

# Energy Saving Solutions for **Multifamily Housing**

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Commercial & Industrial Program Manager

# About Us





# What is the Efficiency Maine Trust?

- Efficiency Maine acts like an independent utility to deliver Maine's lowest cost energy resource:

## **Energy Efficiency**

- Efficiency Maine lowers the cost and environmental impacts of energy in Maine by promoting energy efficiency and alternative energy systems.



# What does Efficiency Maine do?

In connection with a customer's purchase of energy efficient products and services, we provide:

- Financial incentives,
- trusted information,
- On-line directories of vendors

# Energy Efficiency Benefits

1. Reduce energy cost
2. Avoid failure of older less efficient equipment
3. Lower maintenance cost
4. Improved work environment
5. Increase property value



# Agenda

- Multifamily Building Statistics
- How can Efficiency Maine help?
  - New Construction Program
  - Prescriptive Incentives
- Getting Started

# Maine Multifamily Building Statistics

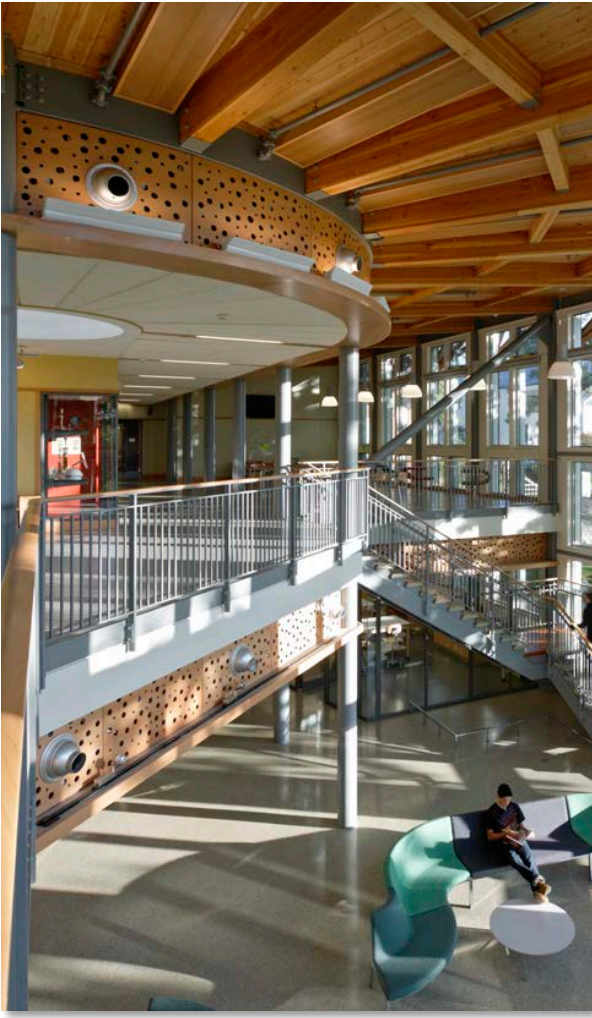
## Benchmarking Statistics & Highlights (based on 346 buildings)

Avg. Size (Units/Bldg)	9
Avg. Annual Cost for all Utilities	\$1,722 / apt
Avg. Annual Electricity use (non-heat)	4,048 kWh / apt
Buildings heated with Oil	62%
Buildings heated with Gas	23%
Avg. Annual Cost for Oil Buildings	\$1,194 / apt for heat & DHW
Avg. Annual Cost for Natural Gas Buildings	\$724 / apt for heat & DHW

# How can Efficiency Maine Help?



# New Construction Program: Maine Advanced Buildings



- commercial new construction or major renovation projects
- Structures between 5,000 – 100,000 sf
- Building Types:
  - Multifamily Buildings
  - Schools
  - Municipal Buildings
  - Healthcare Facilities
  - Office Buildings
  - Many More

# MAB Overview

- 17 prescriptive criteria around integrated, whole building design
- No energy modeling required
- Synergies with LEED requirements



# MAB Overview

## ■ Incentives:

- Buildings that meet MAB Tier Two requirements receive a prescriptive incentive per square foot (up to \$175,000)
  - \$1.50/sf to Building Owner
  - \$0.25/sf to Lead Architectural Firm

## ■ Other Participant Benefits:

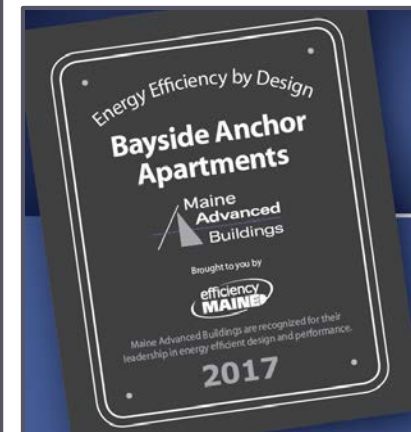
- Buildings designed to Tier Two requirements will be 30% to 35% more energy-efficient than what the Maine Uniform Building and Energy Code requires
- Savings year after year on heating and electric bills
- Greater comfort for tenants or employees
- Lower maintenance costs



