

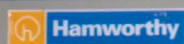
Boiling Point



Heating *at work.*

IT'S HARD TO PART

But it doesn't have to be – how to combine new and old heating circuits with hydraulic separation P4-5



WESSEX
modumax



WESSEX
modumax

DANUBIUS HOTEL
CASE STUDY P6-7

VIEWS FROM
THE INDUSTRY P8-9

THERE'S A HAMWORTHY
BOILER FOR THAT P10-11



Sam Boshier

Editor/Marketing Manager

Roadshow

We're bringing our boilers to your doorstep:

15 - 26 April
SOUTH WEST

23 April - 3 May
SOUTH WEST INCLUDING
BRISTOL, BATH AND
SOUTH WALES

7 - 17 May
OXFORD, MILTON KEYNES
AND PARTS OF THE HOME
COUNTIES.

20 - 31 May
SOUTH WEST LONDON

3 - 14 June
CENTRAL LONDON

17 - 28 June
KENT, EAST LONDON AND
ESSEX

1 - 19 July
EAST ANGLIA

15 - 26 July
CENTRAL LONDON

29 July - 9 August
NORTH WEST OF
ENGLAND AND WALES

12 - 16 August
IRELAND

Full schedule & booking
available at
[hamworthy-heating.com/
tour](http://hamworthy-heating.com/tour)



FROM THE EDITOR

I wasn't going to mention the 'B' word. But as this issue goes to print just before the 29 March deadline and no one really knows what the impact will be in the short and long term, it feels I should say something. In times of uncertainty the only thing I can assure you is that we are taking steps to foresee there is minimal disruption to the service you receive from us. As well as increasing stock and built product levels, we are working with the British Standards Institution (BSI) to ensure the continued use of CE marking and placement of our product into EU markets. As a British manufacturer, we will continue to make our products in the UK and provide you with high performance boilers that are built to last.

There's a Hamworthy boiler for that

This year we want to show you how our varied range of boilers and water heaters really can offer you a best suited solution for every building. Turn to pages 10-11 to see how each of our boilers can help you in your projects. Take our best-selling Wessex ModuMax mk3 boiler with wide differential temperatures, high operating temperatures and 10 bar pressure: an ideal choice for district heating schemes and high-rise buildings. Or how about our aluminium boiler: the Upton – it really does pack power and efficiency into tight spaces to give you over 1MW from less than a metre squared floor space. Or what about our no flow boiler, the Varmax – thanks to its internal circulation loop, large differential temperatures and high water content it is non-dependent on system flow, making it simpler and cheaper to install with no need for pumps, low loss header, etc. I believe that by having such a varied range, we can offer you the best advice to choose a product that is suitable for your building. We'll be taking our products on tour from April, so why not request a visit from our roadshow van? See upcoming dates on the left.

The art of separation

Speaking of no flow boilers and system design leads me nicely to our feature article - the art of separation. When connecting new boilers onto older heating systems, you need to consider how you will protect the capital outlay you have invested in your new boilers. You can choose to separate via a low loss header or plate heat exchanger or consider whether a different boiler is better for the job such as one that is not dependent on system flow. Alternatively, you could use a boiler that deals well with some of the issues evident in older heating systems like our recently revamped Purewell Variheat mk2 boiler with a large waterway heat exchanger. Turn to pages 4-5 to read about the pros and cons of your options.

Views from our industry

Julia Maul, Marketing Communications Executive at Hamworthy Heating, had the opportunity to hear from Hywel Davies at the annual CIBSE policy briefing. Amongst other things Hywel discussed the Climate Change Act, the impact of Brexit and the Hackitt Review. You can read Julia's write up on page 8, as well as views from ICOM and BESA about issues affecting our industry – from air pollution to decarbonisation.

You said, we did

"It's impossible to talk with the assistant because he is always busy."

"It's difficult to find someone that can help you on-site."

These were some of the comments you told us previously about the problems you have getting through to our technical department. We've taken your feedback on board and invested in the team to enable us to provide you with the best possible experience. Last summer, Jason Crowne joined our inhouse technical team, and we are currently recruiting for a 5th team member. On top of this, Barrie Welsh has become our technical sales support out in the field across the UK. To find out more about our expanded sales team, turn to the back page.

