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Not FiT for purpose

As fate would have it, and to my eternal frustration, what looks certain to be this year's most far-reaching policy announcement landed just hours after sending the last edition of REI to print.

Riding roughshod over dire predictions of a sudden collapse in domestic demand for solar PV, DECC's proposals to cut the Feed-in Tariff by almost 90 percent from January have unsurprisingly been rejected by the entire supply chain.

The formal consultation period runs until October 23, but the reality is that the industry must prepare for the complete withdrawal of subsidy at least two years ahead of schedule, as the remaining budget is exhausted by high demand before the New Year cut off.

Subsidies have always been contentious, but the decision to effectively go for no tariff rather than low tariff until at least grid parity has been achieved has taken most people by surprise. The non-solar renewable community must now endure a nervy wait until November's Comprehensive Spending Review, where the RHI appears vulnerable.

Pain and consolidation will now follow, and the great hope has to be that the long-term future of PV is secure as the commercial case continues to stand up strongly to the new economics, and sales pitches adjust to the loss of subsidy.

On a happier note, REI was the official media partner of The Heating & Renewables Roadshow which completed its inaugural five date tour of the UK in September. For a full review please turn to p10.

The REI team will also be in attendance at SEUK at the NEC between Oct 13-15, so please come along and say hello on stand P17.

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ISSN 2049-3525

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Tel: 01565 626760
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Events

UK Construction Week
06-11 Oct Birmingham, NEC
http://www.ukconstructionweek.com/

Solar Energy UK
13-15 Oct Birmingham NEC
http://uk.solarenergyevents.com/

The National Wood Fuel Conference
15 Oct Epsom Downs Racecourse
www.woodfuelconference.co.uk

Solar UK Conference 20GW by 2020
12 Nov BRE Headquarters, Watford
http://www.solar-uk-conference.co.uk/2015/index.php

Ecobuild 2016
08-10 Mar London, ExCel
http://ecobuild.co.uk

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Scottish minister blasts 'extreme' FiT cuts

Fergus Ewing, Scottish minister for business, energy and tourism, has strongly condemned proposed cuts to the Feed-in Tariff

Speaking at The Heating & Renewables Renewable in Edinburgh on September 22, Mr Ewing said that ambitious targets to generate 100 percent of Scotland's electricity needs from green sources by 2020 were at threat from decisions being made by the UK government in Westminster.

He has also called on DECC to confirm that the RHI will be protected from the round of spending cuts which will be announced in next month's Comprehensive Spending Review.

"Our policy support has galvanised a whole green industry in Scotland which is now sadly under threat. We believe business leaders need certainty," said Mr Ewing.

"We have forged ahead with this agenda because it is right for the planet, right for the economy and has massive support from younger generations. We make no bones about it, this is our agenda and we will drive on with it.

"The RHI and FiT serve a purpose. Therefore we are lobbying the UK government and Lord Bourne that RHI is not a casualty of the spending review. We think the RHI has a place and must be confirmed. There needs to be a reduction in tariffs, but what is proposed is extreme."

War of words: Scottish renewable energy policy is increasingly at odds with that of the UK government, says Scottish energy minister Fergus Ewing

ESOS deadline looms for 10,000 businesses

Up to 10,000 businesses must take urgent action or risk falling foul of new energy efficiency legislation, warns SSE Enterprise

All companies employing more than 250 people or with an annual turnover in excess of £40m must carry out an ESOS (Energy Savings Opportunity Scheme) audit by 05 December, or risk financial sanctions. ESOS audits must be repeated every four years, and failure to comply could result in a £50,000 fine and daily penalties of £500.

With less than 10 weeks to go, managing director of SSE Enterprise Energy Solutions, stresses that time is rapidly running out for businesses to complete their audits.

"Companies must act now to be sure they'll comply before the deadline," he said.

"This legislation will not just ensure businesses are more energy efficient but could identify significant cost savings to the tune of £1.6bn.

"Energy management is a crucial part of responsible business practice today – both in terms of the environmental impact and the financial benefits for organisations."

Corbyn appoints new shadow energy secretary

Lisa Nandy has been appointed shadow energy secretary by new Labour leader Jeremy Corbyn, following the latter's recent election as leader of the opposition

Lisa has been an MP for Wigan since 2010 and replaces Caroline Flint, who leaves the shadow cabinet following her defeat in the Labour leadership race to Mr Corbyn.

Paul McCullagh, CEO of UrbanWind, has welcomed Lisa Nandy's appointment and urged her to drive renewables further up the political agenda in her new role.

"We welcome the appointment of Lisa Nandy as a young and ambitious minister to the role of shadow energy secretary. We hope she can deliver the vigour and drive to push forward Jeremy Corbyn's ambitious renewable energy policies, and to hold the government to account for its woeful failure to support the renewable energy sector."

