THE VOICE OF THE HVACR INDUSTRY

FETA magazine

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From the Chief's desk

by Russell Beattie,
Chief Executive FETA

As I look back on just over a year in post, I trust I can be forgiven for noting that change has been a dominant feature. Both within the FETA team and, equally within the environment in which our Associations and their members operate there have been a number of factors worthy of note. We have said farewell to three experienced members of staff and welcomed their successors. As Teresa, Rebecca and Martyn settle in we look to gain the benefits of their different experiences and enthusiasm to raise our standards in terms of member support.

There has been a significant amount of turbulence in the political arena in the past period, what with the Scottish Referendum, an unexpected majority Government and unforeseen developments in the leadership of the main opposition. It is of course the policies any in-place government which have the most immediate impact on any industry and we are already seeing issues emerging.

There is a certain irony that the new Government's decisiveness in terms of the likes of the Green Deal has led to indecision in terms of investment and innovation. In areas of such complexity, it is often not unusual to have well intentioned, theoretically appealing visions and policies which do not fare so well once exposed to the hurdles of practicality. The Government has pledged to consult with industry to make better policies in the future and we should rise to that challenge. US politician Donald Rumsfeld once ruminated on the theme of "known knowns, known unknowns, unknown ....etc" : as regards the nascent UK policies on the environment and associated regulations one could wonder if we are embarking on a similar theme of "certain certainties, uncertain certainties, uncertain uncertainties etc...." .

The pace of EU regulatory change continues to provide challenges and the need to work with international lobby groups and our own national authorities is important. To that end, the FETA Board has decided to join the European Ventilation Industry Association (EVIA) and arrangements are being put in place.

It is a moot point whether our sector is unique, within manufacturing, in terms of how it is affected by Europe. Nevertheless, through our work with the CBI we will ensure our views on such subjects as EcoDesign are heard.

I believe we are making progress in improving the synergies across the FETA Associations and linked to that is the policy that we should be more active in our outward facing PR efforts. I look forward to working with the various groups across FETA to achieve these aims.

Keeping up the good work

by Graham Wright, FETA Chairman and HEVAC President

Since the last issue of the FETA Magazine there has been a great deal of change – both within the FETA organisation, and in the wider market in which our member associations operate. Within FETA, we have seen two stalwart members of staff retire. Commercial manager Terry Seward retired after 14 years of service, and administration assistant Rosie Pearce after 22 years of service. They have been replaced by Martyn Cooper and Teresa Osborne respectively, who joined the FETA team in May. Then June saw Caroline Sloan leave to take up a post with the MOD, and she has been replaced by Rebecca Joyce as our new secretariat support manager. The new team is settling in well, and looking forward to carrying on FETA's good work.

One of the main roles of the federation is to keep members updated with the changes and issues that affect the development of their industries as now, more than ever, the landscape for all of the associations is rapidly changing, both in terms of technological advances and legislative movements by the Government and the European Union

Following the General Election in May, the Government has been quick to set out its environmental agenda in the form of the removal of some of the incentives, schemes and initiatives associated with renewable energy. However, there is a fear within the construction industry that the building regulations themselves will stagnate with a recent announcement that the regulations won't be amended or changed until 2020. The 2013 changes to Part L of the building regulations and the various clean air ventilation requirements, building tightness specifications, and fire resistant duct work, although welcome, will be the last changes the industry is likely to see to the regulations, possibly stunting the environmental and sustainable progress that the construction sector has made in recent years.

The Government also recently scrapped the zero-carbon homes initiative and the Green Deal and reduced solar and wind subsidies. As a bridge between Government and the industry, FETA needs to make sure it works with other relevant bodies and the Government to gain assurances that other initiatives such as the Renewable Heat Incentive will remain or even be modified to ensure they are even more effective for their industries.

Additionally, FETA has an important role to play in ensuring current industry standards are maintained and that new standards are communicated and introduced appropriately. For example, from 26 September 2015, the Ecodesign of Energy-related Products Directive (ErP) will apply to space heaters, water heaters and combination heaters with a rated output of up to and including 400kW, plus water tanks with a storage volume of up to 2,000 litres. These products will have to meet minimum requirements for energy efficiency and maximum sound power levels, or be banned from use. These changes will have a significant impact on installers and contractors as well which is an area that we must ensure is communicated down the supply chain.

Products and packages (e.g. a system comprising an air-to-water heat pump, temperature controller and solar thermal system) with capacities up to and including 70kW will also be required to display an energy label under the Energy Labelling Directive, which comes into force on the same day.

The Federation continues to focus on increasing the quality of training for people to enter the associated professions.

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In a survey conducted by the Institution of Engineering and Technology (IET) it was discovered that 76% of companies are struggling to recruit senior engineers with enough work experience. This is indicative of the HVAC industry in particular, which has suffered from a severe skills shortage for years.

Firstly, it is important to look at the immediate requirement to train a new generation of engineers but this means that the Government has to drastically alter its approach to apprenticeships and education in trade skills. According to Engineering UK, the UK requires around 107,000 new graduates each year to plug the skills gap.

However, only 82,000 graduates emerged in 2013, which suggest the shortfall will continue to affect our engineering-focused industries.

Additionally, there is a demand for roughly 69,000 people qualified at advanced apprenticeship or equivalent level each year, but only 38,950 people each year begin engineering related apprenticeships. In this area, FETA (and particularly ADCAS) have been closely involved in the Trailblazer scheme.

With this in mind, we all have to work together to promote apprenticeships in engineering trades for education leavers and provide them with continued professional development throughout their careers.

FETA has been supporting the Cool Science scheme, via the BRA, and this was recognised recently when Cool Science won the coveted Gold Award at the RAC Cooling Industry Awards.

Russell Beattie has also attended the Big Bang Fair on behalf of FETA. The Big Bang is the largest celebration of science, technology, engineering and mathematics for young people in the UK.

Everything is aimed at showing young people (primarily aged 7-19) how many exciting and rewarding opportunities there are with the right experience and qualifications.

Finally, FETA continues to assist members by communicating the need to understand the F Gas regulation and European phase-down and in some cases the phase out of HFCs, which will see their use reduced to 21% of baseline levels by 2030.

The phase down has already begun in earnest, with the market now operating under quotas ,and also seeing the final demise of R22.

What is clear though is that industry cannot sit down and wait for deadlines to arrive as it has done in the past. It must take a proactive approach to the regulation, and FETA can aid this by helping contractors and end users alike to understand how they can comply with the regulation cost effectively. The BRA has contributed to this with its recently published report on Putting into Use of Replacement Refrigerants (PURR) – more on this from Mike Lawrence later in the magazine (Pg 5)

FETA remains well equipped and ready to talk its members through the implications and choices that all of these challenges bring in the future.

Flexibility will lead to more opportunities

by Malcolm Moss, Association of Ductwork Contractors and Allied Services President

The year 2015 has not worked out exactly as predicted. Overall, the UK construction market has seen an improvement on 2014, but without doubt growth is more regional than ever. Clearly the increased level of tower cranes in and around London is a very pleasing sight, but the same cannot be said for other parts of the UK, where work is not so plentiful.

ADCAS members may need to be more flexible about where they work if they are to maximise the opportunities that are currently available, but will also need to be very diligent to ensure they fully understand what they are taking on. As an Association we need to try to assist the members in any way possible.

ADCAS continues to try to raise the profile of the ductwork industry so that it is recognised as an integral part of the construction industry, but members must also take an active role in raising the industry's profile.

Training for the future is essential for our industry and continues to be ignored by all but a few and deemed an expense that is not affordable. The fact is that without that investment, businesses are set to fail. In 2015 ADCAS has been actively working with the B&ES Ductwork Group, pulling together the Trailablazers Apprenticeship for the ductwork industry. This will continue in 2016 and we believe this work is invaluable for the future of the industry.

Ensuring that the association's aims are aligned with the needs of membership is an increasing challenge and active participation by the membership is essential. The Executive actively encourages more members to get involved and help drive the association forward. Any member who wishes to do so should contact Russell Beattie.

As an Executive, we recognise that even in improving market conditions we need to encourage membership of ADCAS, so once again membership fees are frozen for a further year in 2016.

The NSCC (National Specialist Contractors Council) which represented over 30 trade associations involved in specialist trades within the construction sector, including ADCAS, merged in September with the UKCG (UK Construction Group). This new organisation is known as Build UK, and should be in an even greater position to raise our industry's profile. We also hope that Build UK will force discussion and action on the major issues facing our members such as training, skill cards and of course, retentions. It is too early to see the impact of the merger, but as an Executive we will be monitoring this new organisation and doing our utmost to ensure that it continues to work for its members in the way the NSCC did in the past.

ADCAS' continued collaboration with the B&ES Ductwork Group on matters of common interest continued with the work on Trailblazers Apprenticeships and is expected to continue in the future.

The updated version of DW144 is now in use and overall the specification has been universally adopted. It is essential that our members fully understand the changes from the original and the impact on their business. There are areas within the DW144 specification which could benefit from clarification for our members, and we will be addressing these in the coming months.

Russell Beattie is now FETA Chief Executive, and he continues the good work of his predecessor. Russell has managed an almost complete change of personnel at the Federation, but FETA is now well placed for the challenges ahead. The ADCAS Executive is confident that FETA will take an even greater role in the development of the HVAC market and we look forward to ADCAS benefitting from their continued success.

