

Boilers & Burners

For further information on Lochinvar visit www.eibi.co.uk/enquiries and enter **ENQUIRY No.124**



Steve Addis is product manager at Lochinvar

Less is better than none

Reducing demand for gas in heating systems will provide much better long-term benefits than trying to get rid of it altogether, says *Steve Addis*

There is a growing ambition in a number of quarters to rid the UK of natural gas completely. As we move towards a future of more electrically driven transport, politicians and technologists are looking for alternatives and their desire to eradicate emissions from fossil fuel use is laudable.

At the same time, low-carbon solutions need to be practical and affordable. For heating and hot water, there are sound practical and economic reasons why this should be a gradual process. There is also a clear parallel with transport, where the transition to clean energy is being managed in stages via hybrid solutions.

Gas-fired boilers and water heaters are tried and tested and still have a tremendous amount to offer – and a long future. The industry has made huge strides in improving energy efficiency and, therefore, reducing its impact on the environment. We have also had a more direct impact on tackling pollution by reducing the amount of NOx emitted by our products.

The industry has also embraced renewables, but experience has now taught us that often the most practical and affordable approach for end users is a mixture of the two.

Integrated or bivalent systems that combine renewable and gas-fired technologies are an excellent way to meet performance targets at a lower capital cost than a fully renewable option and, as a result, are likely to deliver a faster return on investment. This means they are more likely to be taken up on a greater scale and, therefore, will deliver more energy and emissions cuts.

The UK's first scrappage scheme for commercial boilers was recently launched in London. It is aimed at helping SMEs cut their energy bills and improve air quality and is supported by £10m of funding from the capital's Cleaner Heat Cashback scheme.

SMEs will receive 30 per cent towards the cost of installing a new high efficiency, low-NOx gas or LPG boiler and this figure can rise to 35



Gas-fired boilers and water heaters are tried and tested and still have a tremendous amount to offer

per cent in areas where there is a particular air quality problem. If a new boiler is used as part of a hybrid system, the contribution immediately increases to 35 per cent – or 40 per cent in air quality target areas.

Coal or biomass boilers

The Energy Saving Trust is administering the scheme, which runs until March 31, 2020. It applies to existing coal or biomass boilers of any age and gas or LPG boilers that are a minimum of 10 years old, with a minimum total output of 70kW. The replacement boilers must be at least 90 per cent efficient and have NOx emissions of 40mg/kWh or less.

The industry will also be making wider use of multi-valent systems

The latest phase of the EU's Energy-related Products Directive (ErP) came into force in September 2018 and is already driving even higher standards in the UK heating industry, including further energy efficiency targets as well as lower NOx emissions. The directive also means that, in order to comply, system designers and specifiers will have to adopt an approach that focuses on the

complete system and not individual components.

To extract maximum potential going forward, engineers will have to consider how all the elements of a system work together – and much of the latest legislation is pushing the market towards integrated/hybrid solutions.

A good example is heat pumps, which have seen a surge in popularity in homes in recent years. Most, if not all, are installed with back-up from immersion heaters to ensure they are able to deliver hot water in the coldest conditions and when demand is high. This approach is not always practical in commercial buildings where hot water demand is much higher, and because of the requirement to store water at 65°C.

So, as a result, specifiers often revert to the tried and tested methods of providing heating and hot water by using traditional gas-fired methods. However, many will now use heat pumps or solar thermal in the same system with the gas-fired heat sources only employed as back-up for times of highest demand. This reduces running costs and has the added benefit of extending the life of the equipment.

This type of integrated or hybrid solution is also a good way to keep initial capital outlay low – when compared with renewable-only solutions – and means some end clients, who might have previously considered renewables to be beyond their budget, can afford a renewable element. This can also help them with planning requirements and corporate social responsibility (CSR) reporting.

The industry will also be making wider use of multi-valent systems where energy is gathered from a number of separate sources, for example solar thermal, heat pumps in combination with condensing gas-fired boilers and/or water heaters.

The drive for better efficiency and lower emissions is not prescriptive and still allows the industry room for manoeuvre. It encourages us to be innovative in the way we design systems as we work towards a lower energy future. ■