DECC under fire for drastic FiT cuts

Pressure is mounting on the government to rethink plans to virtually eliminate the Feed-in Tariff for solar PV, amid fears of a catastrophic collapse in demand

An eight week consultation will run until October 23, and if applied the changes will see the Feed-in Tariff rate slashed by 87 percent from January 01, and possibly scrapped completely if a budget cap for the scheme is reached.

DECC has stressed the need for consultation due to the risk of 'projected overspend' and because it is required to review subsidy schemes every three years by the European Commission.

Opposition has been widespread however with politicians, business leaders and the industry itself stressing that the cut from 12.9p/kWh to 1.63p/kWh is too large and too soon, when solar is close to gaining grid parity and becoming subsidy free.

The government's own impact assessment acknowledges that domestic demand for solar panels could fall by as much as 6GW of installed capacity, jeopardising 20,000 jobs and millions of pounds of investment in the sector.

A petition on the UK parliament website had topped 22,000 signatures at the time of going to print, whilst a joint campaign from RenewableUK and the Solar Trade Association is calling on the general public to show support for solar via social media and by writing to their local MPs.

A joint letter has been sent to energy secretary Amber Rudd calling on government to reconsider the scale of its proposals with a growing list of signatories including IKEA, the TUC and NFU.

Leonie Greene, head of external affairs at the STA, said that cutting subsidy could end up costing the government more money than it saves, if deployment rates grind to a halt.

"It's hard to think of a greater waste of public money than building up a strong British solar industry, and then pushing it over a cliff before it is ready to fly."

Reza Shaybani, BPVA chairman, added: "This announcement is totally unacceptable and unnecessary. This is bad news for the UK solar industry but also very bad news for the country as a whole. Cutting the FiT for rooftop solar which reduces energy bills for millions of homes and businesses is not defendable."

Home alone: Cutting the Feed-in Tariff by almost 90 percent threatens to end Britain's solar power boom, says BSRIA's Julia Evans

The FiT announcement has hit an industry already reeling from a succession of cuts to financial support made since May by the new Conservative government. In less than four months following May's general election, decisions have been made to bar wind and solar from further ROCs support, abolish rules on zero carbon housing, close Green Deal and remove renewable electricity's exemption from the Climate Change Levy.

Naturally this have left many questioning the government's commitment to the environmental agenda, and its ability to meet legally-binding carbon reduction targets.

Julia Evans, chief executive of BSRIA, said: "Ministers slashing these subsidies for solar panels is yet another sign that the government's enthusiasm for green energy is waning. If implemented, such a step would remove virtually all incentive for home owners to install the panels and could mean the end of Britain's solar power boom."

Solarlec director, Ged Rowbottom, said: "It is particularly disappointing since the energy secretary vowed to 'unleash a solar revolution' when she was appointed just after the election in May, suggesting millions more homes should have solar panels on their roofs. Now her department is proposing to remove a key incentive to achieving that goal.

"If this goes ahead it will certainly have a negative impact on the solar power industry, and on the move away from non-sustainable fossil fuel energy supplies."

Cutting the FiT for rooftop solar is not defendable

Market forces: Heating oil's recent and dramatic fall in price is fully offset by renewable energy's price transparency and predictability, says Simon Cross of The Wood Heating Company and Geowarmth's John Withers

What plummeting oil prices mean for renewables

Low fossil fuel prices have historically made life difficult for solar, wind and biomass installers, so why are two North East renewable energy companies unconcerned about the current trend?

In August this year the price of crude oil fell below $50 a barrel, the lowest prices we have seen since 2009. A litre of heating oil currently costs less than 32p – a stark difference from three winters ago when heating oil cost up to 99p per litre. While homeowners can rejoice over this reprieve, what about renewable energy industry?

"The overwhelming majority of our projects are heating schemes within the rural community," says Simon Cross of The Wood Heating Company.

"Rural fuel poverty is a subject which receives little media coverage, but for a typical 3-bedroomed rural cottage the expenditure on oil has until recently been up to 60 percent higher than the cost of heating a similar property in an urban area using natural gas. The volatility of oil prices makes budgeting very difficult for those living in rural communities who depend upon oil for heat."

He adds: "Our chosen renewable technology, biomass, helps people to jump off the fossil fuel price rollercoaster. The price of pellets has historically been remarkably stable, changing very little over the last 10 years. There are also offers available to fix the price for the next five years; I can't imagine many oil companies offering that!"

But what about other renewable technologies? John Withers, managing director at Geowarmth, which installs solar PV, heat pumps and biomass, says: "The world of energy has changed. For a start, oil does not compete with solar power, they perform different roles. When we price a solar installation you know exactly what the upfront costs will be and the fuel itself is free, providing energy security for homeowners.

"Secondly, plummeting oil prices show just how unpredictable the global cost of fossil fuels can be – and the UK has no control over that volatility. It is one of the many reasons why it makes more sense to make the transition from fossil fuels to renewables."