The year 2015 saw some improvement over 2014, and this is expected to continue into 2016. However, the regional nature of market improvements means that the role of a national trade association is even more important. As the independent voice of the ductwork industry, ADCAS will continue to do its utmost for our members.

Collaborating to seize our opportunities

by Steve Harrison, Building Controls Industry Association President

The building controls sector continues to be healthy and the BCIA's market information service shows that growth is picking up. It is particularly heartening to note that BCIA member companies as a group out-perform the rest of the sector. We feel this is because those who join the BCIA do so because they have a view on the wider issues of our sector, and want to be kept up to date with the opportunities – and challenges – that we are facing.

Building controls are very much influenced by developments in technology. Like the IT sector, controls companies are getting to grips with the potential of the Internet of Things, cloud computing and Big Data. These are hot topics for our members, and we have seen the development of some groundbreaking products and services from our membership. As always, the association looks forward to the BCIA Awards, which opened for entries in October 2015, where innovative products and projects are showcased each year.

The proliferation of data on building performance available from controls and building energy management systems (BEMS) means that FMs and building managers have a lot of work to do in order to transform it into actionable information. This provides opportunities for our sector.

The focus for building controls companies is to help clients gather, collate and visualise information in order to help them optimise the performance of their buildings. This doesn't simply mean reducing energy waste, but also supporting good maintenance practice and identifying opportunities for further energy-saving projects in the long-term.

This theme of the operational efficiency of buildings is the central focus of the Building Services Summit. This is an event organised by the BCIA along with other leading associations and groups in the construction industry including the B&ES and ECA. By working alongside other membership organisations, we are creating an event that is very much for the industry by the industry.

The Summit will take place at the British Library in November 2016, and throughout the next 12 months, the BCIA will be promoting discussion about building efficiency alongside its partners for the conference – encouraging manufacturers, installers, engineers and building managers to consider what's required to make buildings work better than they do.

The timing of the Building Services Summit is deliberate. From the end of 2016, building owners and managers will have around one year left to ensure their buildings comply with the new rules on EPC ratings. From January 2018 it will be illegal to rent or sell a building with an EPC rating of less than an E. Given that around 20% of buildings fall into these categories, there is clearly a lot of work to be done improving energy performance.

With this sort of opportunity facing the controls sector, the BCIA is aware that it also has a responsibility to ensure that the skills of our engineers are up to the job. Because of this we have been concentrating on ensuring our BEMS NVQ is up to date and that the Building Controls Professional Assessment (BCPA) is something that everyone in our industry can take to demonstrate their know-how and skill. The association has been working alongside the ECS to introduce a new Gold Card that will display the BCPA logo – only available to those who pass the rigorous assessment.

Our aim is for the BCIA to continue to grow its membership. We have found that it is only by working together that we can make positive changes in our sector.

Government increasingly wants industry to take responsibility for areas such as training, for example through Trailblazer apprenticeships. Trade associations are ideally placed to meet this sort of challenge.

Although the BCIA has a number of large corporate members, the majority of our membership is made up of small and medium enterprises. When businesses of all sizes work together they make up a truly representative organisation; one which can impact successfully on legislation and engage with other parts of the construction sector to create opportunities for growth.

Pursuing modern, safe flues & chimneys

by Robert Burke, British Flue and Chimney Manufacturers' Association President

The past 12 months has seen a great deal of activity with the members of BFCMA again becoming active in many fields that affect the flue and chimney industry. Over the past decade the emphasis of the chimney industry has been concentrated on the development of systems suited to solid fuel, and more specifically the biomass appliance sector as this has seen the most growth. The range of product now available to serve the emerging biomass market has become fairly mature with offerings ranging from traditional custom built chimneys based on clay, concrete or pumice flue liners. However, now there are smaller diameter options available, together with system chimneys in these materials that include the provision of a separate air supply duct. At the other end of the spectrum the industry provides a comprehensive range of custom-built and system chimney products in stainless steel that offer a quicker build or more convenient refurbishment option.

Prior to the emergence of biomass appliances the BFCMA concentrated on supplying the gas sector however, over the past few years the gas fire market has seen a decline almost commensurate to the rise in wood burning appliances. The gas boiler market is still very active in the UK, however boilers are nearly always offered with an integral chimney. Over the past year work on gas standards has been invigorated by members who realised the gas boiler chimney market to date has been monopolised by gas appliance manufacturers who insist on only their specific chimney being fitted to their appliance. Even though chimneys designed to general chimney standards are being more robustly tested in accordance with the Combustion Products Regulations and will most likely offer a greater range of chimney options than the appliance specific chimney, it has long been an issue to open this market to the general chimney product manufacturer.

The flexibility of a generally available set of chimney components suitable for gas boilers means that the location of the condensate plume that is created at the gas exhaust terminal can more easily be moved to a place where it becomes less of a problem to surrounding buildings. A new drive is therefore under way to make sure all relevant information is supplied with a gas boiler to allow the gas installer to choose the most appropriate chimney solution.

Further to the considerable work that is being carried out in the pursuit of modern, safe and reliable product standards the BFCMA has also been active in updating many of the publicly available chimney guidance documents. Recently launched on the www.bfcma.co.uk website is a new guidance document detailing considerations needed to be taken into account when considering a new biomass flue. The guidance not only covers the traditional domestic market but also contains a significant amount of information about chimneys used in commercial installations.

The BFCMA members remain committed to the development of both the commercial, domestic and industrial chimney sectors and continue to invest considerable time and resources to not only make sure the industry stays up to date with changes in modern building requirements, but also offers innovative solutions for expected future developments of appliance technology.

Join forces to tackle regulation

by Mike Lawrence, British Refrigeration Association President

Since I wrote this column last year, the significance of EU directives and regulations has become more obvious and intrusive. In this year the F-gas Regulation has effectively become law; and regulations about fans and display cabinets are close to being made law under the Ecodesign Directive. This means that the interfaces between BRA/FETA, the relevant parts of the UK government and the various Brussels lobbying, representative and law making bodies need to be substantially strengthened.

We have responded to the fans issues in a timely and professional manner – being active in the development of the regulation. We have member companies who are part of European wide groups and their have presence in Brussels has made our ability to act in this way much easier. From a parochial point of view, I have to admit this good work has mainly been done in the context of HEVAC rather than BRA or any of the other associations.

We were involved in the development of the F-gas Regulation through the five years or so of its development. Towards the end the labour, we managed to negotiate, in conjunction with others, an acceptable outcome. The main actors in this prolonged campaign were our previous Director General, Cedric Sloan, and Mike Nankivell from HEVAC. The work was done through EPEE (the lobby group in Brussels, of which we are a member), ACRIB (the integrating group of Trade Associations and Professional Bodies in our industries) and the relevant parts of the British Civil Service (DEFRA and DECC).

The F-gas Regulation matter has now moved on to implementation of it and, in particular, to the ban of R404A and the phase-down of HFCs. BRA has been active on this matter and an Action Group of 45 members has produced a report "Putting into Use Replacement Refrigerants (PURR)". This report, which was launched to the Trade Press in September, has been very well received. A summary of it is given elsewhere in this magazine and the full report is available on the FETA website.

As well as the fan issue under the Ecodesign Directive, there is another product group which we are having to address. This is Display Cabinets. But, before I go into that, I am going to outline the Operation of the Ecodesign Directive in general and the width of its potential coverage.

There are 41 product areas that the EU has passed Regulations on, or is in the process of doing so under the Ecodesign Directive. Vigilance is required because new products, called "Lots" in Brussels speak, can appear and existing ones can be revisited with a view to tightening up the requirements of the Directive. When the European Commission decides that it thinks there is a case for regulating a category of product (a new "lot"), it appoints a consultancy to study the matter both technically and market wise. The study takes 18 months to two years. A report is then issued. Companies then have three weeks consultation period. After that, it is only organisation of companies – like EPEE and, unfortunately, the NGOs that can discuss the proposals with the Commission. The system moves inexorably to the regulation becoming law. It follows that to have an effect to make the regulation acceptable to companies, lobbying and discussion with the appointed consultant during the study period is the best course. The period of three weeks consultation after the report is published tends to be too short for effective action to be mounted, so the next real opportunity is to work through EPEE or an equivalent body.

Having outlined the theory of the Ecodesign system, I now have to say that, in the case of Display Cabinets, we have managed to side step the system. A body called CLASP has been talking to the Commission, presumably under the banner of an interested group of companies/organizations. Despite coming to the matter late, in contradiction to the system, we have had meetings where members of the End User Group and the Cabinet and Cold Store Section have met together with the person writing the CLASP analysis, which seems to be pretty well what the EU will enact. As a result it does appear that the regulation is likely to be reasonably acceptable. [As many of the more recent regulations do, there will be steps in the required efficiency over time – i.e. the acceptable efficiency performance will become higher in steps at, probably, two-year intervals. In due course, it is likely that the only way that many cabinets will satisfy the requirements (which is performance in a defined standardised test is to have doors on them).

