

Objectives

3

Overall Process Objectives

1. Gather stakeholder input on the development of Trust's program design for the use of RGGI funds targeting "measures that lower residential heating energy demand and reduce greenhouse gas emissions."

2. Get program incentives "on the street" in advance of heating season.

Workshop 1 Objectives

- 1. Roll out the Stakeholder Process
- 2. Establish common understandings among Trust and stakeholders regarding applicable context (statute, Triennial Plan, opportunities)
- 3. Share initial data/analysis on key criteria (costs, savings) for sample measures
- 4. Solicit feedback on measure definitions, measure assumptions for analysis on key criteria.
- 5. Provide briefing and Q&A on existing Trust Building Envelope Measures



Process - Input
 Similar to Triennial Plan EMT staff to work with Board to generate Straw Proposals Brief stakeholders on relevant context: Statute Precedent programs in ME, elsewhere Cost-effectiveness, Economics GHG impacts Receive stakeholder input At workshops Through written comments Involve outside experts as appropriate 2-3 workshops

Process - Timeline

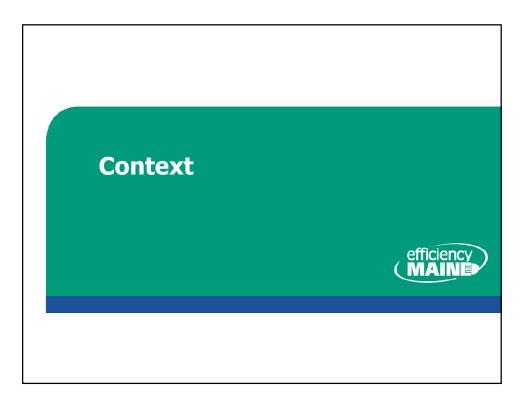
July

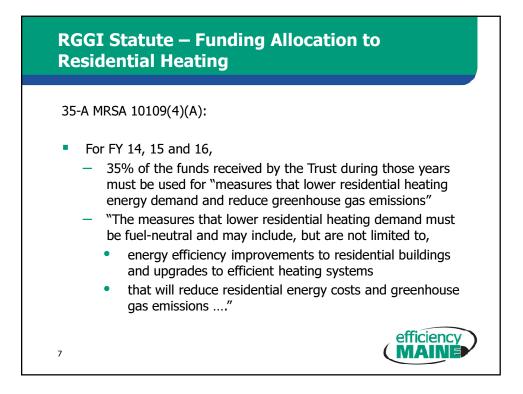
- Gather input from prominent stakeholder groups
- I.D. and Research Issues, provide analysis
- Develop Staff "straw proposals"
- Hold 3 roundtable discussions / workshops
- August Sept
 - Decide program design
 - Draft program guidelines
 - Outreach to vendors / contractors (conf calls, workshop trainings)
 - Determine parties to involve in delivery of:
 - Marketing / outreach
 - Screening/approval of individual measures or projects

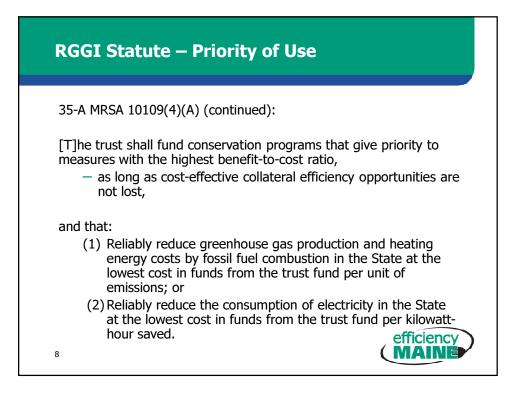
efficiency

- Processing/payment of incentives
- October
 - Incentives on the street

5





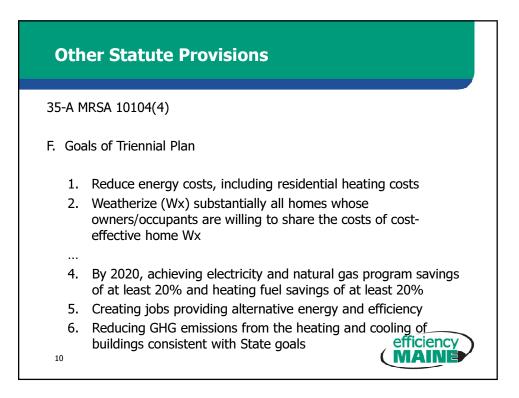


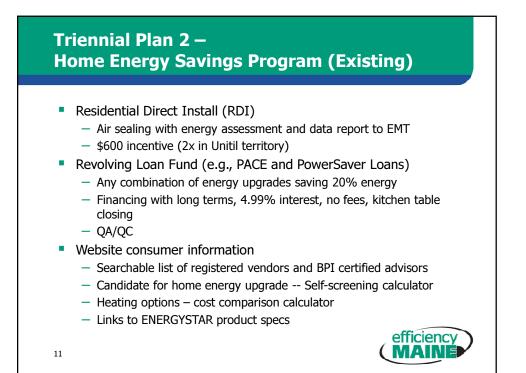
RGGI Statute – Other Guidance on Fund Use