According to a number of industry analysts, the price of oil is currently below the cost price producing countries require in order to balance their budgets, which in itself is unsustainable in the long term. Simon Cross continues: "The Wood Heating Company have been around for more than 30 years, and over this time we have seen oil prices rise and fall constantly – it is an undesirable feature of fossil-fuel markets.

"What this sudden dip may well do is to remove many of the recent influx of new companies who have entered the market thinking biomass was the next renewables goldmine after the solar PV Feed-in Tariff dropped so dramatically a couple of years ago. As these new and inexperienced installers leave the market in search of the 'next big thing' we will hopefully see standards within the industry improve again."

Our chosen renewable technology–biomass–helps people to jump off the fossil fuel price rollercoaster

The common denominator of plummeting fuel prices is the extreme lack of stability or predictability. No-one can tell how long oil prices will stay so low. This is precisely why homeowners should go green with confidence, and why such dramatic fluctuations only serve as an advantage to installers, who offer stable pricing and energy security.

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Presenting The Heating and Renewables Awards winners

Over 500 of the industry's movers and shakers packed into the Jaguar Hall at Coventry's Ricoh Arena on Thursday 10 September to learn this year's winners of The Heating & Renewables Awards

Compered by Jason Manford, a great evening was had allowing the sector to step back and review the past year's innovations, triumphs and hard work.

REI editor and judging panel member, Paul Stephen, said: "Once again, the calibre of entries has been extremely high and the panel had a tough time selecting its shortlists and overall winners from this strong field of candidates. This is testament to the breadth and wide scope of expertise this sector has to offer.

"My congratulations go to all of this year's winners, who have stood out in one of the most innovative and forward-thinking industries in the world and in particular to Geothermal International, who won the coveted Heating & Renewables Installer of the Year Award."

RESIDENTIAL RETROFIT PROJECT OF THE YEAR
Advanced Renewable Power –The Bothy

TRAINING INITIATIVE OF THE YEAR
Grant Engineering (UK)
Highly commended
ThermaSolutions

APPRENTICE OF THE YEAR
Husky Heat Pumps Ltd–Mr Lloyd Roberts
Highly commended
Orangehouse Renewables–George Houghton

BIOMASS INSTALLER OF THE YEAR
Purple Energy
Highly commended
British Gas Heat Networks

COMMUNITY HEATING PROJECT OF THE YEAR
Kensa Heat Pumps- Trent & Dove Housing Retrofit Heating Upgrade

HIGH EFFICIENCY BOILER INSTALLER OF THE YEAR
TSG Building Services
Highly commended
Glevum Heating

SOLAR PV INSTALLER OF THE YEAR
Kirklees Building Services

AIR SOURCE HEAT PUMP INSTALLER OF THE YEAR
RA Brown Heating Services
Highly commended
BRB

GROUND SOURCE HEAT PUMP INSTALLER OF THE YEAR
Geothermal International

OIL INSTALLER OF THE YEAR
Neale Waters

COMMERCIAL PROJECT OF THE YEAR
Dimplex–Rook Services
Highly commended
OrangEnergy Limited–Sonning Mill

HEATING & RENEWABLES INNOVATION OF THE YEAR
Grant Vecta Condensing Biomass Boiler

CONTRIBUTION TO HEATING & RENEWABLES
emh Homes–Dene Carvell

COMMERCIAL INSTALLER OF THE YEAR
Ground Heat Installations
Very Highly Commended
EvoEnergy

HEATING & RENEWABLES INSTALLER OF THE YEAR
Geothermal International

Roadshow rolls into 2016

The Heating & Renewables Roadshow has successfully completed its five tour journey across the UK

Hundreds of visitors attended each show at Coventry, Exeter, Farnborough, Edinburgh and Manchester representing a wide cross section of the industry, including installers, architects, specifiers and engineers.

More than 60 exhibitors brought a whole host of product innovations with them, whilst other highlights from the tour included the Heating & Renewables Awards at Coventry, and Scottish energy minister Fergus Ewing's keynote speech at Edinburgh.

Show organisers and REI publisher A&D Publishing would like to thank the Roadshow's four knowledge partners in particular for their role in shaping the seminar content: REHAU, Edmundson Electrical Greentech, Sustainable Building Solutions and Stroma Certification/Greenworks.

Supporting organisations, exhibitors and visitors are also to be applauded for the making the Roadshow such as a fantastic success. Planning for next year's outing is continuing apace so please stay tuned for further announcements.

On a break: Gideon Richards from MCS and Mike Harvey of HETAS take time out to enjoy free pretzels and beer courtesy of REHAU

Numbers game: 66 exhibitors were on hand to demonstrate their latest wares to a wide cross section of visitors

A word from the showfloor

"Exhibitions come in all shapes and sizes, but the Heating & Renewables Roadshow has been a perfect fit for us. 2015 has been an exceptional year for us and we know these regional roadshows have played their part in generating useful contacts, leads and business."

