Taking the heat

Clare Connell and Henry Hunt of Connell Consulting take a look at how rising fuel costs will affect health and social care

For health and social care providers, in an era of uncertain funding and rising staff costs, energy might not be the most obvious source of anxiety. But, growing fuel costs in an industry that has no choice but to heat their hospitals and care homes will prove a sobering antidote to profitability. Turning to renewable forms of heating will turn out to be a prudent move as they are less likely to fluctuate or rise in fuel price while also building toward government carbon emission targets.

When Theresa May first took office, she suggested the government take a more active role in industry. January saw the release of ‘Building our industrial strategy’ – a green paper to prompt discussion and feedback. This publication placed strong emphasis on technology as a means of the UK retaining a competitive edge in a shifting commercial and political landscape. Attention was paid to energy and the importance of British businesses to realign as energy efficient, carbon conscious organisations.

Health and social care should position itself as an industry at the forefront of this march toward greener energy. The desire is already there; in a survey of clinical commissioning groups (CCGs) and local authorities, 91% of respondents felt “the health and care system should set itself challenging ambitions with regards to sustainability” and 75% of respondents agreed that “health and care should aim to be a leading public sector for sustainable and low carbon systems”.

In fact, this attitude has been prevalent for a while in both government as a whole and health and social care in part. The new industrial strategy green paper is merely expanding the scope and confirms government commitment to these principles but a push for low carbon energy efficiency was apparent in 2011 with the introduction of the Renewable Heat Incentive (RHI). The RHI went live as a way of incentivising the installation of more eco-friendly forms of heating. It paid subsidies to installers of a number of different heating systems including: solar thermal panels, ground source heat pumps, water source heat pumps, bio-methane and biomass boilers. In non-domestic settings, such as a hospital or care home, the government will pay subsidies, per kilowatt per hour, for 20 years.

Biomass fuelled boilers quickly became the most popular form of renewable heating as they are efficient, cost effective and could easily replace existing oil or gas boiler systems. Some hospitals rapidly took advantage of this subsidy year round heating subsidies; this should spur major hospitals and large healthcare facilities to consider renewable forms of energy.

While there is an established presence of biofuels being used in health and social care, hospital operators and care home groups should take greater advantage of the opportunity at hand. For properties not on the national gas grid the decision is one of simple cost–currently biomass boiler fuel, either wood chip or condensed pellets of sawdust, is cheaper than oil and liquefied petroleum gas (LPG), which are the traditional means of heating buildings not served by the grid. Areas which have no gas supply can be found in all parts of the UK including both urban and rural areas (figure 1). Rural areas are likely to have no gas supply because of distance from the gas network. In urban areas there may be buildings near a gas connection but there may be no easy way of installing a connection (e.g. in a block of flats or a large hospital building). Both should look to biomass for their heating requirements.

However, biomass fuelled heating has great potential even beyond off-grid properties. It should be adopted as a key alternative to natural gas in all manner of health and social care properties. With CCGs and local authorities voicing such enthusiasm for ‘sustainability’ and ‘low carbon systems’ those providers which can demonstrate commitment to low emissions are likely to prove popular with commissioners beholden to government emission targets. These providers will be lauded as forward thinking and environmentally minded and, as a result, may see an uptick in occupancy and referrals as commissioners look to them as industry leaders.

Biomass boilers, as well as a means of supporting both central and local government in meeting carbon emission targets, are also an opportunity to mitigate volatile, and rising, fuel prices. Biomass fuelled heating is a chance
to decouple from fossil fuels; fossil fuel prices are fickle, potentially shifting dramatically year on year, but is trending worryingly skyward (figure 2). For care homes and private hospitals treating and caring for vulnerable people, who are particularly susceptible to cold snaps and require consistent warmth, fuel is a necessary but rising expense (figure 3). According to Knight Frank’s 2016 ‘Care homes trading performance review’, the “increase in property costs is being driven by maintenance and utilities costs”. Utilities, an “area linked to the sustainability” of a given property, is rising and “energy consumption is increasing property costs... investing in technology to reduce energy bills is a good way for operators to influence profitability”. Knight Frank refers to care homes but the same holds true for all types of healthcare property.

Biomass boilers are an example of investing in technology to reduce energy bills. They use wood pellets or chips produced from sustainable forests as fuel. They are renewable because once a tree is cut down another is planted in its place; if managed effectively this is a resource that should be constant and consistent. This resource also proves cheaper than oil and LPG, though similar to gas in price – depending on fossil fuel markets. Additionally for British biomass boilers, these are trees that are grown in the UK; this removes one of the driving factors in shifting fuel prices – the complex relationship between international diplomacy, production and supply chains. Therefore, where biomass boilers have been installed, there is greater certainty over the future price of fuel, generally at a lower rate than traditional fossil fuels. Given the expected rise in fossil fuel prices over the next 20 years, the gap between fossil and wood fuel heating will only increase – the cost saving of switching to a biomass boiler will increase further over time. For an industry that has been disrupted by legislated lifts to its greatest outlay, staff costs, the chance to regain control over at least one aspect of profitability should be leap at.