# Case Study - Bayside Anchor



Photo by Jeff Stevenson



# Bayside Anchor



Photo by Sara Olson, Avesta Housing



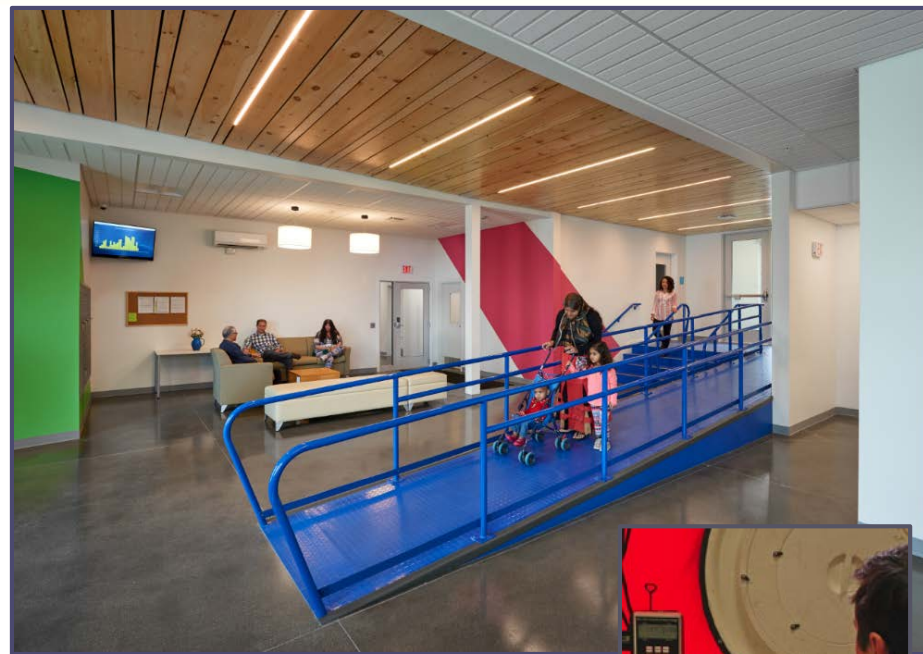
Photo by Jeff Stevenson

- Customer: Portland Housing Development Corporation
- 81 East Oxford St, Portland, ME
- Architect: Kaplan Thompson Architects
- General Contractor: Wright-Ryan Construction
- Completion Date: January 2017
- Project Description: 45-unit multifamily building with ground floor mixed use
- MAB Incentives: \$66,237
- Est. Energy Savings: 128,300 kWh/yr



# Bayside Anchor: High Performance Strategies

- Continuous air barrier/  
very low air infiltration
- High levels of insulation
- High-performance  
fenestration
- Heat recovery ventilation
- LED lighting & controls/  
daylighting
- High-efficiency heat pumps
- Solar



Photos above and below by Jeff Stevenson



# Prescriptive Pathway

Focus on offering ***Solutions*** to help manage energy costs

- Lighting Solutions
  - Indoor, Outdoor and Screw-in LEDS
- Heating, Cooling and Ventilation Solutions
  - Boilers & Furnaces
  - Ductless Heat Pumps
  - Ventilation Controls
- Water Heating Solutions
- Commercial Kitchen Solutions