Best Wishes

Sam Boshier

Editor/Marketing Manager

Boiling Point

SPRING/SUMMER19

IN THIS ISSUE:



FEATURE:

P4-5

The art of separation

Refurbishing old heating systems can be a challenge. We take a look at options and considerations to hydraulically separate the primary and secondary circuits.

Danubius Hotel case study

P6-7

A busy London hotel with a constant stream of travellers needed a heating refurbishment. SPIE UK installed our boilers without interruption to the heating and hot water supply.

Views from the industry

P8-9

With dramatic news about climate change, industry experts give their opinions on recent developments in our sector to curb air pollution and carbon emissions.

There's a Hamworthy boiler for that

P10-11

New, old, big, small or tall. We've got a boiler that works for every building – get to know them all.

What's new from Hamworthy HQ?

P12

There's been lots going on: you can now book product training, the roadshow van tour, watch new videos and get to know new faces.



Hamworthy

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HamworthyHeating

CREDITS

Cover: Our Wessex ModuMax mk3 boilers installed at the Danubius Hotel in London.

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Got a question?

With commercial heating and hot water knowledge on tap, don't hesitate to get in touch:

Sales: 01202 662552

Service: 01202 662555

Spares: 01202 662525

Technical: 01202 662505

Looking for technical info?

You can visit the online technical library to download full product info including CAD files, BIM objects & data tables.

[hamworthy-heating.com/
technical-library](http://hamworthy-heating.com/technical-library)

Find all current and past issues at
hamworthy-heating.com/boiling-point-magazine

THE ART OF SEPARATION

Energy-efficient boilers are now the industry standard. Most of those are only compatible with modern pressurised systems. In contrast to this, open vented heating systems were common back in the day and many of our customers refurbish them regularly. That's why finding a solution to 'bridge the gap' between old and new is necessary. Hydraulic separation between the primary circuit (with the boiler(s)) and secondary circuit (existing old pipework) can offer a solution. In this article, we take a look at different methods to achieve this.

Assessing existing primary circuit design

Starting off with the examination of condition and size of current pipework, alterations for optimum performance and efficiency should be considered, such as ensuring lower return temperatures for condensing performance. When assessing water flow around the system, it's necessary to take into account whether the boiler has an integral pump and if a primary circuit pump is required. Does the current pipework's flow capacity match the primary/shunt pump minimum requirements?

Possible consequences of an inadequate flow rate are not only annoying for the client but can be costly: A broken heat cell as a result of insufficient water supply costs thousands to repair, a scaled up heat exchanger causes efficiency losses and longer heat-up times as well as a shorter life expectancy. As commercial boilers are a large capital investment, it makes sense to consider what they are linked to.

Protecting equipment

Means to protect the boiler and clean the system can be the installation of

- 1) a dosing pot for introducing chemicals (to e.g. prevent corrosion) into the system,
- 2) an air and dirt separator to remove air bubbles and dirt particles from the system, and
- 3) strainers to catch debris.

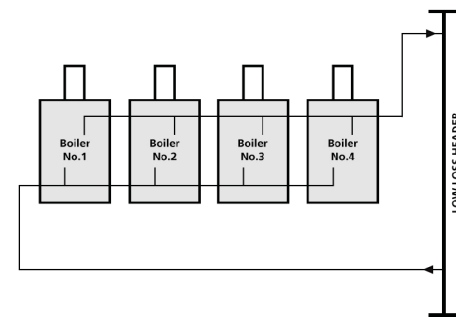
The next step is considering how to connect to the secondary circuit.

Spoilt for choice

There are several ways to achieve this: via low loss header or buffer vessel arrangements, plate heat exchangers or the use of a no flow boiler.

Low loss headers or buffer vessels

Low loss headers, also called common headers, are available as different types: horizontal, vertical and some have dual action with combined air and dirt separators. They provide a better flow between primary and secondary circuits, allowing boilers to operate at a constant flow rate while flow rates and temperatures in the secondary circuit may vary.