One firm, Aggregated Micro Power •

The decision to turn to a biomass fuel source should be a simple one for properties that are not serviced by the national gas grid • These properties largely choose between oil or liquid petroleum gas • Biomass fuels offer a cheaper, carbon neutral solution • Urban areas, such as Greater London, tend to have better access to gas, but this is by no means a certainty, with many metropolitan regions unable to tap into the national gas supply • Even if a property has access to the national gas grid, owners should look to biomass fuelled heating systems as a cost effective, environmentally friendly alternative.

Source: Connell Consulting analysis, 2017
Holdings (AMPH), has found an innovative way to offer the benefits of biomass fuels while keeping costs to a minimum. Chief executive Richard Burrell, with previous experience as an investor and developer of primary care properties as the founder of Assura, has an intriguing proposition for operators of care homes and hospitals; AMPH will install a fully integrated biomass boiler at no capital cost to the customer. AMPH, through its infrastructure partner AMP Infrastructure (AMPIL), retains ownership of the boiler in situ and takes entire responsibility for the operation, maintenance and fuel supply. The customer ultimately only pays for the heat they use, as independently monitored by OFGEM. AMPIL makes its money from retaining the government RHI subsidy as well as heat payments from the customer. AMPH’s subsidiary Forest Fuels supplies the fuel for the boiler directly to AMPIL so that the customer need not worry about ordering fuel. As Burrell puts it: “I see the healthcare sector as an industry that needs to embrace biomass and really push ahead and install more of these systems, particularly the larger systems. Obviously, that helps our business but it’s a win-win for everyone”.

This seems a compelling offer for care home and hospital operators. If a provider of health or social care services has an aging oil or gas boiler that requires expensive maintenance then it could be replaced with no capital expenditure on the part of the provider. In an industry where access to capital is an important factor in remaining competitive through redevelopment of property, this may be a key incentive to turn to biomass fuels. Providers have an opportunity to align with carbon emission targets, replace old, less efficient and potentially dangerous boilers with no capital expenditure and reduce running costs by having the risk, maintenance and fuel supply for the boiler completely taken care of by an external party.

Some care homes have already seen the benefits

### FIGURE 2: GAS PRICES, A MAJOR CONTRIBUTOR TO A RISING CONSUMER PRICE INDEX

**Consumer Price Index for ‘All items’ and for ‘Gas’, 1997-2016**

- The consumer price index of all items from 1997 to 2016 has risen at a CAGR of 2.03%
- The CAGR of gas over this 19 year period is three times as high at 6.08%
- The cost of using gas to heat one’s home is rising at a rate much higher than that of inflation with fuel costs a major contributor to the rising consumer price index
- The health and social care industry should take heed and turn to renewable forms of heating that are more cost effective in the long run
- Given the expected rise in fossil fuel prices over the next 20 years, the gap between fossil and wood fuel heating will only increase – the cost saving of switching to a biomass boiler will increase further over time.

Source: ONS, Connell Consulting analysis, 2017
of carbon neutral forms of heating that require no maintenance on their behalf and no initial capital expenditure. Cherry Trees, a care home in Warwickshire owned by Barchester Healthcare, had AMPH install a biomass fuelled boiler to replace an older, oil model. In the process, the home has gained a new boiler, reduced annual heating costs by 30% and left the technical task of boiler maintenance to AMPH’s specialist operators. AMPH also provide the fuel, knowing when to deliver wood pellets because of sensors in the fuel storage chamber that feed back to the nearest distribution centre. Ben Collard, former energy and environment manager at Barchester, oversaw the installation and views the transaction as a worthwhile investment. “We have a new boiler at Cherry Trees at no capital cost to Barchester and a significantly reduced operating cost in relation to our future heating bills,” he says. By installing a biomass boiler, we have reduced our carbon emissions. We are intending to commission additional biomass boiler systems with AMPH at our other care homes.”

AMPH have not limited themselves to replacing oil fired boilers. The mainstay of their business is in what they call ‘commercial boiler buy backs’. In this transaction, a care home or hospital with an existing biomass system can sell the entire system to AMPIL, which will then take over the running costs and the responsibility of that system. The incentive being that providers suddenly have access to capital that had been locked away in a boiler room. AMPIL become the owners of the biomass boiler, run the facility and then supply the fuel to heat the property. Again, as in the case of replacement of traditional boilers, for health and social care providers looking to develop property and services to remain competitive, the freeing up of capital in an already installed biomass boiler will be an enticing proposition.

Rising fuel costs and growing environmental pressure are pushing health and social care providers towards alternative means of heating their potentially very large, and very energy intensive, buildings. Renewable sources of fuel are the way forward, with biomass boilers being the most effective alternative to fossil fuels in terms of expense and heat capacity. Firms in the biomass industry have anticipated the demand that health and social care providers have for these products and are marketing directly towards those providers looking to release capital for equipment or alternative property development and also minimise the time, and money, they might spend maintaining an outdated and inefficient heating system.

The will to become more energy efficient and sustainable is present; it will take the partnership of innovative renewable energy firms, and environmentally and cost conscious health and social care providers, to reduce reliance on polluting and expensive fossil fuels.