The Cabinet and Cold Store Section and the End User Section are in discussion about the possibility of having one test for each new cabinet that would be acceptable to all the end users. At present each End User has its own defined test. These have grown as a result of particular experience of the different users to differ slightly from one another. It is important to note that these user tests try to reproduce the "in operation in store" performance of the cabinets. This differs from the conditions defined for the Ecodesign standards for the regulation tests.]

Training has also been a matter that has had a lot of discussion and work during the year. I am delighted to say that the industry has succeeded in winning Pathfinder Apprenticeship Approval and Funding. This gives the industry the control; and responsibility for defining the syllabus and the acceptable levels for the tests which the people on it must attain. (In the past, this has not been so. This has resulted in industry unhappiness at the relevant knowledge level of the people completing their training.)

It is clear to me that the direction of travel is toward more and more regulation being Europe wide and emanating from Brussels. To deal with this, we need to link more and deeper with European Groups – EPEE and the like lobby groups based in Brussels, ACRIB and DEFRA and DECC. In the case of the latter two mainly because of the influence they have on the European Council. The regulatory demands on our industry are increasing in areas that have not been regulated in the past. We need to make sure that we keep up with the changes/increases.

New government policies impact on HPA

by Mike Nankivell, Heat Pump Association President

It has been an extraordinarily busy year thus far and it will not have escaped your attention that we have a new government! This has also bought about a number of policy announcements that indirectly impact on the activities and indeed the objectives of the Heat Pump Association.

Perhaps the most widely publicised policy change in our trade press was the government's decision to withdraw from Green Deal funding. Some time prior to the election, the HPA wrote to DECC and Amber Rudd with a number of suggestions for improving the scheme in terms of a more even share for technologies and increased uptake. A primary suggestion was a complete disconnect between the RHI and the Green Deal, specifically the need for a GD Assessment as pre-requisite for RHI funding was identified as a significant barrier to uptake of technologies including heat pumps. Whether or not the funding announcement will produce wider change and ideally a removal of this link as requested remains to be seen.

At the time of writing we anticipate learning more about the RHI policy changes at our next meeting of the RHI Industry Advisory Group with DECC, which we regularly attend every other month or so. We also hope to get a better insight into the likely changes to coming out of the spending review (for which we made a submission). In particular, we are of course concerned about the very future of the RHI given the speculation that this could face cut-backs.

All year, certainly up to the election, we had been working with DECC to develop proposals to improve the RHI and the deployment of heat pumps. This also involved a close working relationship with MCS and Ofgem. We also prepared 2 RHI Policy Guidance documents - Domestic RHI and Non-domestic RHI, aimed at reaching the minister responsible for DECC under the incoming government. It is perhaps too early in the new administration to know how this was received, but again, it is possible we may learn more at the next RHI IAG. We have also requested a formal meeting with the minister. We have also engaged with other Trade organisations in an attempt to increase the emphasis of important points and produce a common consensus.

We have found ourselves forming closer ties with the European Heat Pump Association (EHPA) and were represented at their AGM and technical Forum in May. It was at this event that we learned of a new proposal for a Pan European quality label for heat pumps under the "Keymark" brand.

We have welcomed the initiative but have expressed the view that such a scheme must be seen to be robust and not fall short of the standards we have worked hard to develop with MCS. We look forward to learning more about the scheme as it develops. In addition we have engaged with the EHPA on the scope of the proposed revisions to Energy labelling and in particular the band widths and upper/lower thresholds.

We also became involved in early discussions regarding Building Regulations and in particular, trying to secure more representative methodology in SAP as well as harmonising MCS with SAP in terms of the ErP Directive. In addition we have engaged with government departments to try to tackle some of the disparities in the Planning process, particularly around Permitted Development Rights and noise calculations.

It has not all been about the RHI and ErP, we have had meetings with the Carbon Trust in relation to determining heat pump technologies that may qualify for Enhanced Capital Allowances. We have been monitoring the situation regarding the UK's reduced rate VAT for Energy Saving Materials since the European Court ruling that this was illegal and trying to establish if and when the current 5% VAT on residential heat pump installations might come to an end.

We also sit on industry advisory sub groups looking specifically at heat pump installation training standards, especially for the experienced worker route.

Finally we have been actively promoting the HPA through support agreements for such events as the Heating and Renewables Roadshows, the Ground Energy Expo, The Energy Event and Energy Now. We write articles for trade media such as Heat Pumps Today and operate a 'Heat Pump Group UK' on LinkedIN. We also engage with other trade associations in joint initiatives.

We do our best to keep our website up to date with the latest news and views so please make sure you have www.heatpumps.org.uk added to you "favourites".

Our biggest challenge for the future is to ensure we do not spread ourselves too thinly with all the activities we undertake on behalf of our members.

Spotlight on training standards and F-Gas

by Miriam Rodway, Air Conditioning & Refrigeration Industry Board Secretary

The Air Conditioning and Refrigeration Industry Board has focused primarily in co-ordinating the industry in two critically important areas this year:
a) Training standards for technicians
b) Implementation of the revised F Gas Regulations.

Technician training standards

The BRA held a workshop a few years ago to review the crisis in training standards related to new entrants and apprenticeship. The outcomes of this forum of employers and trainers clearly pointed to the need for a new more rigorous approach to qualifications that focused on fundamental principles related directly to refrigeration and air conditioning practice. In the last 12 months ACRIB has helped co-ordinate the work of the relevant trade associations and professional institutes in this area. This involved encouraging employers drawn from the BRA and B&ES to work together on developing a completely new "Trailblazer Apprenticeship" standard and assessment plan, supported by professional bodies The Institute of Refrigeration and CIBSE, both of which are ACRIB member organisations. The new Trailblazer Apprenticeship, was designed to "put employers in the driving seat" of apprenticeship standards according to the Department for Business Innovation and Skills (BIS) and Skills Funding Agency. The employer group for our sector was led by John Austin-Davies of George Barker/Epta Group and included a range of large and small employers: Enigma Environmental Services Ltd, GEA Refrigeration, Integral UK Ltd, Mitsubishi Electric Living Environmental Systems, Star Refrigeration, Space Engineering Services, Carter Synergy, Adcock Refrigeration and Air conditioning, Epta Group and Daikin Airconditioning UK Ltd. Further input on drafts and consultation was gained from end users, training providers and a wider range of interested employers over a 12-month consultation period on standards and plans. Trade press also helped keep industry informed and involved as the new standards were developed.

The new RACHP Engineering Technician Apprenticeship was approved in September this year and is due to start taking registrations for next year. At the moment, assessment organisations such as City & Guilds are working on preparing a new independent end point assessment process, where evidence of the skills of every new apprentice is reviewed independently by an industry panel. Qualifications which will underpin on programme learning are also under development. It is expected that training providers and colleges will want to offer the new apprenticeship from September 2016. ACRIB will be working with providers and assessment organisations to put together supporting material and raise awareness in the sector of the changes in how the apprenticeships will be awarded in future. For more information on details and progress or if you want to register for updates and consultations see www.ior.org.uk/trailblazer

Implementation of F Gas Regulation changes

In late 2014 the Commission approved the new European Regulation and many of the new requirements came in from January 2015. These were written into UK statutes in February 2015. ACRIB has carefully monitored the impact of the original regulation and awareness levels of the requirements, which were very high in the UK. It has responded to various EU and UK consultations on behalf of the sector. Nevertheless some of the changes in the new regulation, such

as leak check frequency by carbon dioxide equivalent instead of refrigerant volume, the complex application based bans and extension of requirements to the transport sector, needed further guidance and explanation. ACRIB was pleased to work closely with DEFRA, the UK Government officials to raise industry questions and discuss the impact. ACRIB member organisations which include the Food Storage and Distribution Federation and Cambridge Refrigeration Technology who represent those in transport, were key to industry dissemination activities in the newly affected sectors. A successful conference, co-sponsored by FETA, was held in November last year which highlighted new guidance from the Environment Agency, technical experts such as Ray Gluckman, and Institute of Refrigeration.

It attracted record numbers of attendees, with a lot of smaller contractors taking part thanks to promotional efforts of the REFCOM F Gas Register.

The ACRIB website at www.acrib.org.uk remains a useful source of information from all ACRIB member organisations and the Commission. Recent additions to the ACRIB F-Gas pages have included the BRA PURR Report, EC Summary Guide for Contracts, IOR REAL Alternatives Guidance and ACRIB quick calculator on CO2 e thresholds.

We are also pleased to report a surge in registrations on the voluntary ACRIB F-Gas Register over the past 12 months. The ACRIB F-Gas Register is part of CSCS Engineering Skillcard System and contractors have been encouraging staff to renew their CSCS card on to this RACHP sector specific Skillcard option (www.acrib.org.uk/acrib-skillcard). This industry and end user supported scheme provides an identification card used by individuals to confirm their F-Gas Certification details to employers and customers. This may well be linked to the new requirement for companies to confirm their certification when purchasing refrigerant.

ACRIB priorities for next year will include promotion of the new apprenticeship schemes and investigating how this can be used to encourage existing workforce to enhance their skills by its Education Committee. Through its Technical Committee ACRIB will be working with member organisations to raise awareness of the wide range of legislation, regulation and standards that can impact their operations such as changes to the EN Refrigeration Safety Standard expected in 2016.

FETA representatives on the ACRIB Board are Russell Beattie, Graeme Wright and John Skelton.