# INTERIOR LIGHTING

LEARN MORE



# EXTERIOR LIGHTING

LEARN MORE



**DESIGNLIGHTS**  
CONSORTIUM



efficiency  
**MAINE**



# Barriers to Adoption

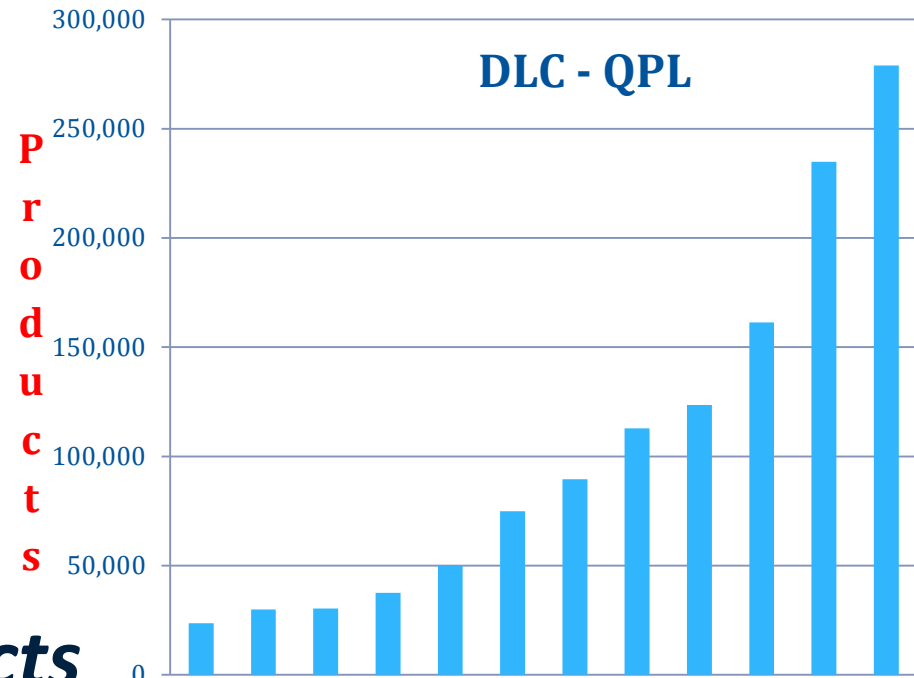
- Poor past experiences
- Unfamiliar with technology
- Too complex
- High cost



# The Good News

- Technology is improving.... FAST

***Over 278,926 Products  
Available today***



# Lighting Solutions

- LEDs – Light Emitting Diodes

## Interior applications

- Troffers fixtures
- Stairway
- Flood lights/Spot lights



## Exterior

- Street/Parking lots
- Wall-packs
- Canopy

# LED Lightbulbs



Efficiency Maine works with lighting manufacturers, retailers and distributors to reduce the prices of energy-efficient lighting products statewide.

- In most participating locations, prices are simply marked down.



# Advanced Lighting Controls

## Capabilities

- Networked
- Zoning – Reconfigurable with Layering
- Occupancy Sensing
- Daylight Harvesting
- Task Tuning
- Continuous Dimming
- GUI

## Other Capabilities

- Scheduling
- Personal Control
- Load Shedding/DR
- Plug Load Control
- EM/BMS Integration
- Device Diagnostic



**Natural Gas – Oil - Propane**



# Space Heating Solutions

- Air Furnaces
- Condensing Boilers
- Steam Boilers
- Heaters
  - Low-intensity infrared unit heater
  - Warm-air unit heater
- Natural Gas, Propane, #2 Oil
- Incentives vary by fuel, system and capacity
- Some systems available at distributors with an instant discount



# Boiler Controls – Ancillary Equipment

- Retrofit:
  - Modulating Burner Controls for Boilers and Heaters
  - Boiler Stack Heat Exchanger (Boiler Economizer)
  - Boiler Reset/Lockout Controls
  - Oxygen Trim for Boilers and Heaters
  - Programmable Thermostat
  - Boiler Turbulator



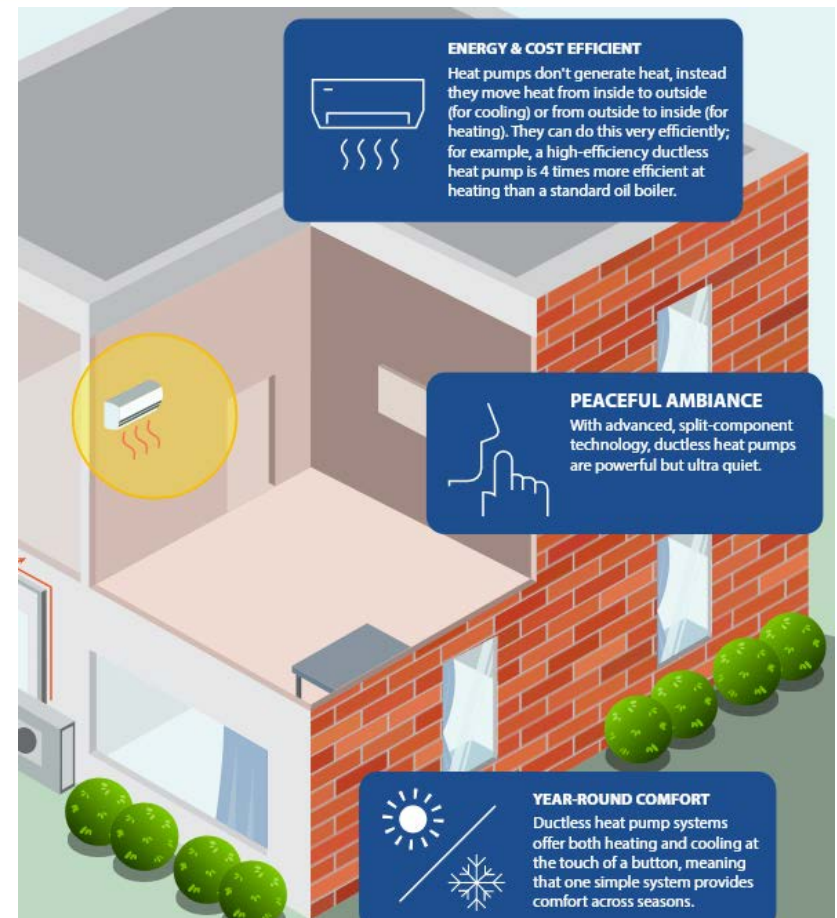


# Heating & Cooling Systems



# Ductless Heat pumps

- Ideal systems for individual units
- Mini-split heat pumps move heat, rather than generate it.
- Highly efficient; quiet
- Incentives available for single and multi-zone systems



