

## Energy Saving Opportunities: MA Wastewater Treatment Facility

Efficiency Opportunity	EST. Cost	EST. Monthly Savings
* <b>OM</b> : Adjust aeration blower speed	\$0	\$331
* <b>OM</b> : Reduce plant water pressure	\$0	\$1,172
* <b>OM</b> : Reduce plant water flow	\$0	\$362
* <b>ECM</b> : Replace aeration blower	\$103,000	\$966
* <b>ECM</b> : Replace plant water pump	\$96,000	\$863
* <b>RE</b> : Install solar thermal through MA DOER grant (\$18,722)	\$0 to facility	\$145
Less: Mass Save® Incentives	- \$39,800	
Total Costs/Savings	\$159,200	\$3,839
Total Loan/Monthly Payment: 2% loan for 5 yrs	\$159,200	- \$2,790
Est. Net Cash Flow (yr 1-5)	\$ Savings/month	\$1,049
Annual Cost Savings (yr 1-5) available to reinvest in facility		\$12,588 yearly

*Energy cost savings can generate additional cash flow to reinvest into the facility.*

## Energy Saving Opportunities: MA Drinking Water Treatment Facility

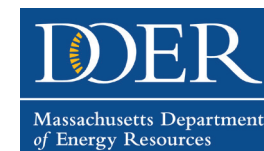
Efficiency Opportunity	EST. Cost	EST. Monthly Savings
* <b>OM</b> : Minimize electric heat in well houses	\$0	\$85
* <b>ECM</b> : Eliminate compressed air in well houses	\$5,000	\$200
* <b>ECM</b> : Install VFDs on high service pumps	\$ 63,200	\$1,198
* <b>ECM</b> : Lighting upgrades	\$6,800	\$207
* <b>RE</b> : Install 5 kW solar PV system	\$23,400	\$170
Less: Mass Save® Incentives	-\$35,900	
Total Costs/Savings	\$62,500	\$1,860
Total Loan/Monthly Payment: 2% loan for 5 yrs	\$62,500	- \$1,095
Est. Net Cash Flow (yr 1-5)	\$ Savings/month	\$765
Annual Cost Savings (yr 1-5) available to reinvest in facility		\$9,180 yearly

## CLEANENERGYRESULTS program



# Getting More

*Achieving Positive Cash Flow  
through Energy Saving Upgrades  
at Water Infrastructure Facilities*



\*Operational Measures (OM), Energy Conservation Measure (ECM), Renewable Energy (RE)

## Energy-Saving Opportunities

Drinking water and wastewater treatment facilities are excellent candidates for energy efficiency measures and “green” renewable power development, due to their high energy usage and potential for significant savings.

Installing updated energy efficient equipment, such as pumps and motors, treatment process improvements, lighting, HVAC, and energy management systems for ratepayers can significantly reduce operating costs.

“Green” renewable energy such as solar photovoltaic, solar thermal, anaerobic digestion, wind, in-line hydropower and geothermal heat pumps can provide a steady and reliable source of on-site power to water and wastewater systems.



## Leverage All Available Incentives

To help implement your energy efficiency and renewable energy projects, financial incentives are available through Mass Save®, an initiative sponsored by Massachusetts’ gas and electric utilities, energy efficiency service providers, and in partnership with the Commonwealth, which offers financing and technical assistance to help purchase and install energy efficient equipment and systems ([www.masssave.com](http://www.masssave.com)).



The Database of State Incentives (DSIRE) is a comprehensive source of information on state, local, utility and federal incentives and policies that promote renewable energy and energy efficiency development ([www.dsireusa.org/](http://www.dsireusa.org/)).

Leveraging all available financial incentives together can make your energy upgrade projects more cost-effective. Many energy efficiency retrofit projects (funded through financial incentives provided by energy utilities) can lead to reduced payback periods.

## The Power of Positive Cash Flow

The decision whether to do an energy upgrade project is ultimately based on cost. Energy upgrade projects can be cash-flow positive from the start.

In addition to total costs, looking at your project on a cash-flow basis can help in your decision-making process. Assessing the financial viability of your project can be expressed by two simple equations:

$$TC \text{ (Total Cost)} = PC \text{ (Project Cost)} - I \text{ (Incentives)}$$

Incentives - grants, efficiency incentives, renewable and alternative energy certificates

$$CF \text{ (Cash Flow \$)} = S \text{ (Savings / mo.)} - C \text{ (Costs / mo.)}$$

Savings / month – energy, maintenance, demand charge etc.

Costs / month – loan costs (debt service)



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**Energy-efficiency retrofits can generate energy and maintenance cost-savings that can surpass financing costs.**