'In the past 12 months ACRIB has helped to encourage employers drawn from the BRA and B&ES to work together on developing a new Trailblazer Apprenticeship standard and assessment plan.'

An industry that makes life better

by Stephen Yurek, Air Conditioning, Heating and Refrigeration Institute President

No industry touches the lives of people every day and in every way more than the HVACR and water heating industry. From our morning shower, safely refrigerated foods and medicines, to the perfect temperature in our bedrooms at night, our industry is there – for comfort, for safety, and for productivity. Our industry makes lives better. For this reason, we take our work at the Air Conditioning, Heating, and Refrigeration Institute (AHRI) very seriously.

While the products and equipment our member companies make provide comfort, increase productivity, keep foods and medicines safe, and heat our water, they also use energy and impact our environment. Energy use and environmental stewardship are, therefore, an important component of our work.

For decades, our industry has been committed to increasing the energy efficiency of the products we make, while reducing their footprint on the environment. The efficiency of the products AHRI members manufacture has steadily increased as a result of our commitment to research and development so that, today, consumers across the globe have a wide range of efficiency choices – many of which far exceed efficiency standards set by their governments.

AHRI member companies are always doing their own research, innovating new products and equipment, and searching for their own solutions, because being market-driven means staying ahead of the competition and providing solutions for their customers. At the same time, AHRI closely monitors the marketplace and regulations that impact manufacturers. Regulations with respect to refrigerant use are just the tip of the iceberg – although a very important one – because we also have minimum energy performance standards, or MEPS, in many different areas of the globe, including places like the Middle East where they have not previously existed. In Europe, our member companies are heavily involved in the regulation of fluorinated gases, or F-gases, as this part of the world has moved to regulate the use of these compounds. Nations the world over are actively pursuing technologies that deliver the required comfort while using less energy.

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One of the ways AHRI addresses regulations is to support the industry with valuable and necessary research. In the 1990s, we spearheaded the Alternative Refrigerants Evaluation Program to research potential alternatives to hydrochlorofluorocarbons, or HCFCs – research that resulted in hydrofluorocarbons, or HFCs, which are in widespread use today. This was done in response to the phase-out of ozone depleting substances under the Montreal Protocol. And now we are hosting a similar – and even larger – research initiative to find more environmentally friendly alternatives to high global warming potential refrigerants. Now in its fourth year, the Low Global Warming Potential Alternative Refrigerants Evaluation Program, or Low GWP AREP, for short, is testing 15 new low-GWP refrigerant candidates. The reports from this research will be shared at a conference held one day before the ASHRAE Winter Conference in Orlando, Florida, on January 21, 2016.

Unfortunately, we learned a long time ago that no magic replacement exists for HFCs – it is not just a matter of swapping out one for another. There are tradeoffs that must be considered with respect to availability, cost, efficiency, and other considerations. That is why we have always believed that decisions regarding which alternatives to use for each application cannot involve just the GWP of that particular refrigerant. The choices must also take into account the lifecycle cost performance of each refrigerant, so as to avoid such unintended consequences as when a refrigerant has a low-GWP, but is less efficient, resulting in a higher use of energy derived from power plants that emit greenhouse gases.

There are other issues, as well.

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Some of the proposed alternatives are at least mildly flammable, or classified as 2L refrigerants per ASHRAE Standard 34. In the United States, as in some other parts of the world, use of these refrigerants is restricted by building codes. That means that research into how to use these refrigerants safely must also be undertaken as part of the overall effort to find alternatives to HFCs.

To help this along, AHRI established a Flammable Refrigerants Subcommittee that will determine gaps in existing flammable refrigerant research and develop a roadmap with priorities and a timeline for how to complete the necessary research toward the safe use of flammable refrigerants. Through this effort, the subcommittee hopes to understand the comparative risk of using 2L refrigerants with those in use today, and to deliver scientific findings to support code and standard activities related to the use of flammable refrigerants. The aim is to provide information to allow the code committees to make informed decisions about these very important issues. AHRI will work closely with relevant technical committees and organisations in the U.S. and abroad as we move forward.

AHRI has also joined with UNEP to develop a Refrigerant Drivers License (RDL) that will ensure technicians in the field and anyone handling refrigerants has the basic knowledge of the characteristics of the that refrigerant, what applications it can be used in, what material and components it can be used with, and how it should be handled during the servicing or installation of equipment using the refrigerant.

Working together as a global industry, not as individual countries or regions, will allow us to continue to grow to meet the needs of the environment and people around the world.

No time for waiting – act now

by Per Jonasson, Air Conditioning and Refrigeration Europe Association President

The new F-gas regulation No 517/2014 was adopted in April 2014 and came into force on 1 January 2015. The decision to ratify the regulation was a good decision. Good for the end user, good for the contractor, but mostly good for the environment.

The new regulation will have a great influence on the whole RACHP industry for many years to come. As it is formulated, it actually will have a bigger impact on common people than was the case when phasing out the CFCs in the 80s and 90s. This time anyone who gets in contact with the heat pumping technology will be affected. All from large industries and offices to small restaurant and supermarket owners. Well known best practices, refrigerants and system solutions will be challenged and will have to change or develop.

In the regulation are several dates specified for bans entering into force, many of them starting on the 1 January 2020 and onward. So far these dates have created a false safety feeling for many that nothing will happen before 2020. Unfortunately nothing could be more wrong.

The steep phase down schedule that is set for the use of high and moderate GWP refrigerants will force the RACHP industry to transform its business towards low or zero GWP refrigerants much faster than the ban dates stipulate. And, when adding the supplier quotas to the phase down schedule it becomes even more obvious that a shift in the use of refrigerants have to happen now. In the figure below is a summary of what to be expected for the refrigerant manufacturers.

Established undertakings will receive a quota corresponding to 89% of its reference value.

The remaining 11% will be allocated to new undertakings.

From 1/1 2017 volumes coming from direct imported pre charged equipment will be included in the quota, corresponding to approx. 11% of the total volume.

As a result established undertakings will already in 2017 only be allowed to handle approximately

3/4 of their volume in CO2(eq) compared to 2015. And one year later has this figure goes down to only 50%.

Will undertakings comply with this harsh schedule?

According to information given by the European Commission (EC) 79 undertakings have been registered for a total volume of 182 Mton CO2(eq). Out of these 79 companies five of them represent approx. 80% of the total volume. For the remaining 11% no less than 334 new undertakings have been registered, giving them an average quota of only 60 kton CO2(eq) each. This means that the EC only need keep control of the "big five" in order to control the whole sector. The rest will be handled by the market itself. So yes, undertakings will comply to the quotas.

Some consequences are probably to be expected:

• Rapid shift in production from high GWP to low GWP refrigerants. Manufacturers will always priorities kg in favour for GWP. This will lead to price increase and most probably shortage in supply on high GWP refrigerants.

• Risk for "running out" of GWP. Every undertaking will have their quota to stick to. As a consequence some suppliers could face a shortage in GWP(eq) by the end of the year causing difficulties for contractors or end users to get access of refrigerants.

• New and new/old refrigerants such as low HFC, HFO and naturals will become more common.

• Component manufacturers and design engineers will have to rethink, and as a consequence new skills and competences will be needed.

Once again, the new F-gas regulation is a good decision, but it will have a great influence on the whole RACHP industry for years to come.

So, in order to come out in the very best way, these are the recommendations I would like to address with everyone working in the RACHP industry.

• Make no new installations with high-GWP refrigerants (i.e. R404A or R507). It is not illegal to do, but still a very bad decision.

• Make sure existing systems are tight and well maintained. No leakages – no problems.

• End users with high-GWP refrigerant systems should already now plan for replacement or conversion.

• Knowledge is key – see to that you and your staff assimilate new low GWP technologies - skill will always pay off.

• Don't wait – act now. 2018 was yesterday – 2020 is already here!

AREA, (Air-conditioning and Refrigeration European Association) voices the interests of 22 national associations from 19 European countries, representing more than 11,000 companies, employing some 125,000 people and with an annual turnover approaching EUR 23 billion.

An industry that's wholly fit for purpose

by Jim Marner, Building & Engineering Services Association President

In my inaugural address back in July of this year, I set out what I believe to be the principal items on the agenda for the year ahead – for the Association, for the sector and for the wider construction industry.

And I stressed the key role which the Building & Engineering Services Association must and does play in addressing the challenges of an increasingly demanding marketplace.

It is crucial, therefore, that it should provide the guidance, support and leadership required to ensure that the UK construction industry is wholly "fit for purpose" in the years and decades ahead – while simultaneously reducing its costs by 30% and still remaining profitable.

We live and work, after all, in an ever more globalised marketplace, in which initiative, innovation and continuous improvement are essential to our prosperity and survival – and in which fair dealing and security of payment are crucial to the strength and stability of the supply chain.

Indeed, it is surely the duty of any responsible industry organisation to establish and maintain quality, to promote co-operation, collaboration and teamwork, and to ensure that its members provide

the best possible service to their customers and clients.

In this context, one of the first duties of my presidential year was to confirm the appointment of Paul McLaughlin as our new chief executive – and, already, his broad commercial experience and his expertise in trade association management at the highest level is providing additional drive, energy and vigour to every aspect of the Association's activities.