Jim Boyce, sales director,, **Intergas Heating**

"The event was a great forum to showcase our three new channel-specific boilers – 'Energy' for one-off installers, 'Home' for house builders, and 'Sustain' for social landlords. We'd like to thank all the heating professionals who visited our stand and thoroughly enjoyed discussing how Glow-worm can help you grow your business."

Neil Bunning, commercial director, **Glow-worm**

"We have recently set up a new business, so when we heard about the Heating and Renewables Roadshow, we knew this would be the perfect opportunity to gain as much information about the industry as possible, in order to help our business grow. We certainly left the Roadshow with plenty of information including industry news and new product technologies."

Patrick and Zienna Hall of **P&Z Hall Heating and Plumbing**

"We attended to find out more information about new products in the heating industry, as well as to learn more about the renewables side as this is a possible area that we could expand into. There was a great selection of exhibitors – all very well known in the industry."

Jonathan Yates of **Remec Heating Engineers**

Establishment of the new MCS Structure

Following key developments over the past 12 months, a new structure for the Microgeneration Certification Scheme is beginning to evolve, reports MCS

Many of these developments stem from Tripartite Agreement signed on 01 October 2014 by DECC, the MCS Service Company (MCSSCo) Ltd, and Gemserv (as the MCS Administrator). Following this agreement being signed, MCS has been working towards establishing the MCS Charitable Foundation (MCS CF) and the enduring structure of its legal entity (MCSSCo Ltd).

The aim of the MCS Charitable Foundation will be to provide both confidence and trust in renewable and low carbon technologies, whilst ensuring focus remains on consumer and environmental protection. MCS has placed an application with the Charity Commission in order to register the charity, and we will ensure installers and manufacturers are kept up to date as this progresses.

MCS recently took in applications from potential Trustees to sit on the Board of the Charitable Foundation, and this process was concluded with the appointment of six Trustees noted below:

Patricia Chalé	Karen McArthur
Bruce Farquhar	Sandra Walmsley
Steven Gould	Nick Whitaker

For further information on the Trustees please visit **http://www.microgenerationcertification.org/about-us/news-and-events**

MCSSCo Ltd will become a wholly owned subsidiary of the MCS CF, under which a Stakeholder Advisory Group, the MCS Committees, and an Administrator will sit. The Tripartite Agreement paved the way for MCS to transition into its enduring legal entity structure; providing robust certification and compliance within the renewable energy technologies and their installation practices.

The process for the appointment of the four new Board Directors for MCSSCo Ltd has now been initiated, and the closing date for applications is 30 September 2015. An additional two MCSSCo Ltd Directors have been appointed from the Board of Trustees of the MCS CF. More information on the MCSSCo Ltd Director vacancies can be found on the website.

For updates regarding the status of the MCS CF and MCSSCo, please check the MCS website.

Consultation on a review of the Feed-in Tariffs scheme

On 27 August 2015, DECC launched a consultation proposing a set of measures to control costs under the Feed-in Tariffs Scheme (FiTS). The consultation proposes to amend the tariff and degression bands to align with changes in renewable technology costs. Additionally, DECC has highlighted that if such measures cannot put the FiTS on a sustainable platform then there should be an end to generation tariffs for new applicants as soon as legislatively possible; this date could be as early as January 2016.

MCS strongly encourages industry stakeholders to respond to DECC's consultation which closes on 23 October 2015 at 11.45pm. Furthermore, in light of the proposed reduction of FiTS, we anticipate a rush in the number of installations and high volumes of MCS certificates being registered on the MCS database. A number of measures have already been established to monitor installation volumes for any type of unusual activity in light of the expected increase in volumes. Companies are reminded that any material change (such as technical capabilities and the size of the workforce) to their businesses should be noted to their Certification Bodies.

Pollard's Patter

So, now we know that the proposed plans for the Feed-in Tariff have exceeded all the forecasts in terms of severity. What will this mean for a fledgling market?

The first thing will be a huge rush to get installations in place before January next year. Those of us who experienced the first 'feeding-frenzy' resulting from tariff cuts will view this prospect with dread. How can we invest with any confidence to satisfy inflated demand and then manage costs afterwards?

I have said before that it is a false market that depends on a subsidy to succeed. If the product or service cannot justify itself to customers then it will decline. There are other compelling issues to consider such as the environmental question, the concept of resilience and security of supply. Those consumers who still default to the economic case for making purchasing decisions can be influenced by the positive experiences of consumers who have already taken the 'renewables plunge'.

Lastly, the fragile issue of confidence is something which affects all markets. Vast fortunes have been made and lost on the financial markets through the immeasurable factor of confidence. The whole renewables market has had its fair share of challenges to confidence which would test even the most committed participant. Confidence is like trust; once compromised, it is difficult to recover.