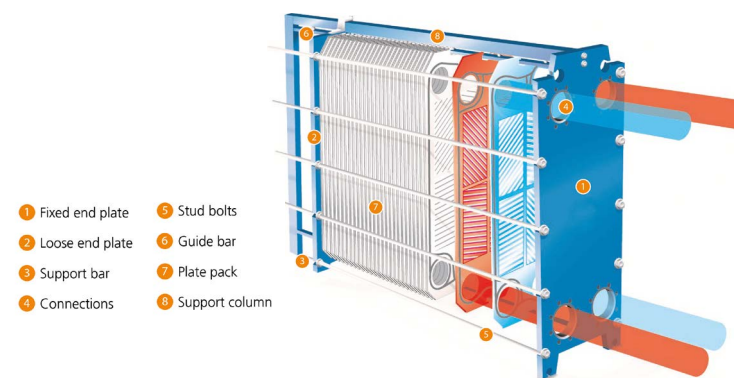
Using a low loss header or buffer vessel in a heating system ensures adequate flow, resistance and temperatures around the primary circuit. When using a vertical low loss header, the low flow velocity allows sludge to sink to the bottom which can then easily be removed from the system via a trap. They are often supplied as part of a package correctly sized and directly from a manufacturer to suit the chosen boiler's connections.



However, alteration costs on an old heating system to include a low loss header or buffer vessel can speak against this choice. Other factors could be space requirements and an insufficient number of ports (depending on how many heating circuits you want to connect to it).

Plate heat exchangers

Plate heat exchangers provide hydraulic separation of heating circuits and protect new boilers from dirt and debris from an existing secondary circuit, as the water does not mix. Several types of heat exchangers are available. While brazed heat exchangers can't be taken apart, most can be cleaned. Gasketed types can be fully maintained and increased in duty (depending on the frame size) for future extension of the heating circuit. Domestic hot water plate heat exchangers are solely for the purpose of providing hot water – hence for a different temperature profile and controls.



Benefits include the protection of boilers through separation and pressure protection which prolong their life. A reduced amount of water in the primary circuit means treatment becomes cheaper (less chemicals used).



Downsides are space issues when both heating circuits are pressurised, and two pressurisation units needed. While it is common practice to use several boilers to prevent a single point of failure, only using one plate heat exchanger would reintroduce this risk. High micron filters to catch debris in the system and additional maintenance are also recommended.

No flow boilers



A no flow boiler on the primary circuit is non-dependent on the secondary circuit flow for safe operation. Instead, an internal variable speed circulation circuit ensures water movement when circuit pumps are off or set to low. Besides, differential temperature supervision controls the output power for safe operation. The high water content in a no

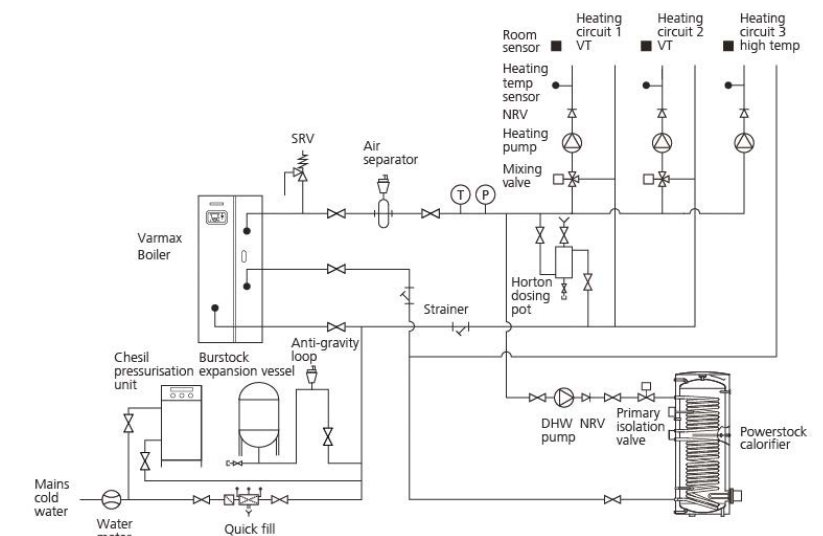
flow boiler equals high thermal mass which allows it to fire without flow and without risk of overheating. Once the control stat stops the boiler, the thermal mass safely absorbs residual heat. These types of boilers often have dedicated return connections for low and high temperature heating circuits to ensure maximum efficiency can be obtained.



The main benefit of installing a no flow boiler is that it does not require installation in a dedicated primary circuit. It also reduces the need for additional equipment such as low loss header, plate heat exchanger and pumps. No flow boilers usually have a high water capacity, enabling them to operate with wide differential temperatures. They may also incorporate high and low temperature return connections which maximise operating efficiency.



