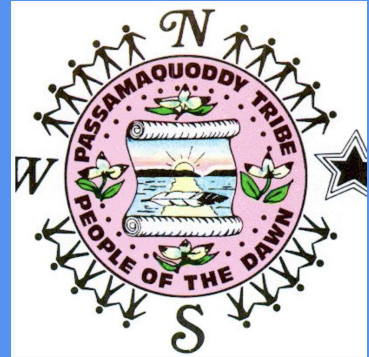




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Jasmine Lamb, Chair,  
Pleasant Point Resilience  
Citizens Committee

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# The Challenge

- Background on Native American energy injustice; Wabanaki people
- Tribal housing, collaborations
- Why the committee was started - background on previous projects
- Obstacles to overcome; capacity





# Process

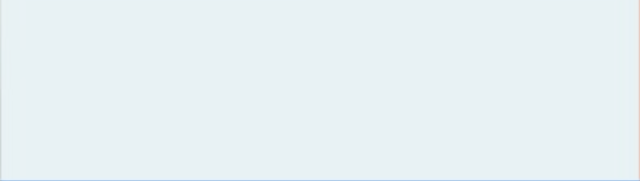
- How did you bring the people/resources together?
  - Sipayik Resilience Meeting
    - Recruitment, catering, entertainment
    - Priorities: weatherization, heat pumps, renewable energy
    - Sipayik Resilience Committee
- What was the key to success?



# Solutions/Results/Insights

- How is the outcome benefiting the community?
  - SRC's current projects
    - Weatherize Sipayik: Window Insert Build, other projects
    - Planning stages of other projects
- What did you learn?
  - Learning by doing
- What advice do you have for other communities who might do something similar?
  - Emails, finding motivated people, common goals





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Session 2/ Energy Efficiency in Public Buildings

Ross Anthony, Buildings and  
Energy Efficiency Analyst,  
Governor's Energy Office

Resource Wrap-Up

# Municipal opportunities

## Efficiency Maine: Commercial and Industrial Prescriptive Initiative

### Solutions, incentives, and financing for:

- HVAC
- Lighting and Controls
- Water Heating Solutions
- Electric vehicles
- And more

### How to get started:

1. Virtual customer consultation
2. Work with a qualified partner
3. Ask about Efficiency Maine's Municipal Lease

### Useful links:

- <https://www.energymaine.com/at-work/>
- <https://www.energymaine.com/business-customer-consultation/>
- <https://www.energymaine.com/at-work/qualified-partners/>
- <https://www.energymaine.com/municipal-lease/>



# Additional municipal opportunities

Federal	Community Resilience Partnership
<p><b>Tax credits and deductions:</b></p> <ul style="list-style-type: none"><li>• 179D Commercial Buildings Energy-Efficiency Tax Deduction</li><li>• 45W Commercial Clean Vehicle Tax Credit</li></ul> <p><b>BIL/IRA programs</b></p> <ul style="list-style-type: none"><li>• <a href="https://www.maine.gov/bil/">https://www.maine.gov/bil/</a></li></ul>	<p><b>Grants and direct support for:</b></p> <ul style="list-style-type: none"><li>• Reducing carbon emissions</li><li>• Transition to clean energy</li><li>• Increase climate resiliency</li></ul>
<p><b>Useful links:</b></p> <ul style="list-style-type: none"><li>• <a href="https://www.irs.gov/credits-and-deductions-under-the-inflation-reduction-act-of-2022">https://www.irs.gov/credits-and-deductions-under-the-inflation-reduction-act-of-2022</a></li><li>• <a href="https://www.maine.gov/future/climate/community-resilience-partnership">https://www.maine.gov/future/climate/community-resilience-partnership</a></li></ul>	



# Small Group Discussion Instructions (until 12:30pm)

See instructions and prompts on the pink sheet of paper at your table.

## Discussion Prompts

1. **Introductions:** Introduce yourself to your tablemates.
2. **Quick round robin:** Share what your town is working on related to the panel topic. Where are you in the process? What's going well? Where are you stuck? If this topic is new to you, what opportunities come to mind?
3. **Funding resources:** Reflect on the funding resources presented. If you have used this resource, please share your experience. What other resources, technical assistance, grant programs, or tools are you using or exploring?
4. **Learning partners:** I wish I could have a thought-partner to work through \_\_\_\_\_ in our project.
5. **Community engagement:** How are you engaging your community with your project? What input do you need from the community to make this project a success? What do you want the community to know?