Nonetheless, renewables remain the smart way forward and Plumb Center remains dedicated to supporting our customers to benefit from them.

Making the most of the supply chain

HETAS is committing to being the 'go to' organisation for domestic heating related queries. It is imperative therefore that it maintains strong relationships with key players in the wood-burning and biomass industry, says **Bruce Allen**, CEO

Our reputation for expertise on safety and standards is built on knowledge that we've gained through our work on British and EU standards and from experience running the registration scheme. At the same time we are supported by other industry bodies, for instance Renewable Energy Consumer Code (RECC). While HETAS's focus has always been the safe, effective and efficient use of heating appliances, RECC is more centred on consumer protection from the fair trading perspective.

There is a lot that we can learn from each other helping to bring the whole supply process together. A crucial element is for us to provide constant support throughout the buying and installing process, ensuring that each job is completed to the highest exacting standards. We are all part of maintaining the industry's reputation across every single project and we ensure that there is constant support for all those concerned resulting in an installation that will be safe, efficient and relevant to the end user.

Support from industry bodies as well as other key manufacturers, associations and engineers is a necessity to fully understand each other's vital roles and experiences

Support from industry bodies as well as other key manufacturers, associations, and engineers is a necessity to fully understand each other's vital roles and experiences. This helps to maintain HETAS's continued reputation and of wood-burning and biomass.

There are a number of biomass manufacturers who are very supportive of the HETAS initiative, opting to only sell their products to installers who have completed a HETAS biomass course along with specific product-based training with the manufacturer. As the biomass industry continues to develop alongside the more traditional but equally innovative stove sector, it is encouraging to see such support.

For a more streamlined offering, the relationship between the manufacturer and the supplier often continues throughout the customer's home, as they design the best installation for their client. There has also been an increase by some manufacturers of the more complex designs, who get involved from the earliest stages of the design process right through to the end purchasing, ensuring the best operating conditions are upheld.

The partnership approach is a key aspect for HETAS's continued growth and recognition in the industry for its high standard and quality services. HETAS continues to support and help all our installers by keeping them up-to-date safety information as well as enhancing our own expertise so we remain the 'go to' resource for domestic heating quality, design and efficiency.

For more information about HETAS and to find your nearest HETAS approved retailer, please visit: **www.hetas.co.uk.**

We are all part of maintaining the industry's reputation across every single project

Growing up: Partnership with other organisations is key to Hetas' future expansion, says CEO Bruce Allen

Two minutes with . . .

Who are you?
Julia Evans, CEO, BSRIA

What do you do?
BSRIA is a thought leader in the building services world and offers innovative advice, testing and knowledge to members and to the industry as a whole.

Where are you?
We operate Worldwide

How's business at the moment?
The market for renewable technologies in the UK is doing poorly. Heat pump and solar thermal sales have decreased in 2014 despite the introduction of the long awaited RHI incentive scheme. 2015/16 does not offer better prospects. Government decisions to drop the 2016 Zero Carbon Goal for new homes and pull Green Deal, plus huge reductions in the Feed-in Tariff and likely cuts to RHI tariffs result in an uncertainty among industry stakeholders and end user. The start/stop way of acting around policies designed to cut greenhouse gas emissions and support the development of the renewables market will result in a painful failure to achieve both.

How could business be better?
Clarity and long term stability in support mechanisms are needed for the market to take a positive turn; and of course well-thought through policies that do not provide surprises to end user and policy makers alike.

Who do you admire in renewables?
I admire all the manufacturers, contractors and installers who have put a lot of effort into the introduction of renewable products to the market. Their work, devotion and faith in the future were often remarkable.

What's the best business advice you've ever received?
You have one mouth but two ears, use them proportionately.

Q&A

Bob Mills

LG Solar

REI: What have you got planned for the next 12 months?
BM: We plan to expand our range of panels as we look to incorporate our state-of-the-art Cello Technology into more of our designs. There are other innovations in the pipeline as we look to push boundaries to make sure our panels are best in class. From storing power and reducing waste, to making sure the cell absorbs every last drop of energy, we've got some exciting announcements to come.

What do you see as the growth area for renewables?
On the commercial front, we can expect to see growth in the number of small/medium sized businesses adopting solar with the aim of cutting costs and becoming more energy efficient. The residential sector – especially new developments – is an interesting area to watch too. As solar becomes increasingly efficient and less costly, developers have started adding energy solutions to their designs. At the same time, homeowners across Europe are becoming more committed to reducing their impact on the planet.

How is your company cutting its carbon footprint?
We are working towards our green mantra – 'Life's good when it's green'. We want to reduce the environmental impact of product development, production and distribution whilst enhancing the efficiency of our resources, recycling efforts and management of hazardous materials. As part of this, we are committed to reducing greenhouse gases emitted in the production and over the lifetime of our products by 150,000 tons by the year 2020.