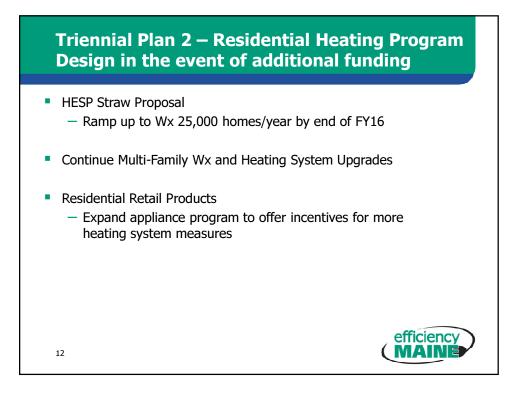
35-A MRSA 10109(4)

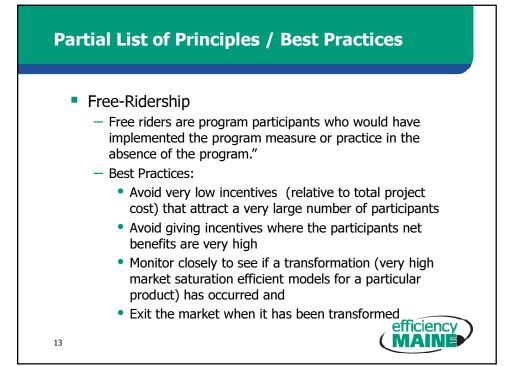
...

- C. The board may target bid competitions in areas or to participants as they consider necessary
- G. In order to minimize administrative costs and maximize program participation and effectiveness, the trustees shall, to the greatest extent feasible, coordinate the delivery of and make complementary the energy efficiency programs under this section and other programs under this chapter.
 - H. The trust shall consider delivery of efficiency programs by means of contracts with service providers that participate in competitive bid processes for reducing energy consumption within individual market segments or for particular end uses.

