

Priority 1 and 2 Recommendations														
Number	Priority	Location	Description	Material Cost	Labor Cost	Total Cost	Grant or Efficiency Maine Rebate	Total Net Cost	Annual BTU's Saved	Annual KWH Saved	Fuel Switching Savings	Annual Savings	Simple Payback, Years	Comments
A3	P1	All Buildings	Energy Consulting Services	\$50,000	incl	\$50,000	\$15,000	\$50,000				\$0		Wind turbine, eval & analysis, solar thermal analysis, waste water ground source heat pump....
F1	P1	Fire Station	Lighting											not included in Efficiency Maine grant
H1	P1	High School	Lighting (included above)											Awarded Efficiency Maine Grant
H2	P1	High School	Insulation	\$55,372	incl	\$55,372	\$0	\$55,372	441,148,385			\$7,878	7.0	CM3 estimate
H3	P1	High School	Class Rm UV / CO2 Occupancy sensor Sensor	\$22,000	\$18,000	\$40,000	\$625	\$39,375	220,000,000	7,000		\$4,979	7.9	
H4	P1	High School	CO2-VFD Library HS.	\$2,500	\$1,500	\$4,000	\$1,700	\$2,300	42,000,000	7,204		\$1,831	1.3	
H5	P1	High School	CO2-VFD GYM	\$7,620	\$11,500	\$19,120	\$0	\$19,120	180,000,000	9,000		\$4,564	4.2	
H7	P1	High School	Oil boilers replacement	\$335,000	incl	\$335,000	\$0	\$285,000	2,324,000,000			\$40,670	7.0	3 boilers @ 5.5 mmBtu, dual fuel capable, exist blrs, oversized, inefficient, at end of useful life
M3	P1	Middle School/PC Cove	Occupancy Sensors for 28 rooms (variable air volume (VAV))	\$6,000	\$9,500	\$15,500	\$700	\$14,800	14,000,000	13,500		\$2,275	6.5	28 rooms
M4	P1	Middle School/PC Cove	Occupancy Sensors for 84 rooms	\$9,000	\$11,000	\$20,000	\$2,100	\$17,900		18,000		\$2,700	6.6	
M5	P1	Middle School/PC Cove	VFD Heat Recover Units	\$25,000	\$20,000	\$45,000	\$15,000	\$30,000	294,000,000	45,300		\$12,045	2.5	
M6	P1	Middle School/PC Cove	AHU 1,2,7, VFD upgrade	\$6,000	\$6,000	\$12,000	\$4,060	\$7,940		16,000		\$2,400	3.3	
M7	P1	Middle School/PC Cove	CO2-VFD Middle School GYM	\$2,500	\$4,000	\$6,500	\$1,700	\$4,800	128,000,000	4,300		\$2,931	1.6	
PW1	P1	Public Works	Insulation	\$2,624	\$2,624	\$5,247	\$0	\$5,247	31,060,465			\$555	9.5	
T2	P1	Town Hall	Insulation	\$3,525		\$3,525		\$3,525	21,137,167			\$377	9.3	
TS1	P1	Transfer Station	Insulation	\$2,000		\$2,000		\$2,000	11,978,610			\$214	9.4	estimate for operator room
H8	P1	High School	Natural Gas Extension	\$400,000	incl	\$400,000	\$0	\$400,000	approx 20% fuel cost savings			\$53,360	7.5	SWAG on pipeline extension cost, still waiting on Unitil
H9	P1	High School	NG Extension + New NG Boiler	\$402,000	\$0	\$402,000	\$0	\$402,000	11,978,610		\$53,360	\$53,360	7.5	SWAG on pipeline extension cost, still waiting on Unitil
			Miscellaneous Priority 1					\$107,476						
Subtotal Priority 1				\$1,331,141	\$84,124	\$1,415,264	\$25,885	\$1,446,855	3,719,303,236	120,304	\$53,360	\$190,138	7.6	
F2	P2	Fire Station	Controls	\$8,520	\$12,800	\$21,320		\$21,320	121,953,013			\$2,178	9.8	station not connected to control system, control boiler set point based on outside air, library to be excluded for now
L2	P2	Library	Controls	\$2,900	\$4,360	\$7,260		\$7,260	41,528,090			\$742	9.8	replace outdated control panel
M2	P2	Middle School/PC Cove	Insulation	\$3,094	\$3,094	\$6,188		\$6,188	18,100,000			\$323	19.1	CM3 estimate
M9	P2	Middle School/PC Cove	Controls Upgrade	\$9,120	\$13,680	\$22,800		\$22,800	82,909,091			\$1,481	15.4	CM3 estimate on savings
H6	P2	High School	Controls	\$9,060	\$13,590	\$22,650	\$0	\$22,650	128,121,212			\$2,288	9.9	CM3 estimate on savings
PS1	P2	Police Station	Insulation	\$818		\$818		\$818	4,337,879			\$77	10.6	insulate around chimney, CM3 estimate
T3	P2	Town Hall	Controls	\$2,900	\$4,360	\$7,260		\$7,260	41,528,090			\$742	9.8	
			Miscellaneous Priority 2					\$17,659						
Subtotal Priority 2				\$36,412	\$51,884	\$88,296	\$0	\$105,955	438,477,375	0	\$0	\$7,830	13.5	
Subtotal Priority 1 and 2 Combined				\$1,367,553	\$136,008	\$1,503,560	\$25,885	\$1,552,810	4,157,780,611	120,304	\$53,360	\$197,968	7.8	