Bob Mills is UK solar sales manager

Making waves in the UK energy sector

Gordon Moran, writing for the European Energy Centre (EEC), explores the future potential of wave and tidal power in the UK energy sector

Tidal and wave energy technologies have the potential to provide substantial amounts of electricity for the UK also offering reliable generation, zero emissions and minimal environmental harm. There are a range of energy harvesting technologies available, but techniques utilising tidal currents are more established than those using waves.

The UK has become a global hub for the development of these technologies and has unique testing and development facilities such as the European Marine Energy Centre in Orkney–the only grid-connected test centre in the world, and the FloWave Ocean Energy Research Facility at Edinburgh University.

There are plans for the commercial deployment of a number of different types of tidal technology in the UK. For example, the UK's first artificial tidal lagoon has had planning permission granted, with plans for a further five in future. The world's first grid connected tidal stream turbine–SeaGen–opened in 2008 operating in Stranford Lough in Northern Ireland. There are also plans for further commercial deployment of this type of technology by the 2020s using a design by the company Meygen.

As these technologies mature and are deployed commercially on a larger scale, additional jobs will be created in the supply chain. This, combined with their large energy generating potential and ongoing government support, mean that this sector looks to have an important role in our energy future and a positive impact on the wider renewables sector.

To learn more about renewable energy and energy efficiency through learning courses visit: **www.EUenergycentre.org**

Talking point

Liz MacFarlane, Zenex Solar, asks what will become of the PV industry if swingeing cuts to the Feed-in Tariff are given the go ahead

Firstly, let's look at the proposal itself. As well as an 87 percent headline cut to the tariff, what many people have missed are the quarterly caps. These would mean that once installations in any band in any quarter exceed the cap, no more installations will be eligible for FiTs in that band in the quarter and will need to wait until the following quarter to become eligible–at what will then be a lower FiT rate. This means that the customer or investor won't know what rate they will get or when they will start getting paid, until after installation.

If installations in the last few months of 2015 exceed DECC's expectations then it is possible that all the available funds will have been committed anyway, and the FiT scheme could end at the beginning of 2016.

So what's the future? My best guess would be that we will have a quiet first half of 2016 and that only those exiting 2015 in a strong financial position and with a diverse business model will be able to weather that storm.

Any remaining UK investor confidence will dwindle, and PV will become an aspirational sell to homeowners by companies which have other, larger parts of their business. High energy users and those wishing to future-proof themselves through self-sufficiency should still recognise the benefit of PV and the installers who have been selling in this way, and have built up a reputation in this sector, will be well-placed.

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TECH TALKING

Slow growth of the heat pump market

Heat pump specialist **Bob Long** looks at ways to boost the uptake of heat pumps via improvements to economic performance

Back in 2010, with the imminent promise of the RHI, many of us decided to get involved in this emerging market with prospects of vibrant activity.

How wrong could we be? The delivery date kept moving with many companies teetering on the edge of bankruptcy, and some eventually succumbing.

Eventually the RHI arrived but the uptake of heat pump technology just does not seem to have been as dynamic as we had all hoped.

Growth in the heat pump market is challenged by the low price of other heating alternatives although, surprisingly, the comparative cost pence per kW appears to suggest otherwise.

Probably the greatest low-cost competitor is natural gas with a cost of heating at around 6p/kWh. Assuming electrical energy is costed at 12p/kWh, a heat pump of minimal permissible efficiency (SPF 2.5:1) should return an operating cost of 4.8p/kWh.

With a simple calculation it's easy to explain to a potential customer how savings can be made. A 20 percent reduction on a heating bill makes for a compelling argument in favour of installing a heat pump.

With such calculable evidence, the heat pump market should have followed the solar epidemic, but sadly it didn't!

To help growth in the market the value-for-money ratio must improve. But this can only in part be achieved by better performance from the heat pump, and improvements in system design will probably have the largest overall impact on operating costs.

A call from governing bodies for an improved SPF of perhaps 3.5:1 would deliver the energy at a cost of approximately 3.4p/kWh, which already indicates this is a fight we can win.

All this arithmetic looks good but, in surfing a number of online forums for both trade and consumer interest groups, I am not reading great results.

I regret to say that stories from a number of end users are not confirming the anticipated savings. Some heat pump owners are very pleased with their decision, and others are scared to receive the next electric bill.

Much of the solution can be found in 'designing for lifestyle', which I have discussed in a previous article.

The output of the boiler also plays an important role in heating economics, particularly one of short-time occupancy. A boiler's ability to rapidly raise the working fluid temperature, deliver the energy and shut down, is not easily achieved with a heat pump.

A domestic ASHP is usually limited in output by the available electrical supply. 14kW output is probably closest to the industry-average size for a single phase supply, and is less than half the output of its strongest opponent, the natural gas combi boiler.

Generally the heat load calculations carried out during the quotation survey are calculated on the assumption of the building fabric temperature remaining fairly constant. Cold building fabric will absorb a significant portion of the heat pump's output over a prolonged period of time, preventing the air temperature from reaching a comfortable level in an acceptable period of time.