What speaks against choosing a no flow boiler is the required flow isolation through non-firing boilers. This helps the system pumps to modulate which ensures flow through the firing boiler. Isolating any non-firing boiler in any system is good practice. Furthermore, the boiler should not be operating using its own thermostats or integral temperature controls but instead be integrated using a sequence controller or building management system. This improves overall boiler control for many boiler types. Space limitations (access) and weight must be taken into consideration with this option.



The use of a no flow boiler with twin return connections can combine low temperature (e. g. underfloor heating) and high temperature heating/hot water circuits.

The choice is yours

Which method of hydraulic separation is preferable will be mostly determined by available plant room space, time, and budget.

Depending on the choice, other considerations would be low loss header/heat exchanger sizing, type of pump(s) used and if a reverse return is required.

On the one hand, hydraulic separation can be achieved by using low loss header or plate heat exchanger. This offers flexibility, as this equipment is optional. On the other hand, opting for a no flow boiler means the most integral part of the heating system determines the remaining design considerations.

Would you like to learn more about this or other heating and hot water related subjects?

Book our **free CIBSE-accredited CPD seminar New boilers and old systems - a story of separation.**



Find out more about this and our other CPD seminars at hamworthy-heating.com/cpd

HEATING UNDER PRESSURE AT THE DANUBIUS HOTEL

London

The Danubius Hotel Regents Park made an investment to modernise their boiler plant, upgrading their ageing boilers that had reached the end of their life cycle. Contractor SPIE UK and Hamworthy Heating delivered a space-saving solution to provide heating and hot water without interruption for the busy hotel.

Located by Lord's Cricket Ground, Regents Park and the renowned Wellington Hospital in central London, the Danubius Hotel is a popular destination for travellers and business people alike. With 360 bedrooms/suites and a fitness centre, a reliable heating and hot water supply is crucial. Prior to the refurbishment, this was provided by 14 cast iron atmospheric boilers with a total output of 3,850kW. However, faulty components and gas leaks indicated the end of their life.

The Challenges

- Hotel had to be kept running 24/7 during the change
- Constant stream of incoming travellers from local airports made downtime impossible
- 10 bar working pressure boiler required due to the height of the building
- Two banks of seven atmospheric boilers each (14 in total) with individual shunt pumps
- System pump to circulate water around the installation
- Each bank with own flue with a flue dilution fan per independent flue
- Review of existing flue system due to upgrade to condensing boilers

The Solution

With comments from Jason Avery, senior project manager at SPIE UK Ltd.

- Four Wessex ModuMax mk3 WM254/762 (3-high stacks) modular condensing boilers with a total output of 3,048kW

"We chose the Wessex ModuMax mk3 boiler due to their slim profile and the 10 bar working pressure. It's also efficient, streamline, compact and easy to use. The alternative, a competitor product, only had a safe working pressure of 6 bar."



- Pipe header kits
"We opted for the matching pipe header also from Hamworthy because they're a simple piece of kit. When the boilers are all lined up and within a couple of hours the headers bolted to them, it sure does look impressive to your clients when walking around. Easy to install, just nuts and bolts and a level."
- Remote signal kit
"For the controls, we chose the interface kit to give the boilers full rotation via the Building Management System to ensure even use across the equipment. It also allows full modular control to suit the system characteristics, meaning the boilers will match the load and operate as efficiently as possible."
- Installation of a FuranFlex composite liner in the flue
"Firstly, we removed the stainless steel liner up to the roof. With the use of CCTV, our team inspected the concrete fabricated existing flue. We then used FuranFlex composite liners in the existing chimney stacks to deal with the condensate and pressure of the new boilers. After applying the flue liner, we cut a spigot into the wall to be upgraded to 600mm up to the flue dilution fans from which it was reduced to 500mm to the main stack. We used an N+1 configuration on the flue dilution fan system with a double-pole switch, so that in the event of a failure, we had a backup and automatic changeover would occur."
- Entirely new pipework system and valves, including 11 metre long low loss header and interconnecting pipework
"The main benefit of starting from scratch was that it allowed us to install a new system (primary circuit) to the boilers and then start interfacing this with the old pipework, effectively creating a hydraulically separated system and 're-energising' the existing one. This is why we needed the

boilers earlier than anticipated. The entire project during which we converted the heating system from open-vented to closed took us nine weeks from the start to completion.