Of course, those of you who know B&ES will hardly be surprised that many of these activities focus on commercial matters.

These include: the damaging effects of late payment; the elimination of waste from the procurement process; the maximisation of efficiency, competitiveness and "smarter working"; and the reintroduction into the supply chain of partnering arrangements, negotiated contracts, two-stage tendering, preferred supply chain agreements and guarantees of financial stability.

But they also address the growing importance of education and training at every level of the workforce in ensuring that we recruit and retain the required calibre, and the required number, of highly skilled and highly motivated individuals, who are fully capable of meeting the challenges of an increasingly complex industry.

Nor do they ignore the fierce debate that continues to surround energy efficiency, the reduction of carbon emissions from buildings and the creation of a genuinely sustainable built environment.

There has been some concern about the recent evidence of a potential weakening of resolve on the part of the UK government in its commitment to the creation of a low-carbon economy.

But, in spite of this, we remain absolute in our own commitment to the development of sustainable building services, to the integration of renewable and environmental technologies in buildings, and to the achievement of emission reduction targets that will place the UK in the vanguard of the environmental revolution.

During my 32 years in building engineering services, I have witnessed many changes in technology, in working practices, in procurement methods and in skill requirements – current examples being: the increasing use of BIM, and its positive impact on the tendering process; the rapid growth of offsite prefabrication; and the root-and-branch revision of training funding under the soon-to-be-introduced Trailblazer regime.

And I have no doubt that I shall witness as many more changes before the time comes for me to hang up my hard hat and my steel toe-capped boots.

But, as John F Kennedy so wisely put it – "change is the law of life, and those who look only to the past or present are certain to miss the future".

You may rest assured the Building & Engineering Services Association is able, willing and determined to manage the changes that the future will inevitably bring – so that neither its members, nor the industry at large, will miss out on the opportunities they will present to us all.

Revision of eco-design requirement for fans

by Geoff Lockwood, Chairman EVIA Fan Working Group

The European Commission will publish a revised regulation setting eco-design requirements for fans replacing the current regulation 327/2011 early next year. The revision complies with a legal requirement to review the regulation within four years of publication, investigate the reduction of the number of fan types and assess the reduction of exemptions. In addition its aim is to resolve the issue with Jet Fans. Not stated, but expected, is an increase in minimum energy efficiency levels.

From a fan industry perspective there is a need to clarify and resolve a number of problems seen in the current regulation.

The Fan working group of the European Ventilation Industry Association (EVIA) was formed in 2011 after publication of the fan regulation; a case of closing the stable door after the horse has bolted. The original study and creation of regulation 327/2001 dates back to 2006 when representation of the fan industry was fragmented across Europe. During that phase the Fan Manufacturer Association of HEVAC and FETA was very active and to some extent successful but, as it is a national association, lacked a seat in the most important Consultation Forum – a forum chaired by the Commission and attended by member state representatives and European stakeholders to listen to the proposals from the Commissions consultant and debate their proposal.

The lack of a Fan industry voice in that forum resulted in a regulation

with some issues and problems. The first activity of the EVIA Fan WG was the draft and publication in 2012 of a Guidance document to clarify those issues. Most of which was adopted by the Commission in its Frequently Asked Document.

The Fan WG then went on to produce a position paper stating the problems with the current regulation and proposals to resolve. This was published as a Joint Industry document in 2013.

This put EVIA as the main voice of the Fan Industry when the Commission started its review process in April 2014. As expected the consultant proposed increases to the minimum energy efficiency limits. But what was not expected was the rate of the increase.

EVIA built alliances with other trade associations and organized joint meetings and papers. EVIA lead most of the debates at the two stakeholder meetings and put forward robust technical and commercial arguments against the rate of increase. In most cases they were successful with sensible levels being proposed by the Consultant in the subsequent draft revision presented at the Consultation Forum.

This time the Fan industry was present at the Consultation Forum with a strong voice. Of the six problems publish in the Joint Industry document of 2013 five are solved in the proposed revision. Of the 15 problems highlighted by EVIA at the second stakeholders meeting 12 were successfully resolved with changes shown in the proposed draft revision.

However discussions at the Consolation Forum revealed other problems not previously known or appreciated; highlighting the importance of being actively involved and being present. EVIA fan WG has now published its response to the Consultation Forum addressing some issues and also published two new position papers covering Industrial Fans and high pressure/low volume fans.

The Industrial Fan problem highlights the issues with an industry consisting of mainly SMEs with little representation at a European level. The Commission and Consultant took note of the concerns raised by EVIA so it is hope these will the addressed in the final draft. This will be put to Member States for voting early next year.

EVIA work is not done. When the final draft is published it will be active in engaging individual member states to try to get pragmatic solutions to the few remaining problems.

EPEE has all bases covered

by Andrea Voight, European Partnership for Energy and the Environment Director General

Since the new European Commission took office last year, it has been accused of resting on its laurels, largely as a result of European Commission President Jean-Claude Juncker saying it will only be "big on the big things, small on the small things".

Well, if that's the case, then in the eyes of the Commission our industry must be considered "big"! After all, the autumn period is traditionally the busiest of the year, and 2015 is no exception.

Heating & cooling hots up

As EPEE, we are eagerly awaiting the Commission's first ever Strategy on Heating & Cooling, which will be published by the end of the year and will be a key milestone in the implementation of the EU's Energy Union.

We are ahead of the game, having already published our Position Paper which has been shared with European Commission officials, MEPs, and Member State governments. In it we call for four main principles to feature in the Strategy, namely

1. A holistic approach ensuring the effective use of energy
2. Consumer awareness and investments in energy efficient solutions
3. Enforcing existing EU legislation
4. An equal focus on heating AND cooling.

All eyes on Paris

But even before then, all eyes will be on Paris for the UN Climate Change Conference in December, where it is hoped that strict and binding targets will be agreed for the world's major emitting economies.

December 4 should be a date in your diaries, for this is when HFCs will be discussed. EPEE will be in attendance throughout and will be keeping a keen eye on how discussions progress.

Both the Heating & Cooling Strategy and the Paris meeting will hopefully lead to an increased use of renewables and improved energy efficiency – as well as the necessary policies to incentivise these changes in behaviour at both industry and consumer-level.

Heating and cooling technologies account for roughly half the EU's energy consumption – so any positive change here will go a long way towards meeting our targets.

There is much we can do. Buildings, for example, are a critical part of Europe's energy infrastructure – there is an EU consultation open now until end of October on the Energy Performance of Buildings Directive– and we have high hopes that the new proposal, due out next year, will be ambitious in terms of scope and targets.

More work on Energy Label

EPEE was however disappointed with the Commission's Energy Labelling proposal which was published before the summer.

In our view the proposal as it stands risks slowing down the uptake of energy efficient appliances, and we will be working hard to persuade decision-makers to preserve the effectiveness of the Energy Label by ensuring it helps consumers choose energy-efficient products and provides incentives for industry to invest in those products.

Sharing knowledge

Finally, we can have the best and most ambitious legislation in the world - but if we cannot enforce it in the EU, we are like a toothless tiger.

This is why EPEE and its members are taking the time to travel across Europe and inform our member associations about the need to adhere to EU legislation, particularly the F-Gas Regulation which, despite having been adopted over a year ago, is still a priority for our association.

With this in mind, we recently produced a video dedicated to the F-Gas phasedown, intended to be an easy-to-understand practical guide to one of the most critical elements of the Regulation.

Demand from across Europe means we will be translating this video into some key languages, further demonstrating the breadth of our industrial footprint across Europe.

It is clear that this will be a defining six months for our industry, but rest assured that EPEE has got all bases covered across Europe and will be doing our utmost to ensure that the interests of both our sector, and those of consumers, are not compromised.

Cuts and more cuts – what's the future?

by Julia Evans, BSRIA Chief Executive

The General Election in May, followed swiftly by the Labour Party leadership contest, heralded 2015 as a political "roller-coaster". For the construction industry, the ending of the role of Chief Construction Advisor, changes to the Construction Leadership Council and removal of the subsidies underpinning government environmental policy create a sense of uncertainty.

BSRIA responded to the inaugural speech made in July by Amber Rudd, Secretary of State for Energy & Climate Change, which focused on the ending of and reliance on subsidies for energy saving schemes. The Minister's speech argued that the removal of subsidy will strengthen the economy and a strong economy will respond to the carbon agenda. But the issue was the lack of stability in subsidy and without such stability industry can't plan for a 'green future'.

Rudd said that a pro-growth, pro-business climate is now bearing fruit. BSRIA asked: 'what fruit exactly? And how? More specifically how is this helping carbon reduction and energy efficiency'? Government policies will not lead to the low-carbon society they claim they want – they are destroying the UK renewables industry just at the point where it's almost competitive.

By that point, government had scrapped subsidies for onshore wind and commercial solar – the two cheapest forms of clean energy, slashed the energy efficiency budget, abolished rules on zero carbon housing, lowered taxes on polluting firms and introduced a tax on clean energy and closed the £540m Green Deal, along with energy-saving materials being singled out as no longer qualifying for reduced-rate VAT.

