



RAUWenergy

About Rauw Energy & the Fuel Economizer

- Rauw Energy markets and installs the Intellidyne Fuel Economizer line of conservation products.
- The Fuel Economizer is patented, UL Listed, and manufactured by an Energy Star Partner.
- The Fuel Economizer has been verified by NYSERDA and Brookhaven Labs to save in excess of 10% of fuel consumption.
- Savings are generally between 12% and 18%.
- The results translate to a payback within 2 years, usually in less than 1 year.
- A 10% fuel savings is guaranteed.

The Fuel Economizer

A microprocessor-based control that enhances the efficiency of your boiler.



Heating Facts and the Fuel Economizer

- Your boiler is sized to provide heat on the coldest day of the year, all other days it is oversized and inefficient. Statistically this is more than 95% of the time.
- Existing boiler controls, such as a thermostat or Heat Timer, do not match the heat output of the boiler with the current needs of the building. They just make a simple call for heat.
- There is substantial residual heat generated during the 95% of the time when the boiler is underutilized. The Fuel Economizer calculates how to maximize this store of residual heat. By controlling the cycling of the boiler, the Fuel Economizer uses this heat and reduces fuel consumption with no change in comfort.

How the Fuel Economizer Works

- In order to understand the heating needs of the building, the Fuel Economizer measures the burner run time as well as the rate of change in temperature of the heating medium, whether it is steam or hot water.
- The calculations are made three times per second, making these measurements dynamic and real time. In order to make the calculations for steam applications, a pressure sensor is installed on the boiler and a temperature sensor on the condensate pipe. For hot water systems a temperature sensor is installed on the boiler's supply pipe.
- The Fuel Economizer's patented algorithm uses the information gathered from the sensors to determine the most efficient cycling pattern of the boiler.

In Sum

- The Fuel Economizer costs between \$5,000 and \$7,000 installed, depending on the size of the system.
- The Fuel Economizer works on steam or hot water systems, and works with #2, #4, and #6 oil, as well as natural gas and propane.
- Fuel consumption is reduced by a guaranteed 10% without impacting the comfort of the building. It is the only conservation product available that guarantees savings.
- An installation generally pays for itself within the first year. The illustration on the next page shows a typical outcome for a building consuming 30,000 gallons. Savings are \$9,500 per year. Payback is in 8 months. After 10 years savings are over \$100,000 if fuel prices remain the same.

