With the headlong rush to find renewable and zero-carbon energy solutions there is a danger that the role that lower carbon fossil fuels can play in offering a viable platform in the short to medium term will be overlooked.

However, existing technologies and the availability of certain fuels mean that carbon reduction can start to be achieved at marketplace prices.

LPG (liquefied petroleum gas) is both a lower carbon fuel – having the lowest carbon rating of all refineryproduced material – and a clean burning fuel with outstanding air quality credentials. Further, it is a fuel with a diverse range of uses, ideally suited to provide energy in a number of areas where lower carbon output and improved air quality are vital considerations.

Excellent credentials

LPG's many environmental attributes are often described in its use as an automotive fuel, which is a relatively recent use for it. But what is not widely known is its excellent credentials as an off-mains energy where clean fuel is required beyond the piped gas network, whether for domestic or commercial uses.

LPG is the collective name for two products – propane and butane, both produced as a light part of the oil refining process or extracted from natural gas streams. Both are a pure compound of only hydrogen and carbon atoms, and therefore burn with an extremely high carbon efficiency and produce little other than CO2 and water during combustion.

Critically, and why LPG is so versatile, is that, under pressure, it stays as a liquid, turning to gas only as it is used. This means that it can easily be transported and stored in tanks ranging from those small enough to fit into a car to large bulk tanks storing up to 30 tonnes in an industrial complex.

This attribute means it can reach other parts that mains energy cannot reach – keeping young

livestock and poultry warm, providing power to building and civil engineering sites, powering boats and fork-lift trucks, keeping caravans warm, providing the flames for outdoor catering, and providing all the heating, hot water and cooking needs of rural homes.

It is estimated that two million UK homes are not connected to mains gas along with many pubs, hotels, health facilities and small businesses located in rural areas. LPG can provide them with all the benefits of mains gas while emitting over 10% less CO2 per KWh than oil, 40% less than smokeless solid fuel and 45% less than UK-generated electricity, and all with no detriment to local air quality.

While LPG used on its own with a modern condensing boiler offers significant carbon and air quality benefits over alternatives, it is the ideal fuel to couple with solar thermal heating.

This will provide an even lower carbon alternative that delivers all the heat, hot water and cooking energy a home needs all year round.

Perhaps to some, it is anathema that a fossil fuel can be used to help reduce carbon emissions and improve air quality. The answer to that lies not only in the science of propane and butane – fuels that burn with a lower carbon output than all other fossil fuels bar natural gas, and ones that emit virtually no pollutants – but also in utilising their known qualities and consumer preferences while we debate the unknowns around long-term renewable energies, in particular bio fuels.

It is ironic that while wood is being touted in the UK as the environmentally friendly rural fuel to replace fossil fuels, LPG is increasingly seen as a solution to health problems in Third World countries directly caused by the burning of wood, solid fuels and dung – all of which throw up huge air quality issues if used on any scale and in close domestic confines.

It may seem an age ago that low carbon and renewables came on the agenda, but it is in only the past few years that this has become a mainstream issue. When urgent change is needed, and when there is public awareness of it, that is when there is a real danger of apparently easy solutions being offered that do not always deliver their promises.

Yes, we need long-term solutions to the growing energy needs while we need to reduce greenhouse gas outputs but we do not need a headlong rush into unproven technologies and energy sources that may result in a worsened position.

While the debate about the true carbon cost and benefit of bio fuels continues, serious dissenting voices are questioning its sustainability versus the world's food demands. It is at times like these that the assured benefits of known available fuels should be utilised and supported.

Major push

The UK faces a severe shortfall in electricity generation within the next 10 years, and the widespread development of microgeneration is seen by the Government as one of the key ways of addressing both the shortfall in power and the efficiency of electricity generation. This major technology push – whether conventional CHP or fuel-cell based – is gas-driven. If there are concerns about building our medium-term future on this, the UK exports three times as much LPG as it uses for energy, with substitutes available for its current use in the petrochemical industry.

A clear policy lead is needed from the Government to ensure that the cleanest fossil fuels are not disadvantaged in playing their full role to help address UK energy security. At the same time they can exploit the full benefits regarding climate change and air quality as the required debate around longer term solutions takes place.