In the midst of the political backdrop BSRIA's White Paper on 'Achieving Carbon Targets' was launched, which asked: 'What does our industry need from government to deliver and achieve the carbon targets over the next 10 years'? The paper considered: the long-term strategy – stability; benchmarking; taking a holistic view and leglisation and regulation. It recommended that government can help and the main tools at its disposal are legislation, regulation, incentives and sponsorship. The paper brought to light that our industry will be aided through the establishment of clear policy, clear and uncomplicated legislation, and more regulation. However, there are currently too many different government departments dictating policy, therefore, industry supports the creation of a single government department with which it can interface. This will help to reduce contradiction and confusion.

Simultaneously, BSRIA also launched its White Paper on 'Bridging the Skills Gap'. The paper asked: 'What does our industry need from Government to recruit new entrants, upskill the existing workforce and change the diversity of the workforce'? It considered: how to: incentivise; communicate; build skills; start young and promote diversity. It recommended that it is widely recognised that the construction industry has resourcing and skills issues. The root causes are: too many in government do not have an engineering background and so are disconnected from industry; schools do not start early on to inform students about engineering; there is poor linkage between schools and further education through technical colleges and apprenticeships; there is poor communication by our industry about what engineering is and the value it adds to our economy.

Within the skills remit, BSRIA was concerned by a report that says 'Britain is not training enough bricklayers'. Construction apprenticeships are down 60 per cent since 2009 despite employer demand says the LGA (Local Government Association). While almost two-thirds of surveyors told the Royal Institution of Chartered Surveyors (RICS) earlier this year that the construction skills shortage was a significant barrier to building and, in turn, business growth. According to employers, more than half of construction skilled trade vacancies are now hard to fill – the worst position for all the skilled trades.

Those in the corridors of power must enable the industry to stand up and be counted as thought leaders in a collaborative fashion to make buildings and the built environment better

And in September, we were worried by research published by RICS that three quarters of surveyors believe non-adoption of BIM (level 2) could seriously hinder the UK construction sector over the next year. The survey also found that an alarming 50 per cent of those surveyed were not using BIM in the day-to-day aspects of their work. Non-adoption is likely to have a negative impact on the industry as a whole. It's clear from the research that the industry needs to be doing more to help such surveying firms – as well as the wider industry – in getting up to speed with the technology, particularly when it comes to how they can implement the technology across their organisation.

As we move into a new year, those in the corridors of power must enable the industry to stand up and be counted as thought leaders in a collaborative fashion to make, not only buildings better, but the built environment at large. Government must give the industry a decisive steer: let's hope 2016 will have fewer political peaks and troughs.

In pursuit of nearly zero energy buildings

by Hywel Davies, Technical Director CIBSE

The coalition government was committed to zero carbon homes from 2016 and zero carbon non-domestic buildings from 2019. Those goals were described in the early days of the coalition, and George Osborne wasted little time in announcing that the idea of 'zero carbon' buildings, combining energy efficiency measures and "Allowable Solutions", is finished.

The sudden change of policy has been widely criticised for removing a long standing objective that had driven innovation in the construction sector. This undermines those in the industry who do seek to reshape construction and deliver real innovation, who will find that companies will be less willing to commit to anything related to government policy because of the risk of a sudden change of policy.

Zero carbon v. Zero energy

The "zero carbon" target was set before the recast of the European Energy Performance of Buildings Directive (EPBD) came into play. That Directive requires all new buildings to be "nearly zero energy" from 1 January 2021. And the UK is committed to that target.

It was never clear how the government intended to align the zero carbon concept, with "allowable solutions" as an offset mechanism, with this definition of nearly zero energy based on renewables. 'Zero carbon' homes from 2016 relied on a combination of minimum energy efficiency standards as set out in Part L, coupled with the allowable solutions payment, with no clear requirement for renewables anywhere, let alone 'on-site or nearby'.

Building Regulations Part L

Given that it is mid 2015 now, anyone with passing familiarity with the last three rounds of revisions to Part L will realise that 'zero carbon' homes in 2016 would have been based broadly on Part L 2013. This would have been most unlikely to have satisfied the nZEB definition, and so a further round of changes in regulations and associated practice would have been needed for nZEB, at further significant cost to the industry.

For homes the earliest that this revised Part L could have been delivered would have been in late 2016, for the October common commencement date for new regulations. With a six month lead in before coming into force, and a year for transitional provisions, it would have been April 2018 at the earliest before we really got to 'zero carbon'.

And for non-domestic buildings, a target of 2019 would inevitably have been based on a revised Part L coming into force in October 2019, with a potential for a transitional period of six months or a year, taking us almost to the 'nearly zero energy' deadline.

Consequences

We are now on a timetable to nearly zero energy buildings from 1st January 2021. That date is outside the control of the UK government, it is in the Directive.

1. The EPBD sets out a clear timetable for the development of Part L, as the minimum energy efficiency standard for England. Article 4 requires Member States to set minimum standards, and these must cover new build and refurbishment. Whilst the Directive acknowledges that the standards must be cost effective, this is set over the whole life of the building, not just for build cost. And Article 4 also requires the standards to be reviewed at least every five years.

2. The EPBD requires Member States to undertake a review of how cost optimal their standards are using an EU methodology that is set out in a Regulation. This takes a different view of some aspects of cost effectiveness to the Treasury. The first such review was published in 2013, although it was due in 2012. The delay was due to the late publication of the methodology regulation. So the next cost optimal analysis is due in 2017. If that review finds that Part L is behind the curve for cost optimal requirements, then Part L will have to be brought up to speed. And that will have to be in 2018, since the previous review was in 2013. So we now have a clear timetable set out for us, not in a Treasury document, but in the EPBD and supporting regulation.

3. As zero carbon was a UK policy, it came under "one in two out" (rumoured to be heading for one in three out), whereby to increase the regulatory costs of Part L twice (or three times) that regulatory cost would have had to be removed through deregulatory measures. Now that we are working to an EU Directive, "one in two out" does not apply, which makes it less of a challenge to bring Part L up to reasonable requirements in 2018.

So the net results of dropping 'zero carbon' are:

- A single goal, 'nearly zero energy'.
- A clear timetable for upgrading Part L to support this goal.
- No potential conflict between the 'zero carbon' and 'nearly zero energy' targets.
- A focus on energy.

Next steps

Given the announcement of the expected capacity gap, or spare capacity in the national grid this coming winter, it is a welcome development. Every megawatt of energy saved in a building is energy that does not need to be generated, thereby freeing up finance for more productive purposes.

So whilst the sudden change of tack will have damaged industry confidence, our focus must now be on how we can meet the nearly zero energy targets.

CIBSE is uniquely placed to take a lead in considering the way forward for Part L in a nearly zero energy, cost optimal, world. We will bring together a working group to consider how Part L 2018 might most effectively support the delivery of nearly zero energy new buildings, and cost optimal requirements for refurbishment. We would encourage all those who share that interest to join us on the journey to delivering nearly zero energy buildings.

If the development of the Swedish HP market was a role model for Europe

by Thomas Nowak, European Heat Pump Association Secretary General

As an advocacy association, EHPA has stressed the overlooked potential from heat pump technology since the beginning of its existence. Admittedly, we have achieved a lot, but there is still a lot to do, before heat pumps in Europe have the same status than in Sweden, one of the most developed European markets.

On the European level, Commission President Jean-Claude Juncker has announced the energy union package end of 2014 (Fig 1). It stressed the need for a secure, sustainable and competitive energy system to overcome air pollution, wasting energy and tackle the high cost of imported fossil fuels. The package is executed via five dimensions: energy security, an integrated energy market, energy efficiency, renewable energy as well as research, innovation and competiveness. Comparing these dimensions with the benefits of heat pump technology reveals an outstanding congruence. Heat pumps seem the natural ally of any policy maker that works on realising the energy union. The technology is truly renewable energy and is energy efficient, it uses local energy, thus contribution to energy security, its demand response potential helps an integrated energy market and the fact that most heat pumps are still developed, manufactured and installed in Europe results in local jobs and keeps research and development know how in the Union, thus improving its technological competitiveness.

Existing legislation incorporates heat pumps as a technology using renewable energy as well as improving energy efficiency on the product, the building and the regional level. Individual legislation creates even more favorable framework conditions. Most recently Ecodesign implementing measure for boilers and hot water heaters is proof of the superior efficiency of heat pumps and the related energy label communicates this finding in a very comprehensive manner to the public. The next challenge is a systematic approach towards a decarbonized heating and cooling sector that does not leave the selection of technology to a (dysfunctional) market mechanism, but picks preferred solution based on their contribution to the climate and energy targets.

This could be one result of the European heating and cooling strategy. The document is currently under development and first results are expected early 2016. The strategy covers both residential and industrial requirements, looks at available technologies and addresses the need for proper planning tools and data for decision-making. Available draft documents assign heat pumps a prominent role in the future energy mix. They are understood as useful in rural areas, and seen complementary to district energy grids in cities. In fact large heat pumps are a fast track towards bringing renewable energy into these grids. Combined with renewable electricity, a 100% renewable heating and cooling sector is within reach.

