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Gas Networks Ireland

Schools Case Study

Switching to natural gas reduces costs and increases energy efficiency

Scoil Mhuire Lakelands, Sandymount, Co Dublin

Scoil Mhuire, Lakelands is a primary school located in Sandymount Dublin, catering for girls aged from 4-12 years of age.

Up until 2016, when the school made the switch to natural gas, Scoil Mhuire had been using oil for almost 40 years to meet their heating and hot water requirements. As a result of numerous equipment breakdowns, some of which threatened closure of the school, coupled with the high cost of energy, the school principal decided to make the transition to a higher efficiency natural gas solution.

The switch to natural gas not only provided the school with an energy source that was clean and highly efficient, it also guaranteed the school a constant, uninterrupted supply and has resulted in annual savings in excess of €1,000 each year.

The change has also lead to a reduction in maintenance costs, plus a reduction in the environmental impact of the school by lowering the level of CO_2 emissions produced in the heating process.
High efficiency condensing natural gas boilers and monitoring equipment were installed in the school's boiler room, with the monitoring devices allowing the school to measure the amount of natural gas being consumed and enabling the school to control operating costs. In addition, controls were installed to allow zoned heating for specific classrooms and the school hall, ensuring heating is only used where needed.

Removing the need for fuel deliveries was also an important advantage gained by the school from switching to natural gas (as this fuel is piped directly into the property). There is no longer a need to order fuel or to require staff supervision during oil deliveries (for safety reasons). Also, removing the need for storage also removed the risk of oil theft, a problem that has been appearing at other schools over the recent years. The removal of the oil tank also created more space in the school property and results in a safer school yard.

Switching to natural gas gave all of these benefits to Scoil Mhuire:

- Significant cost savings
- Environmental benefits/lower CO_2 emissions
- Reduced fuel usage (higher efficiency)
- Reduced risk of fuel theft
- Monthly billings
- Operational efficiencies /staff involvement
- Storage savings

Annual energy saving of circa €1,000

Increase in overall efficiency leading to a reduction in fuel usage

Lower maintenance costs

CO_2 reduction of 7 tonnes per annum

No longer required to order and arrange delivery of fuels and CO_2

"With natural gas as our main fuel source we have not only reduced our overall running costs but we now also have a constant reliable supply of heating and hot water without the risk of running out of oil, waiting for deliveries or possible fuel theft."

Mary Elizabeth Price,
School Principal

Benefits of Natural Gas Over Oil

- **Fuel cost has decreased by circa €1,000 per year**
- **Overall efficiency increase in the heating system**
- **Modern condensing gas boiler and zoning controls**
- **No storage or deliveries required**
- **No need for oil tank taking up important real-estate**
- **Reduced CO_2 emissions with carbon emissions reduced by up to 7 tonnes annually**

Natural Gas Installation Process

The previous equipment included an oil boiler that was removed with a modern condensing natural gas boiler being installed in its place. The natural gas network was located close to this school and a gas service was required to connect from this network into the agreed meter location. Gas Networks Ireland provided the school with a quotation for the meter and service, including all the required civil works to bring the gas service into the school. Once this was paid, the meter and service were installed and the gas was turned on when the works on the school boiler room were completed and tested.

Description of Energy Facilities

There is one main boiler-house on site with total boiler output of 265 kW.

The boiler heats up the water which is then passed to the storage tank where it is recirculated at the required temperature until it is needed. Each classroom has a 2 port valve on the radiator with a digital temperature stat while all other rooms have thermostatic radiator valves (TRV's).

Integration

Supply was taken from the natural gas meter and brought to the boiler-house, through the downstream pipework installed by Galileo Energy Services. This was supplied directly into the boiler house to supply the new high efficiency boiler.

Natural gas boiler and burner

Natural gas meter with meter protection

Technical Team

Building Services Design:

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