We had to locate all heating pumps from a small plant room to the main plant room. We also installed new isolating valves, circulating pumps, expansion vessels, a pressurisation unit and a side stream filtration unit. On the controls side, we set up a whole new building management system and motor control centre panel (including containment and steel wire armoured cables). Lastly, we upgraded the hot water system by replacing eight 750 litre units of hot water calorifiers with six 1,000 litre units and updated the new cold water feed and secondary pipework."

- Commissioning of the new heating system carried out by Hamworthy
"After finishing the installation, we chose Hamworthy to commission our boilers because it extends the warranty and keeps it clean – I wouldn't have it any other way. Their team is very knowledgeable about their own products and commission thoroughly. I have worked with Hamworthy for nearly 10 years across projects and have a good relationship with the sales managers.
We always receive excellent support and service, before and after sales.

Since the installation, we have noticed massive improvements in gas consumption. Where the boilers before always seemed to be at 50% or 100%, the noticeable turndown on the Wessex ModuMax boilers is amazing."

Results

- Successful refurbishment without interruption neither to heating nor hot water supply to the busy hotel
- Compact boilers provide sufficient pressure for the height of the building and high turndown achieves significant energy savings
- Complete overhaul of the heating system including installation of new pipework and low loss header ensures good system performance for reliability and easier maintenance
- Extended warranty and peace of mind thanks to boiler commissioning by Hamworthy



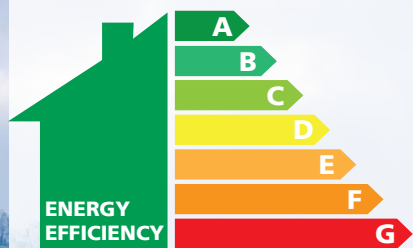
FEATURED PRODUCT

Wessex ModuMax mk3 boiler

Modular condensing boiler with stainless steel heat exchanger

- 15 models, outputs from 97-762kW
- Space-saving, stackable modular design
- Flexibility in system design up to 40°C ΔT
- 10 bar max working pressure for tall buildings
- 10-year heat exchanger warranty
- Low water content, quick heat up time, minimal standing losses
- Built-in boiler sequence controls
- Matched pipe kits available





CLIMATE CHANGE ACT – THE PAST, THE PRESENT AND THE FUTURE ◀||▶

The Chartered Institute of Building Services Engineers (CIBSE) invited their Patrons to the annual policy briefing to run through legislation changes which affect the building services sector. Hywel Davies, CIBSE's technical director, elaborated on 'radical change' in the sector thanks to the Hackitt Review which was initiated after the Grenfell fire in June 2017, the impact of Brexit on environmental legislation and the Climate Change Act. The latter commits the UK to a reduction of 80% carbon emissions compared to the 1990 baseline by 2050.

Withdrawal Act – but what about existing EU legislation?

As outlined in our Boiling Point issue Spring/Summer 2018, the Withdrawal Act commits to maintain an existing European body of legislation from 30th March onwards, although those laws can undergo changes and have an unclear ending date in terms of commitment. For the foreseeable future, it will mostly stay as it currently is. The UK has to meet the Climate Change Act commitments and is not withdrawing from the Paris Agreement which stands independent from any EU legislation. This means while the long-term target is set, the means and ways to achieve it might change.

What progress have we made?

The Clean Growth Strategy, published in October 2017, identified how 'heating our homes and businesses' has a significant impact on carbon emissions. The Committee on Climate Change (CCC), an independent body which advises, monitors and analyses the Government's efforts to reach targets, published its six-monthly progress report in June 2018. While carbon emission fell by 3% in 2017, mostly thanks to changes in the way we produce electricity, the UK needs to act now to achieve the 4th and 5th carbon budget which equates to 51% (by 2025) and 57% (by 2030) carbon emission savings respectively compared to the 1990 baseline. This is mainly due to other sectors not having made the same progress in decarbonisation as electricity generation. **While the CCC reports that direct emissions from buildings in 2017 have fallen by 4% compared to 2016, a closer look paints a different picture. Largely attributed to higher winter temperatures, a comparison taking this into account actually shows an estimated rise of building emissions by 1% - a worrying phenomenon observed in the last two years.**

Simple and low-cost solutions for existing buildings with long-term support

The CCC criticises the UK government for dropping and changing regulation and warns of higher costs for the entire economy. Just one of the examples mentioned was a fall in the number of homes being insulated: as a result of withdrawing incentives, the rate was 95% lower compared to 2012. Actions like this are an easy and cheap way to save energy and costs. The CCC also advocates a better reporting structure and a more strategic focus on energy efficiency for public and commercial buildings, especially in terms of operational savings. It criticises how

irregularity of energy performance assessments and weakening the requirement for Display Energy Certificates risks energy efficiency not being taken seriously at a strategic level. It also warns that estimated savings from planned policies will not be achieved if measures aren't followed through.