The obvious remedy for this problem would be to advance the time at which the heat pump starts but, in doing so, the running hours and electrical consumption will also rise, leading to higher heating bills. Not an ideal remedy.

If the electrical supply limits the rate at which energy can be introduced, the system design may need to prioritise essential living areas, allowing them to achieve a comfortable temperature quickly and allow a low-time-occupancy home to benefit from the potentially good economics of heat pump technology.

Designing for lifestyle is a major consideration in heat pump system design and I have seen little evidence of this requirement detailed in training courses, manufacturers' manuals or other heat pump-related publications.

CURRENT AFFAIRS

Bill Wright, head of energy solutions at The Electrical Contractors' Association, slams proposed cuts to the Feed-in Tariff as unnecessarily damaging to the PV sector

The latest consultation from DECC has caused waves of concern throughout the renewables sector. Just when we thought that enough damage had been done to the industry, the government announced it would consult on plans to make significant reductions to the tariffs paid to PV users.

I can understand the logic behind their other consultations on FiTs reduction, the limited use of ROCs, and even (at a push) their push for rooftop PV instead of acres of fields under solar panels, but I worry this will punish our industry unnecessarily. It looks like we are back to the yo-yo approach to renewable energy policy where it is literally boom and bust, and which has serious long-term ramifications for the industry and the businesses within it.

The government claims this latest consultation is merely a bringing forward of what would have happened in several years time, and has been caused by the popularity of PV and the dramatic reduction in installation costs. I don't buy it - surely labour rates or time to install can't have decreased that significantly in such a short space of time?

What can we do? Lobby the government, MPs and anyone in DECC and point out the effect that this could have on our industry. A petition is also currently doing the rounds to get this issue debated in Parliament, which would enable the government to see the effect their haphazard approach to renewables policy could have on our industry.

It's show time

Steve Pester, BRE, reminds readers why Solar Energy UK is worth a visit at the NEC from October 13-15

Staff and associates from the BRE National Solar Centre (NSC) will be speaking in several seminar sessions, covering various topics including:

- Energy storage
- Fire mitigation and risk reduction
- Project delivery
- How close is grid parity?
- The IET Code of Practice for Grid Connected Solar PV Systems, which is shortly due for release and the de-facto standard for PV installations throughout the UK.

At the NSC itself, we have completed our initial start-up period assisted by the European Regional Development Fund. This helped us to become established and also to assist many businesses in the Cornwall area. For the next phase, we are now concentrating on our main strengths of consultancy, publications and training, with plans for the development of a certification scheme for larger installations.

Our reputation for being a research-based and totally independent source of knowledge is creating a demand for our services including: assessment of potential solar sites, quality overseer of installations, investigations into faults and wind or fire-related incidents, assistance with planning and grid processes.

As part of the Building Research Establishment, the NSC is also able to tap into an enormous range of expertise and resources to help our clients with product testing, building-related issues or modelling, and also testing and demonstration of new products on the BRE Innovation Park.

We hope you will come and visit us on stand H22 (Executive Briefing Lounge) at Solar Energy UK.

Signed, sealed, delivered

For PV installers who think it is safe to buy panels Delivered Duty Paid (DDP) to evade solar duties, it is most certainly not, warns **Ian Draisey**, managing director of BayWa r.e. Solar Systems

There is a trend amongst some larger installers to buy direct from module manufacturers, under Delivered Duty Paid or DDP incoterms. This was very typical during the boom of 2011, when the distribution base in the UK couldn't keep up with demand, and was considered a 'safe' way to buy, taking no import risk. Under Minimum Import Price (MIP) legislation however, it's not as cut and dried as it may appear.

Installers buying modules are led to believe that these DDP purchases are risk-free, our research and advice would suggest otherwise.

Terms explained

It would be useful to outline the current status of import duty regulations and clarify the risks that these installation companies are taking.

Delivered Duty Paid (DDP) are transactions in which the seller must pay for all of the costs related to transporting the goods and is responsible in full for the goods until they have been received and transferred to the buyer.

Anti-dumping legislation has come about because in previous years many Chinese manufacturers were (and are) accused of selling their PV modules worldwide at a loss (dumping), undermining the indigenous EU manufacturers. Therefore dominating the market with cheaper products.

This practice was outlawed by the EU in 2012 following a legal challenge by Prosun. The EU introduced legislation through the imposition of MIP, which levies a duty of up to 75.4 percent on imported Chinese-made panels.

Bypassing the rules

Since 2012, Chinese solar manufacturers have had to sell PV panels at a minimum price to maintain fair competition with European competitors. It is now clear a few years on that the growth in the EU market proved too tempting a prize for some of the Chinese manufacturers affected.