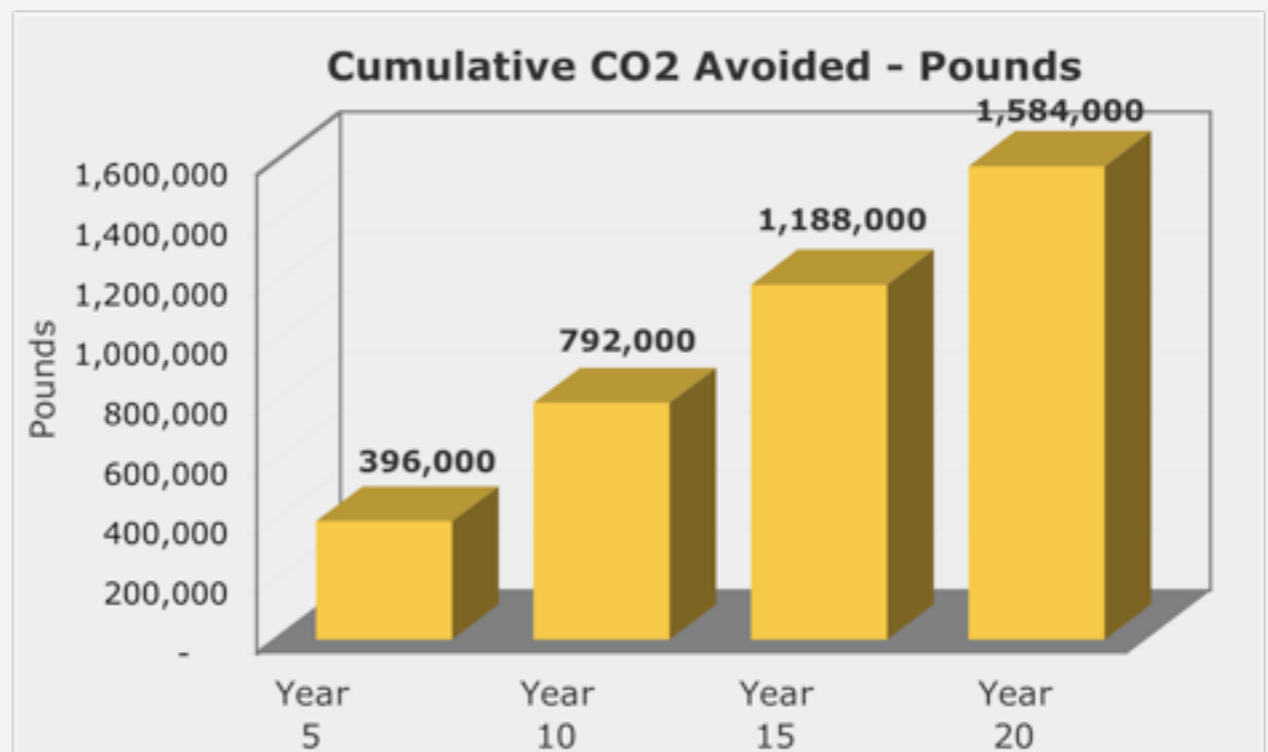
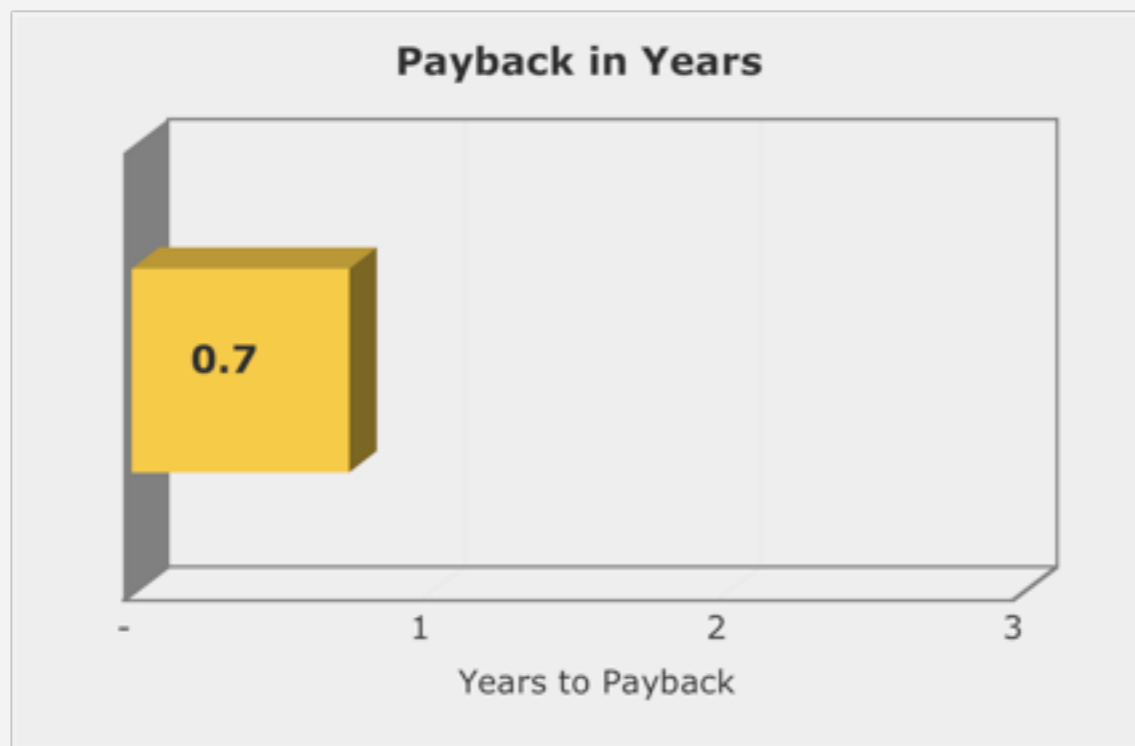
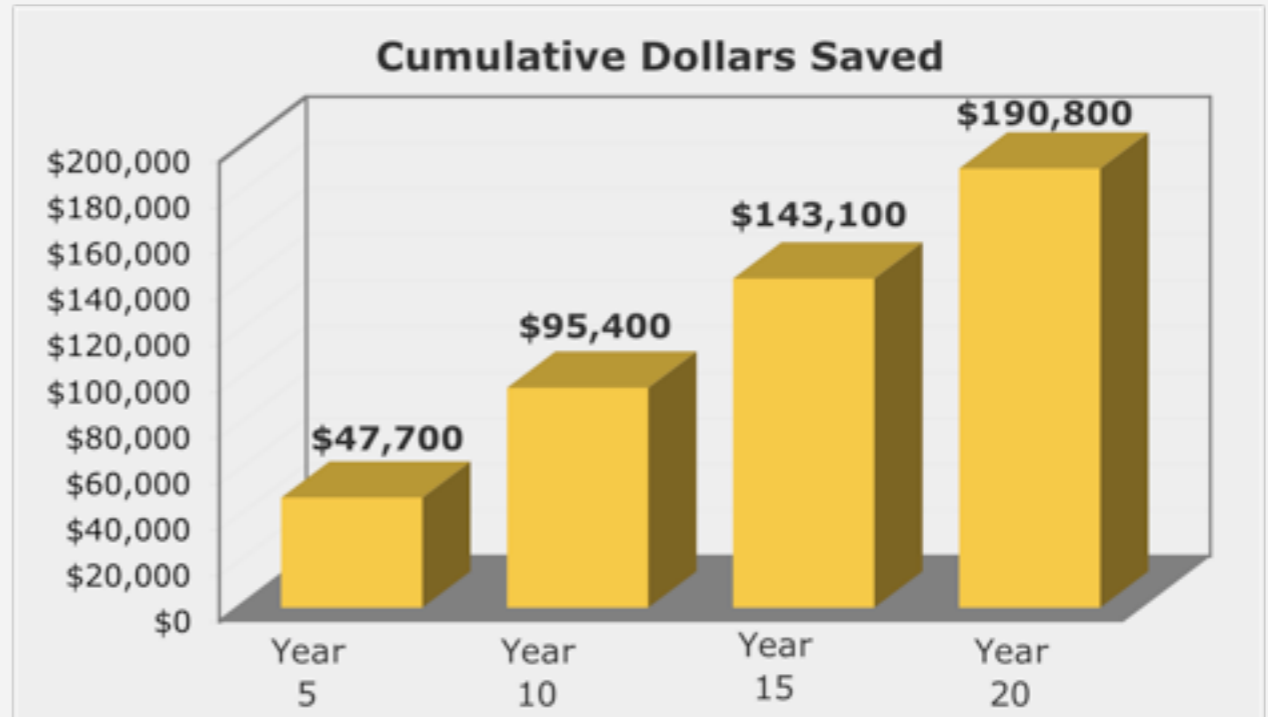
Savings Illustration - Year 1

Representative savings for a 16 story co-op, using oil, after a \$7,000 installation of the Fuel Economizer:

Gallons consumed per year	30,000
Percent savings	12%
Gallons saved per year	3,600
Oil Price	\$2.65
Dollars saved in year 1	\$9,540
Years to Pay Back	0.7 Years (Less than 1 year)

Savings Illustration - Long Term

Price of oil	\$2.65
Gallons per year	30,000
Savings Percent	12%
Installed Price	\$7,000



Pollutant Reductions

In addition to a reduction of CO₂, boilers that use oil as their fuel will also experience reductions in other pollutants. (Average reductions based on results from the DOE Brookhaven Laboratory Testing).

Filterable Particulates	40.4% Reduction
Hydrocarbons	31.2% Reduction
Carbon Monoxide	47.2% Reduction
Nitrogen Oxides	10% Increase

Pollutants related to incomplete combustion reduce with fewer cycles. Nitrogen oxides increase with longer combustion at the hot part of the cycle.

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