Compliance, enforcement and consistency

The CCC calls for effective, tougher regulation and enforcement with a longer-term view to drive consumer demand, innovation and cost reduction. Any existing standards under European Law have to be kept or replaced with comparable or stricter UK policy after the EU exit. This also means keeping policies consistent without being cancelled last minute, such as the Zero Carbon Homes policy which was scrapped in 2015 and replaced by lower standards which can mean costly retrofits later. Failing to improve now comes at a greater cost for the entire economy at a later point. Homes should not only be low-carbon but also future-proof to deal with climate change. The CCC requests greater ambitions to achieve high standards and halve energy use of new buildings by 2030 as outlined in the Government's mission statement. Their advice follows the buildings regulations review by Dame Judith Hackitt. While focused on fire safety, her audit raises how **ignorance, indifference, lack of clarity on roles and responsibilities as well as inadequate oversight, regulation, enforcement and low penalties trigger a 'race to the bottom' in terms of build quality.**

Infrastructure preparation and technology improvements

The CCC urges the Government to put in place infrastructure to make carbon reductions possible. This comprises key technologies such as carbon capture and storage programs and rolling out low-carbon technology such as heat pumps and heat networks as a priority. Lastly, it is also about making use of existing infrastructure which lowers the cost for consumers, such as the use of biomethane for the decarbonisation of heating.

Our thoughts

We live in a time of unprecedented threat caused by climate change. While we have to make sure new buildings meet the highest standards to make them most energy efficient, it is crucial not to forget about existing buildings which make up the vast majority of our building stock. Low-cost quick fixes bring immediate and long-term benefits, but this needs to be combined with a strategic approach (equipment and operational costs). From a legislation perspective, loopholes need to be closed which means exemptions would actually stay true to the word. As a manufacturer, we see our responsibility in not only developing efficient products but also advising our customers on operation and setup to reap all benefits. We are convinced that improving what we've already got, reassessing our own behaviour and developing and using new products of highest standards is the way forward.

Further reading

- The full June 2018 CCC report is available here: <https://www.theccc.org.uk/wp-content/uploads/2018/06/CCC-2018-Progress-Report-to-Parliament.pdf>
- More information on 'green gas' (such as biomethane) can be found here: <https://eua.org.uk/green-gas/>



Julia Maul – Marketing Communications Executive, Hamworthy Heating

TRANSFORMING HEATING – GETTING THE PRIORITIES RIGHT

The Department for Business, Energy and Industrial Strategy (BEIS) has provided an insight into its thinking in a new publication. Ross Anderson, Director of the Industrial and Commercial Energy Association (ICOM), considers the key points.

As one might expect, the new document from BEIS, entitled '**Clean Growth - Transforming Heating**', reiterates the UK government's ongoing focus on decarbonising our energy structure. It also notes that heating is the dominant source of greenhouse gases, and that gas is the predominant energy source for heating.

To that end, BEIS also observes the need for changes to the ways that heating is supplied to residential, commercial and industrial buildings.

Unsurprisingly, and in keeping with the views of other industry 'pundits', there is an emphasis on heat networks, as well as use of low carbon heating technologies such as biomass, biomethane, solar thermal and most notably heat pumps. A strong focus on the latter is rather concerning, as the power generated to run most heat pumps is currently from highly inefficient gas and coal fired power stations. However, it's also worth noting that our installed capacity of wind and solar energy is increasing rapidly, so that more 'green' electricity will be available to run heat pumps in the future. But, of course, that's only when the sun is shining, and the wind is blowing!

This situation has led to a reduction in the average carbon content of the power grid, which has prompted a proposed lowering of the carbon factor in the Standard Assessment Procedure (SAP) used for designing dwellings, and possibly in the Simplified Building Energy Model (SBEM) used for other types of buildings.