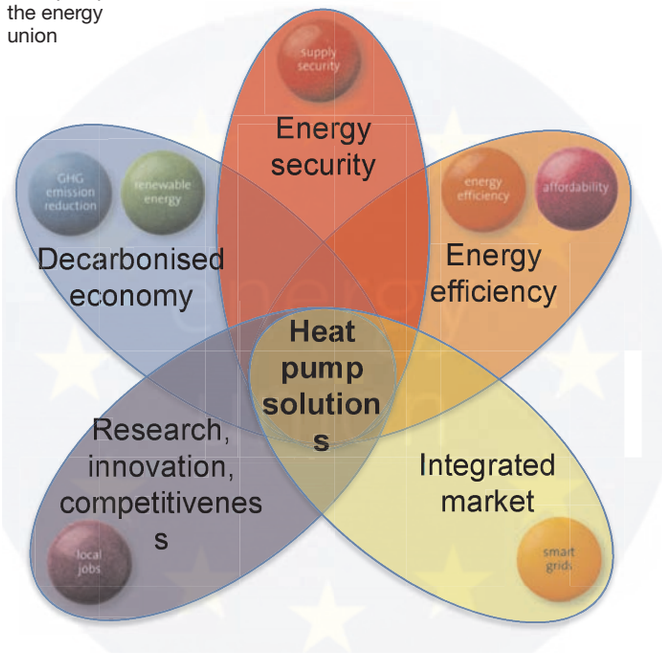
It will take some time before these framework conditions materialise in the market place. Market penetration certainly does not reflect the optimism that one could develop when reading the policy papers.

Heat pump sales have rather been stagnating after 2008, fluctuating around 800,000 units per year. Since 2012, markets have returned to small growth at approx. 3% per year, a trend that is expected to continue and accelerate.

In 2014, a total of 796,746 units were sold (see figure-2 Heat pump sales in 21 countries, 2014). More than 85% of them using air (aerothermal energy) as renewable energy source. The fastest growing segment has been sanitary hot water heaters. Their sales numbers in 2014 increased by 38% to 113,973 units.

It is noteworthy, that 90% of the sales occur in only 10 countries: France, Italy, Sweden, Germany, Finland, Norway, Spain, Denmark, Switzerland and Austria. Despite strong growth until 2010 and a very good subsidy scheme, the UK market did not develop fast enough to join the top 10.

Fig 1.
Heat pumps in the energy union



A total of 7,5 million heat pumps are currently installed in Europe. They contribute 85.78 TWh of renewable energy, 109.31 TWh of energy savings and 22.07 Mt of greenhouse gas emissions to the Unions climate and energy targets.

Even though these are not small numbers, a calculation exercise shows that the heat pump potential is largely unused and much larger sales and a bigger contribution to the climate and energy targets is possible.

In terms of market penetration, the Scandinavian Countries lead. In northern Europe, between 26 (France) and 28 (Estonia) heat pumps are sold per 1,000 households and year. This is a factor of 26 - 28 over markets like the UK.

When discussing the potential of heat pumps, it is often stated, that the technology is not ready to be used in very cold climates and can only be used in new buildings. Sweden proves the opposite to be true. The climate is harsh and heat pumps are still working. The building sector has slowed down, very few buildings are under construction and still heat pumps are sold. If heat pumps can be sold and be used under Sweden's tough conditions, this makes Sweden an ideal candidate to evaluate what would happen in Europe, if all markets developed like the Swedish one did over the last 25 years.

The result is astonishing. Many markets show a potential of a more than 10 fold increase over today's sales numbers and the total market would be six times larger reaching 4.9 million units. (See Fig 2)

In order to realise this potential, current policy is certainly helpful. The real push of the market should however be realised via the price as the origin market mechanism. Today's energy market is distorted.

• Fossil fuels are heavily subsidised and the cost of negatively impacting the environment is not included in the price. Low cost for fossil

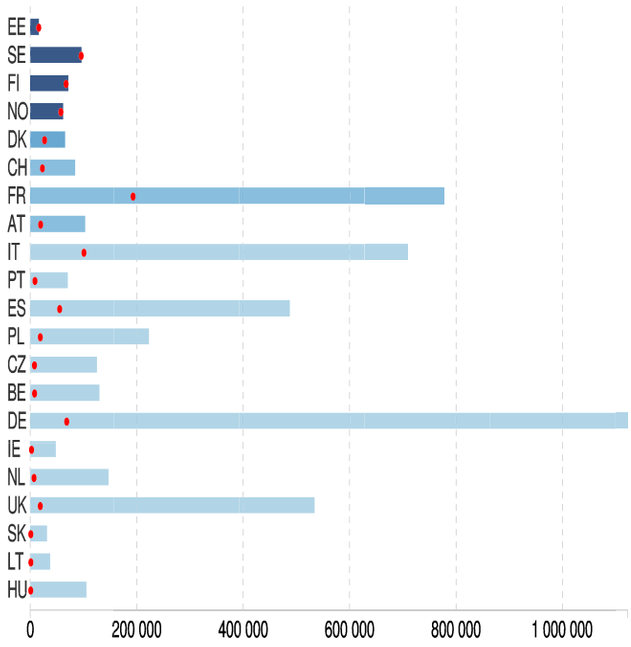


Fig 2.
If Sweden was everywhere

energy creates a wrong incentive.

• fossil fuel technology is et the end of its technology cycle. Experts agree, that nearly no improvement is possible. Production cost is low and prices are too. Still, some governments subsidize the introduction of condensing technology.

• renewable energy technologies do often still have an investment cost disadvantage over established fossil technologies. While this can be remedied through lower operating cost, price sensitive customers rarely take a total cost of ownership perspective to determine the long term benefit of a renewable solution.

• In a number of countries, the cost of a greener electricity mix has to be borne entirely by the users of electricity. Instead these cost should be distributed on all energy users or on fossil fuel energy alone to incentivise the shift.

The combination of high electricity cost and low fossil energy cost neutralises the operation cost advantage of heat pumps. If put in relation, the resulting 'price energy ratio' indicates the minimum heat pump efficiency necessary to run a heat pump at the same operating cost than a fossil solution.

Comparing European data, it becomes obvious, that very high price-energy ratios limit the purchasing interest of end users.

Fixing the price signals in the market is a political task. If accomplished, the individual and society at large would benefit from putting Europe's climate and energy goals at arms length and making even more ambitious targets realistic.

Realising the technology's potential needs a number of decisions to make heat pumps ready for the mass market and making it a cornerstone of the heating and cooling strategy. Swift and decisive action is needed in:

• acknowledging and raising awareness on the assets and the potential of heat pumps for energy security, climate change mitigation and green growth in Europe;

• reducing the competitive advantage of other less efficient, less environmentally friendly and/or less indigenous energy sources;

• avoiding to finance the greening of the electricity mix via the cost of electricity.

• boosting investment in heat pumps (one of the few technologies currently not benefitting from almost any public funding, according to recent EC study).

With comparatively little necessary changes, heat pumps can be moved at the heart of Europe's energy transition, eventually allowing a market penetration like in Sweden with benefits, that make today's ambitious targets merely look realistic.

FETA Stalwart Mike Nankivell set to retire

President of the Heat Pump Association Mike Nankivell is to retire after 45 years in the HVAC industry. Mike has had a long involvement with FETA. As well as holding the post of HPA president he is also immediate Past President of HEVAC, and served as Chairman of FETA during our 30th anniversary year in 2014.

Mike has spent the last 16 years working for the Guildford-based Daikin distributor, Space Airconditioning, and he will be "retiring" at the end of 2015.

Although retiring from his regular employment, he will continue with many of his industry involvements including President of the Heat Pump Association and chairman of the ACRIB F-Gas Implementation Group. He is also a Fellow of the Institute of Refrigeration.

I will retain some industry involvement," he said, "so will not be disappearing altogether, at least for a while. I have offered to continue as president of the Heat Pump Association and my activities with ACRIB for as long as this is practicable, as well as undertaking occasional projects for Space Air.

"I very much hope to remain active in the industry, on a part time basis, for as long as my services can be helpful, but this will not include joining the daily rush hour traffic!"

Mike entered the HVAC sector as a contract detail/design draughtsman in 1971, following an apprenticeship in a research and development establishment with the Ministry of Technology (later Defence). Mike has worked as a designer of perimeter heating systems, contract, commercial and general management in acoustics, fan and air handling unit manufacture. He was with Carrier Air Conditioning for over 13 years, rising to the position of UK marketing manager, before joining Space Airconditioning plc where he has been marketing and business development director since 2009.

Everyone at FETA, and the Association members, appreciate his considerable contribution to the industry and wish Mike a long and happy retirement.

A changing regulatory landscape

by Chris Sturman, Food Storage and Distribution Federation Chief Executive

F-Gases, ammonia and the technology used in non-road mobile machinery are of undisputed importance in the refrigeration industry, yet they also have significant impact on the environment. Recent and expected changes in legislation passed by the European Union will affect market consumption of these products, but there are ways that the refrigeration industry can prepare. Chris Sturman, Chief Executive of the Food Storage and Distribution Federation and food logistics industry influencer, shares his thoughts on the changing landscape of industry legislation and the ways that we can successfully adapt with these changes.

"Our use of hydrofluorocarbons stands to change dramatically over the next decade. The 2014 update of European Union F-Gas regulation strengthens and adds to the 2006 guidelines. An EU review on the use of F-Gas in the refrigeration industry has resulted in the implementation of a phase down over the next 15 years, cutting uses of high GWP F-Gases by 79% before 2030.