Priority 3 Recommendations														
Number	Priority	Location	Description	Material Cost	Labor Cost	Total Cost	Grant or Efficiency Maine Rebate	Total Net Cost	Annual BTU's Saved	Annual KWH Saved	Fuel Switching Savings	Annual Savings	Simple Payback, Years	Comments
H10	P3	High School	Biomass / Pellets /Boiler	\$700,000	incl	\$700,000		\$700,000	9,210,000,000		\$125,882	\$125,882	5.6	Building addition required, see if NG can be brought to Town center first, CM3 estimate
H11	P3	High School	Geothermal HP System	\$4,000,000	incl	\$4,000,000		\$4,000,000				\$131,000	30.5	expensive to install in existing buildings, CM3 estimate
H12	P3	High School	Solar Thermal	\$85,000	incl	\$85,000	\$47,500	\$37,500	210,000,000			\$3,750	10.0	for domestic hot water, grant value assumed to make numbers work
H13	P3	High School	Cogeneration	\$1,400,000	incl	\$1,400,000		\$1,400,000	0		\$0	\$0	#DIV/0!	re-evaluate if Nat gas is made available, gas needs to be around \$10/mmBtu before cogen options begins to make sense at current elc prices
H14	P3	High School	Wastewater ground source heat pump			\$0								not enough data available
H8	P1	High School	Natural Gas Extension	\$400,000	incl	\$400,000	\$0	\$400,000	approx 20% fuel cost savings			\$53,360	7.5	SWAG on pipeline extension cost, still waiting on Unutil
H9	P1	High School	NG Extension + New NG Boiler	\$400,000	\$0	\$400,000	\$0	\$400,000	0		\$53,360	\$53,360	7.5	SWAG on pipeline extension cost, still waiting on Unutil
A2	P3	School Buildings	660 kW Wind Turbine	\$2,000,000	incl	\$2,000,000	\$100,000	\$1,900,000			867,821	\$130,173	14.6	capacity factor depend son wind resource, collecting data now

Savings From Recent Energy Conservation Measures														
Energy Conservation Measure	Year Implemented	# Fixtures	Watts Per Old fixture	Watts Per New Fixture	Watts decreased Per Fixture Per Hour	kWH savings	Fixtures Cost	Labor Cost to Install	Efficiency Maine Rebate	Net Up Grade Cost to Cape Elizabeth	Annual Cost Savings	Simple Payback	Annual CO2 Emission Prevented, Tons	Comments
High School Gym Lighting	2008-2009	30	458	361	97	8,928	6,400	1,600	\$4,500	\$ 3,500.00	\$ 1,315.08	2.7	4.58	
Middle School Gym Lighting	2008-2009	16	465	361	104	3,375	3,406	1,500	\$2,400	\$ 2,506.00	\$ 497.08	5.0	1.73	
Pond Cove Gym Lighting	2008-2009	6	458	361	97	1,180	1,295	300	900	\$ 694.50	\$ 173.86	4.0	0.61	
Middle School Cafeteria Lighting	2008-2009	8	458	361	97	1,574	1,969	400	\$1,200	\$ 1,169.00	\$ 231.81	5.0	0.81	
Richards Pool Lighting	2008-2009	28	923	361	562	88,373	14,224	1,400	4200	\$ 11,424.00	\$ 13,017.40	0.9	45.38	
Public Works Garage Lighting	2008-2009	41	300	241	59	9,057	6,816	2,050	3,075	\$ 5,791.00	\$ 1,334.06	4.3	4.65	
Town Center Fire Lighting	2008-2009				0	0				\$ -	\$ -		0.00	
Town Hall Lighting	2008-2009				0	0				\$ -	\$ -		0.00	
Classroom Upgrades (Zoning, Occupancy Control)	2009					10,000	26,400	13,200	\$ -	\$ 39,600.00	\$ 6,500.00	6.1	5.14	
Middle /High School Coolers (Hi Efficiency Motors Controls)	2009		need data			17,690	3,170	3,170	\$ 2,650.00	\$ 3,690.00	\$ 2,605.74	1.4	9.08	
Fire Station Economizer	2009		need data							\$ -			0.00	
Town Hall Boiler Replacement	2007		need data							\$ -			0.00	
Lighting All Buildings	2010					280,881		136,412	\$ 85,000.00	\$ 51,412.00	\$ 42,132.00	1.2	144.23	Eff maine Award, work scheduled in 2010
TOTAL						421,058	\$ 63,679.50	\$ 160,032.00	\$ 103,925.00	\$ 119,786.50	\$ 67,807.01	1.8	216.21	