This, in turn, has encouraged some people to favour electric heating instead of gas, which would reduce costs for developers but greatly increase energy bills for consumers. However, BEIS has recently announced that it is reconsidering the lowering of the carbon factor in the forthcoming version of SAP – SAP 10.

Alongside these considerations there is also a desire to make wider use of hydrogen and bioenergy. In relation to hydrogen, there is still work to be done on the safety aspects of converting the gas grid, a task that will be comparable to the change from coal gas to natural gas in the 1960s and 70s.

All of these issues have an impact on the heating industry, and heating companies such as Hamworthy have an important role to play in reducing greenhouse gas emissions. We will certainly see space heating and hot water systems served by a wider variety of heat sources and this needs to be paralleled by more sophisticated control than has historically been the case.

The BEIS document weighs in at 136 pages so there is much more detail available to those who want to find out more.

The message that comes through clearly, though, is that there will be significant investment in areas such as heat networks, hydrogen and bioenergy.

Find out more about ICOM at icom.org.uk



Ross Anderson
Director, ICOM

TURNING BUILDINGS INTO SAFE HAVENS

The UK's growing air quality crisis means proposed clean air laws are now urgent, says Giuseppe Borgese* – President-elect of the Building Engineering Services Association (BESA).

Air pollution is blamed for 40,000 premature deaths in the UK every year and almost half a million across Europe. It costs our economy upwards of £20 billion a year, largely due to the additional burden on the NHS.

Over 12 million people across the UK live with a lung condition and rising pollution makes their condition worse. Children are particularly vulnerable as their lungs are still developing. Living near a main road effectively means that a child is suffering the same effects as passively smoking 10 cigarettes a day.

Yet, while there have been plenty of high profile efforts to measure outside air pollutants – there has been less attention paid to what this means for the indoor environment. This is despite the fact that we spend more than 80% of our time inside buildings.

However, there are signs of change. Indoor air quality (IAQ) is mentioned 20 times in the new Clean Air Strategy recently published by the Department for Environment, Food and Rural Affairs (DEFRA), which highlights many sources of indoor air pollutants and plans to tackle them.

At the same time, a draft Clean Air Act to replace outdated legislation from the 1950s was put before the House of Lords last summer and is expected to be debated in Parliament later this year. This also makes explicit reference to IAQ and would give UK citizens the right to take legal action to protect their indoor environment from pollutants damaging to their health.

Emissions

The heating industry is already subject to legislation aimed at improving IAQ particularly in terms of reducing emissions of nitrogen oxides (NOx) from the process of combustion.

Since last September, all new commercial gas boilers and water heaters have

had to meet a maximum NOx emission level of 56mg/kWh in order to comply with the revised Energy related Products Directive (ErP). This applies to natural gas and LPG water heaters and new boilers up to and including 400kW on both new build and replacement projects.

As a piece of EU legislation that is already in force in the UK, it will continue after Brexit.

We have also seen the launch of the UK's first scrappage scheme for commercial boilers in London. SMEs will receive 30% towards the cost of installing a new high efficiency, low-NOx gas or LPG boiler and this figure can rise to 35% in areas where there is a particular air quality problem. The scheme 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% efficient and have NOx emissions of 40mg/kWh or less.

At BESA, our IAQ Group continues to promote guidance and best practice including ISO, CEN and BSI technical standards that will help us turn buildings into safe havens from external pollution to protect the health of occupants.

BESA member companies have a wide range of solutions to offer including filtration, but also other (mainly low cost) improvements, such as upgrading fans and basic maintenance tasks that can make a huge difference.

These can reduce health risks to building occupants while also improving the overall efficiency of the building services and significantly cutting running costs. Find out more at www.theBESA.com/iaq



Giuseppe Borgese
President, BESA

***Giuseppe Borgese is president-elect of the Building Engineering Services Association (BESA) and works for Apleona HSG Ltd.**

One
control
to rule
them all



Heat
network?

Short on
[space]?

Small
building?

Heating
refurb?