With HFCs crucial to our industry and alternatives not currently ready for use, the forced phase down must catalyse development of new technology. In the meantime, a quota system will be introduced in the EU to control sales of HFCs, using a baseline of average consumption in the EU market between 2009 and 2012.

The phase down starts at a moderate rate with 100% baseline sales allowed in 2015, apparently reducing by only 7% in 2016 and 2017. However, within the quota will be included all imported equipment, pre-charged with HFCs. Imported F-Gases will be accounted for and users will have to buy from licensed suppliers within the quota system. The effect is already driving up prices fourfold and reducing supply. As a result, the reality of yearly market restrictions may be equivalent to twice the figure officially stated by the EU.

We have to find ways to reduce our use of F-Gases, or to find alternatives fast. However, implementing practical changes, such as the replacement of high global warming potential (GWP) refrigerants with medium GWP HFCs (e.g. R407F instead of R404A) can help prepare you for the phase down. For new equipment, very high GWP HFCs should not be used at all. Instead, these should be replaced with 'ultra-low' GWP refrigerants such as ammonia or CO2, which will not be affected by the market restrictions.

Reducing equipment leakage in the ways provided for in the regulation will also make existing stock last longer. It is worth investing in low leakage designs for new equipment, which will reduce the need for replenishment as frequently. The requirement to use trained and certificated engineers to City & Guilds standard 2079 or equivalent on a regular, timetabled, maintenance schedule will be a key part of this process.

F-Gases are not the only substances subject to changing regulation. The use of ammonia will also be affected by the newly revised PM81 Guidance to be endorsed by the HSE and linked to compliance with the Dangerous Substances and Explosive Atmosphere Regulations (DSEAR). Publication is expected in mid October of this year and has been the result of detailed work and close collaboration with the Technical & Safety Committee (TASC) of the FSDF, and senior scientists from the Health & Safety Laboratories.

The FSDF, in conjunction with the Institute of Refrigeration, has already published a self-assessment checklist on ammonia systems for members' use. In line with its policy to provide high quality industry guidance to members, we pride ourselves on being up-to-date with new developments across all aspects of the logistics sector. By sharing our expertise and ensuring that we stay on top of any technological, commercial or legislative developments, the FSDF makes sure that its members have the advantage in navigating the logistics industry.

Indeed, changes in regulation will necessitate the revision of company internal guidelines, as government and industry jointly work together to reduce the use of gases that accelerate global warming, as well as pollutants, which result from diesel engines. A further new EU regulation is expected by the end of 2015, which will necessitate the redesign, and manufacture of non-road mobile machinery (NRMM). The technology of diesel engines that power refrigeration will need to be modernised to match that of truck engines in terms of reduced environmental impact.

The Directive 97/68/EC on the emission of gaseous and particulate pollutants from internal combustion engines to be installed in NRMMs, was last amended in Directive 2012/46/EU. This sets emissions standards for hydrocarbons, nitrogen oxides, carbon monoxides and particulate matter. With updated legislation expected by the end of the year and a reasonable transition period, we have time to see out the existing fleet and integrate new low emissions technology once it has been developed.

Overall, the legal landscape is changing and shaping the future of our industry. Pressure to improve environmentally harmful technology is leading to tightened restrictions for the refrigeration industry. Whilst the need to invest in alternative technology can be a short-term financial burden, we must focus on the long-term benefits. By taking a lead in technological and chemical modernisation, the refrigeration industry has the chance to lead by example. Not only are we preparing ourselves for the future, we are also showing that it is possible to continue to provide high quality service and product quality and safety within the food supply chain, whilst protecting our environment for generations to come."

Further information about FSDF can be found at www.fsdf.org.uk or contact Chris Sturman on tel: 01189 884468 or email chris.sturman@fsdf.org.uk

'With HFCs crucial to our industry and alternatives not currently ready for use, the forced phase down must catalyse development of new technology.'

Important opportunities ahead

by Graeme Maidment, Institute of Refrigeration President

The Institute of Refrigeration has always worked closely with the BRA, HEVAC and HPA members in areas of common interest. The IOR represents the needs of approaching 3,000 individuals including members who work in senior engineering roles and as service engineers in a wide range of applications and sectors. With over 200 new members joining each year the IOR provides education, technical and information services to its members through a programme of events and publications. Members of the Institute are active in responsible roles throughout the industry – and membership grades (Fellow, Member, Technician, Associate or Affiliate) as well as Service Engineers' Section members, reflect their practical experience and time in the industry.

The Refrigeration, Air Conditioning and Heat Pump world we live in is changing fast and there a number of important challenges and opportunities ahead for us. UK Government has signposted some of these with legislation covering phase down of high GWP refrigerants, energy efficiency and decarbonisation of our electricity supply as well as the encouragement to reuse and recycle more equipment. At the same time we are seeing increased pressures to reduce costs and we must compete with strong demand from other engineering sectors for new talent.

To support this transition there have been a number of initiatives over the last year that IOR members have been involved in, and that are of common interest with FETA companies :

Heating

The IOR is a key member of the SIRACH innovation network (Sustainable Innovation in Refrigeration Air Conditioning and Heating). It has held a series of site tours and talks focusing on heat networks, heat recovery and heat pumps. It highlights the challenges and opportunities head. The next event will be on domestic heating and cooling at the Daikin training centre on 20th January 2016, followed by a look at efficiency in the food chain at Brunel University on 20th April 2016. Information about all of these free events and past presentations are available on line at www.sirach.org.uk

Alternative refrigerants

The adoption of alternative refrigerants remains a major concern in the sector, particularly with the new restrictions and phase down of HFCs. The IOR already has useful Codes of Practice for Alternative Refrigerant system design and safety considerations, but has now extended this to offer e-learning and practical guidance to the use of ammonia, carbon dioxide, hydrocarbon and new low flammable HFOs & R32 through the European REAL Alternatives programmes. Available in five languages the programme includes e-learning modules, an online reference library and a series of printable guidance notes. Those who study the e-learning will be able to apply for CPD Certificates as evidence of their knowledge, which is designed to help raise skills levels in the industry. See www.realalternatives.eu for more information. This work compliments FETA's recently introduced PURR programme assisting the transition to new refrigerants.

Refrigerant containment

The IOR REAL Zero campaign that helped to share technical expertise and experience in reducing leakage and improving containment was originally launched in 2008 but has now been updated to reflect current practice and recent legislative changes. The REAL Zero guides are still available as downloads but can also be studied as e-learning with modules specifically for technicians, end users or designers. REAL Zero also offers a high spec inspection methodology and emissions calculators to help measure the financial and environmental cost of leakage. See www.realzero.org.uk

Apprenticeship routes and standards

Through the Trailblazer Apprenticeship project this year the IOR is helping employers to set standards for new entrants to the workplace. The standards have been directly linked to the Engineering Council Engineering Technician criteria to ensure that our sector gets the recognition as an Engineering profession that it deserves. IOR members can currently apply for recognition as a chartered refrigeration engineer, incorporated engineer or engineering technician through the Institute of Refrigeration. The new Apprenticeship scheme is focused is forward looking for the RACHP sector and is helping to build links between colleges, training providers, qualification bodies and employers to improve the future quality of skills of new entrants to the RACHP workforce. The Institute members will be providing independent assessment of the skills of new technicians and encouraging them to apply for Engineering Council registration as engineering technicians when they complete their apprenticeship. This new apprenticeship scheme is expected to be open to any new entrants to the sector from September 2016. We look forward to working with many employers.

Raising the profile of the sector

With an eye to the future and in order to encourage and support high calibre entrants to the sector the Institute was also pleased to be associated with two important and high profile careers initiatives this year. "Cool Science at the Big Bang" provided our industry with much needed recognition as an interesting and fun career option, with interactive exhibits and young people on hand to encourage teachers, parents and young people to think about the role of refrigeration in their world today. The initiative was recognised with an Award at this year's Cooling Industry Awards for its achievements on putting refrigeration on the map with young people. The second initiative worthy of note is the relaunch of the IOR Fantastic Fridges Website – a new games based site designed for younger students it provides valuable resources for schools to explore science and engineering topics. If you have links with schools or careers advisers we encourage you to recommend the website as a learning tool when it is relaunched in November.

I have been delighted to work with Russell and Cedric and the team at FETA over the last few years. Next April (2016) will see Steve Gill take over as President of the IOR. I know Steve will continue to ensure that the IOR and FETA will work together on initiatives for the benefit of our fantastic industry.

'The IOR provides educational, technical and information services to its members through a programme of events and publications.'

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FETA LUNCH
Being held on April 14, 2016. Don't miss the opportunity to entertain your guests at this important event.

JOIN FETA NOW
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THANK YOU
FETA would like to thank all the members who have supported this publication.

CALENDAR OF EVENTS 2016

Energy Now Expo
February 10-11
Telford

The ACR Show
February 16-18
NEC, Birmingham

CIBSE Building Performance Awards
February 24
London

IOR Dinner
February 25
London

Ecobuild
March 8-10
ExCel, London

FETA Annual Lunch
April 14
London

AREA General Assembly
May 12-13
Dublin

BCIA Awards
May 12
Birmingham

EPEE General Assembly
June 14-15
Brussels

Chillventa
October 11-13
Nuremberg