# Getting Started



**Is it Mission Impossible?**

# Qualified Partners

- Direct support to customers
  - Equipment Installing Contractors
  - Suppliers/Distributors
  - Architectural/Engineering Firms
  - Service Companies
    - Commercial Energy Auditors
    - ESCOs
- ✓ Access to Technical Resource
- ✓ Access to Project Incentives
- ✓ Process paperwork



Over 900 individuals  
Over 700 Businesses

# Finding a Qualified Partner near you

## Search and Sort Options

Start by entering your ZIP Code and a search radius.

ZIP Code:  Radius:

Sort by:

## What services do you need?

- ☒ All Services
- ☐ Installer
- ☐ Supplier
- ☐ Architect/Engineering Firm
- ☐ ESCO/Auditor/Consultant
- ☐ Lighting Solutions
- ☐ Heat Pumps & Cooling Solutions
- ☐ Heating Solutions
- ☐ Compressed Air Solutions
- ☐ Refrigeration Solutions
- ☐ Commercial Kitchen Solutions
- ☐ Water Heating Solutions
- ☐ Agricultural Solutions

SEARCH

**USE OUR SEARCH  
FEATURE TO THE  
LEFT TO FIND A  
QUALIFIED PARTNER  
NEAR YOU.**

[www.energycymaine.com](http://www.energycymaine.com)

# Take action

Print These Results

## Search and Sort Options

Start by entering your ZIP Code and a search radius.

ZIP Code: Radius:













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25 miles































































Sort by:

distance

## What services do you need?

- ☐ ☒ All Services
- ☐  Installer
- ☒  Supplier
- ☐  Architect/Engineering Firm
- ☐  ESCO/Auditor/Consultant
- ☒  Lighting Solutions
- ☐  Heat Pumps & Cooling Solutions
- ☐  Heating Solutions
- ☐  Compressed Air Solutions
- ☐  Refrigeration Solutions
- ☐  Commercial Kitchen Solutions
- ☐  Water Heating Solutions
- ☐  Agricultural Solutions

SEARCH

Vendor	Services Provided	Miles	More Info
1 Augusta Fuel Company Augusta, ME - 207-623-3851 <a href="http://www.afccomfort.com">www.afccomfort.com</a>	    	0	
2 F.W. Webb - Augusta Augusta, ME - 207-623-2521 <a href="http://www.fvwwebb.com/">www.fvwwebb.com/</a>	      	0	
3 Plourdes Electrical Services Augusta, ME - 207-623-4371 <a href="http://www.plourdeselectrical.com">www.plourdeselectrical.com</a>	    	0	
4 Rockingham Electric - Augusta Augusta, ME - 207-622-7541 <a href="http://www.rockinghamelectric.com">www.rockinghamelectric.com</a>	 	0	
5 RA Godbout Electrical Service Hallowell, ME - 207-622-7076	 	7	
6 Dick's Electric, Inc. Belgrade, ME - 207-465-4515 <a href="http://www.dickselectricme.com">www.dickselectricme.com</a>	  	9	
7 JNM Electric, LLC Windsor, ME - 207-485-0155 <a href="#">N/A</a>	   	9	
8 Ballantyne Service Co., Inc. South China, ME - 207-993-2553 <a href="#">N/A</a>	     	10	
9 RSA Electrical, LLC Randolph, ME - 207-446-0530	  	10	
10 AMPCO Electrical Services, Inc. Pittston, ME - 207-350-0391	   	13	
11 Dave's Appliance, Inc. Winthrop, ME - 207-377-8858 <a href="http://www.davesappliancewin.com">www.davesappliancewin.com</a>	   	13	
12 Kaplan Electrical Construction Winthrop, ME - 207-377-3066 <a href="http://www.kaplanelectric.com">www.kaplanelectric.com</a>	  	13	
13 McFarland Electric, Inc. Gardiner, ME - 207-582-7964 <a href="#">N/A</a>	  	13	

# If you lose your way,

Call our Call Center

1-866-376-2463

Or

Email: [efficiencymaine@efficiencymaine.com](mailto:efficiencymaine@efficiencymaine.com)



# OPEN MIC – Questions