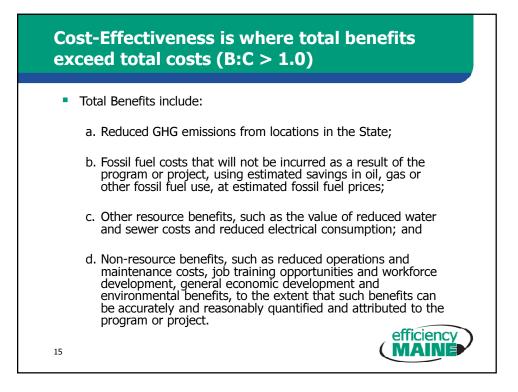


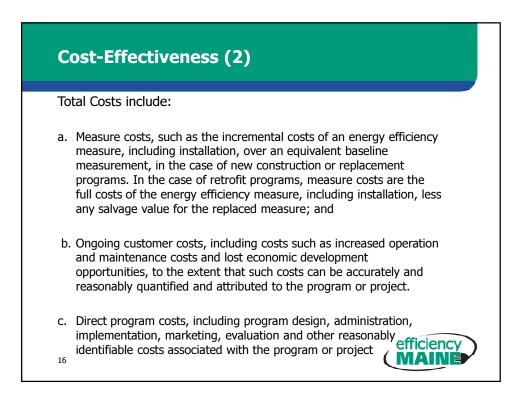


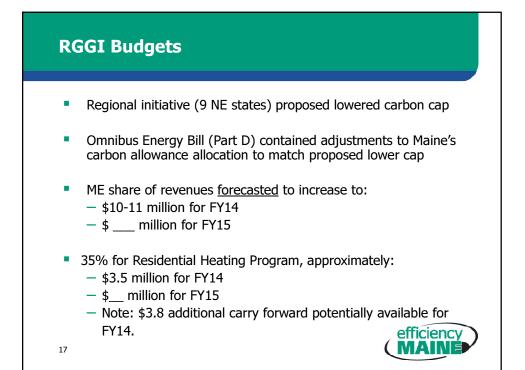


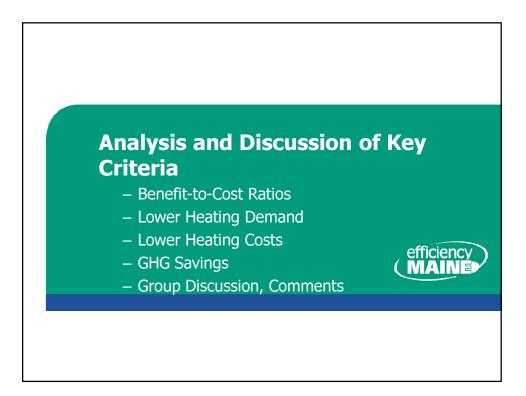












Some Assumptions Avg. home uses 900 gal./year #2 distillate (fuel oil) - 75% efficient boiler CO2 Reductions 72 kg CO2/MMBtu of avoided #2 Oil - 1000 kG / Metric Tonne - Source: Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006. February 2008. Annex 2, page A-43, Table A-32. http://www.epa.gov/climatechange/emissions/usinventoryreport.html; Emissions in NE for CO2/MMBtu of Electricity per ISO <u>http://www.iso-ne.org/genrtion_resrcs/reports/emission/final_2010_emissions_report_v2.pdf</u> Prices - Per recent heating season prices quoted in Maine (e.g., \$3.75/gal #2) - Installed costs of equipment/insulation per Efficiency Maine efficiency program records for HESP, PACE, Air Sealing Promotion MAINE

19

DRAFT Benefit-to-Cost Ratios, by

Measure (Total Benefits vs. Total Costs, Lifetime, Assuming change from average #2 oil system)

Measure	Benefit-to-Cost Ratio	
Basic Air Sealing	5.99	
Heat pump (single zone, 50% of load)	5.48	
Pellet Stove (50% of load)	4.15	
ES Propane	4.15	
Heat Pump (whole home)	3.92	
Attic Insulation	3.63	
ES Natural Gas Boiler	2.84	
Wall Insulation	2.81	
Basement Insulation	2.04	
Heat Pump Water Heater	1.70	
EPA Pellet Boiler 83% AFUE	1.46	
ES Oil Boiler 87% AFUE	0.78	
Solar PV/thermal 3kw	0.63	
Electric Resistance	(1.42)	
20	(M	AINE

DRAFT Simple Payback, by Measure (Does <u>not</u> reflect Trust or tax incentives; Assumes change from average #2 oil system)

Measure	Assumed Installed Cost	Simple Payback (Years)
Basic Air Sealing	\$ 600	2.5
Heat pump (single zone, 50% of load)	\$ 3,500	2.7
Pellet Stove (50% of load)	\$ 4,000	3.6
ES Propane	\$ 2,500	3.6
Heat Pump (whole home)	\$ 8,000	3.8
Attic Insulation	\$ 1,300	4.1
ES Natural Gas Boiler	\$ 10,000	5.3
Wall Insulation	\$ 1,600	5.3
Basement Insulation	\$ 1,800	7.3
Heat Pump Water Heater	\$ 1,500	8.8
EPA Pellet Boiler 83% AFUE	\$ 18,000	10.3
ES Oil Boiler 87% AFUE	\$ 9,000	19.3
Solar PV/thermal 3kw	\$ 12,000	23.8
Electric Resistance	\$ 5,000	(10.5)

DRAFT Reduced GHG, by Measure (Envelope)

Measure (Adding this measure to	CO2 Saved Over 25 Yrs	Cost/tonne CO2
Avg. #2 Oil System)	(Tonnes)	w/\$600 rebate (\$)
Attic Insulation	29.8	20.15
Wall Insulation	29.6	20.29
Basement Insulation	25.7	23.32
Basic Air Sealing	21.4	28.04

DRAFT Reduced GHG, by Measure (Equipment)

Measure (Switching to this measure	CO2 Saved Over 15 Yrs	Cost/tonne CO2
from Avg. #2 Oil System)	(Tonnes)	w/\$600 rebate (\$)
EPA Pellet Boiler 83% AFUE	125.1	4.80
Heat Pump Whole Home	111.7	5.37
Pellet Stove 75% AFUE	65.5	9.16
ES Natural Gas Boiler 95%	58.5	10.26
ES Propane Boiler 95%	43.7	13.74
Heat Pump Mini Split	27.9	21.50
ES Oil Boiler 87% AFUE	18.9	31.76
Solar PV/thermal 3kw	10.1	59.26
Heat Pump Water Heater	3.9	152.09