High heating demand

Purewell Variheat mk2

Cast iron reliability for seasoned pipes

- **Tolerant** of older heating systems
- New built-in boiler **sequence controls**
- Robust **cast iron** heat exchanger with **10-year** warranty
- Easy to **service and maintain**
- **High efficiency** condensing performance
- **70-180kW** output

Stratton mk2

The complete package for quick & easy installs

- **2.2m** to top of flue header
- **Integrated** flue gas non-return valve
- **Wall hung** boiler with pipework kit
- **Lightweight** stainless steel heat exchanger
- **Built-in** boiler sequence controls
- **43-146kW** output

Wessex ModuMax mk3

Built on tradition, designed for modern requirements

- **40°C** differential temperature
- **90°C** operating temperature
- **10 bar** pressure for high rise
- Corrosion-resistant **stainless steel** heat exchanger with 10-year warranty
- **Built-in** boiler sequence controls
- **97-762kW** output

Upton

Packing power and efficiency into small spaces

- **1MW output** from 1m² footprint
- Up to **15:1 turndown** ratio
- Highly efficient – **97% seasonal efficiency**
- Precision-engineered **aluminium** heat exchanger
- **Built-in** boiler sequence controls
- **98-1,047kW** output

Varmax

Simpler installs with no need for ancillary equipment

- **High and low** temperature return connections
- **Internal** circulation pump
- **Built-in** boiler sequence controls
- **Wide** differential temperature
- Corrosion-resistant **stainless steel** heat exchanger
- **127-478kW** output (956kW dual)

There's a Hamworthy boiler for that.

THE WAIT IS OVER

We are pleased to announce a full list of Hamworthy boiler training courses for 2019. Get hands-on with our products at one of our training centres in Wokingham, Northolt and Leeds. A full day's training with our engineers all for free.

Upcoming product training dates

Product	When	Where
Wessex ModuMax mk3 boiler	23 May, 30 July	Wokingham
	30 May, 13 August	Leeds
	5 June	Northolt
Stratton mk2 wall hung boiler	4 June	Wokingham
	19 June	Leeds
Purewell Variheat mk2 boiler	27 June, 16 July	Leeds
	2 July	Wokingham

Book your place now

hamworthy-heating.com/boiler-training-dates

IT'S HERE – AND BETTER

We've launched the new version of our most popular boiler for refurbishments: The Purewell Variheat mk2. Improvements include controls, ignition and easier servicing while the cast iron heat exchanger at its core remains the same.

Because pictures speak more than a thousand words, we have produced an animation and a customer experience video for you.

Watch both at hamworthy-heating.com/videos



MEET OUR NEWCOMERS

Our customers are at the heart of what we do. That's why we're keen on not only providing quality products but also expert technical advice. To stay at the top of our game, we've hired:

Barrie Welsh (new role)

- Technical sales manager
- Experienced with all sizes of machinery – from steam equipment up to large space heating and industrial process plants
- Supports our sales team out in the field with in-depth technical knowledge

Jason Crowne (new role)

- Technical applications engineer
- Supports our technical team in the office to answer customer queries
- Almost 20 years' experience in the gas industry

Chris Barrett (new area role)

- Area sales manager
- Over 40 years' experience in the heating industry, producing and delivering CPD seminars covering LTHW and MTHW heating systems

Gary Banham

- Area sales manager
- Water hygiene expert with 20 years' experience in the industry who enjoys working with the CIBSE Young Engineers Network and the Society of Public Health Engineers

Simon Dobson

- Area sales manager
- Qualified engineer with 20 years' experience in the industry, mainly working for contractors on all sizes of heating systems

Terry Simmonds

- Area sales manager
- Nearly 30 years' experience in the sector
- Has worked for many well-known boiler and water heating manufacturers in the industry

Find your local contact

hamworthy-heating.com/sales-manager



Barrie Welsh



Jason Crowne



Chris Barrett



Gary Banham



Simon Dobson



Terry Simmonds

ON THE ROAD AGAIN

Following last year's success of the Stainless Family Roadshow, our van has undergone a makeover. With a solution for every building, we want to take our boilers and water heaters right to your doorstep.

By booking our van, you can learn more about

- our robust Purewell Variheat mk2 cast iron condensing boiler – a favourite for old heating systems
- the powerful Upton boiler for 1MW output from 1m² footprint – the perfect choice for city centres
- the Stratton mk2 stainless steel wall hung boiler – ideal for smaller commercial buildings
- the Dorchester DR-CC compact condensing water heater – a snug fit for small spaces

... and all you need to know about boiler controls.



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Boiling Point



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Heating **at work.**