In an attempt to bypass these restrictions several manufacturers have established manufacturing plants outside China, or even moved the whole of their production elsewhere. The latest EU regulations are set to restrict panel supply from this type of manufacturing.

If a solar panel is found to have been made in China, re-branded outside of China and has then been sold for below the MIP the manufacturer, importer and potentially the installer can all be heavily fined.

Does it really matter?

To put things into perspective, the anti-dumping case associated with solar panels is the largest ever trade dispute between the EU and China. So, yes, it does matter. The perilous position of those now at the wrong-end of the investigations is difficult to overstate.

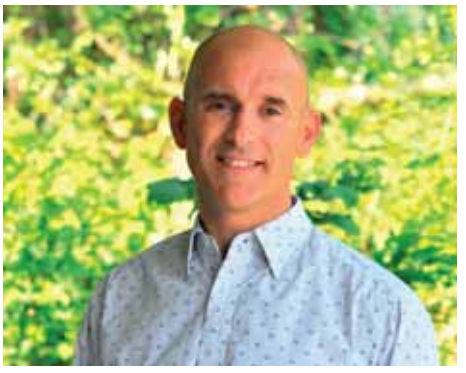
I am advised that investigations into both criminal and civil activity continue and I don't think we have even seen the start of the impacts for circumventing the trade rules yet. But, I do feel reassured that BayWa r.e. have taken a conservative and risk-free approach.

The net is tightening

The same anti-dumping restrictions apply to cells made in China but used in 'non-Chinese' panels and a number of manufacturers are currently being investigated for these practices.

So if you knowingly acquire and install panels which do not comply with the European Commission regulations, you run the risk of being fined.

Furthermore, installing panels from a manufacturer that currently faces a significant danger of going out of business is a dangerous practice. If they disappear, the manufacturer warranty on the panel will also disappear, leaving everyone exposed.



Trading places: To avoid falling foul of anti-dumping restrictions, PV installers should seek proof of panel origin from their distributor, says Ian Draisey, MD of BayWa r.e. Solar Systems

So what should I do?

You should seek written confirmation of the origin of your panels from your distributor. Plus you should always be very wary of buying panels that are of Chinese origin which are being offered below standard market rates.

This is now more than lip service as multiple fines have been placed and shipments have been blocked at port if the audit trail is unclear.

Liability for missing duty

If the importer does not pay duty, or due to insolvency is unable to pay duty, then the customer (as in the installer) is liable for these duties.

UK Customs will progress down the supply chain and find the next party that is

In an attempt to bypass these restrictions several manufacturers have established manufacturing plants outside China

recorded as the consignee. That party should set aside sufficient cash reserves to cover this risk under a DDP supply.

Unpredictable supply

Since the various European customs authorities have been holding back a large number of PV consignments, how do I know that I will get my supply in time? My manufacturer cannot control this and neither can BayWa r.e.

That company is then not able to supply the market and risks expulsion from the standard anti-dumping undertaking agreement.

This manufacturer is also then unable, in any practical sense, to service their own warranties. The supply then becomes un-bankable making the manufacturer's products impossible to work with.

This is very real situation now affecting a handful of high profile, high volume suppliers to the EU over the past year.

Long term viability

Importing means having to pay VAT, which holds a high burden on cash flow and will limit any high volume action from cash-poor manufacturers (as in those I presume willing to take such risks).

You should seek written confirmation of the origin of your panels from your distributor

High volume orders or ramp-up becomes difficult. Using fiscal representation is a potential route, but EU freight forwarders have already noted an unwillingness to handle module consignments without a substantial security deposit.

Companies taking this route are unable to supply through the existing standard supply chains as they do not have the sufficient value added, hence the requirement to look at 'bending the rules' out of necessity in order to keep their factories running.

They are also unlikely to be able to supply other markets. Some of the smaller, weaker manufacturers have attempted to take this route in recent months and are now having to face the consequences.

Information is power

All of these issues should be considered when deciding on a supplier and just as importantly a manufacturer's products you wish to install and subsequently stand by.

One leading Chinese manufacturer predicts that at least 30 percent of the BNEF Tier 1 companies will not be supplying the EU within 6 months.

EU policy is not static and will evolve to benefit those companies complying with the rules, particularly through consolidation. So focusing on key suppliers and key manufacturers will be rewarded in time.

The bottom line

Buy Chinese modules from Chinese companies made in China.
Buy Taiwanese modules from Taiwan suppliers made in Taiwan.
Buy EU modules from EU suppliers made in the EU.

Legal requirement: Chinese origin panels shipped via third countries and imported to the EU are liable to MIP duties. Installers buying DDP panels could be held criminally responsible if these are not paid

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Seeking assurances

Helen Bentley-Fox, quality manager at Woodsure, introduces the UK authority on woodfuel

REI: What is the role of Woodsure?

HBF: Woodsure operates the only national quality assurance scheme for all woodfuel types.

The Woodsure kite mark protects the millions of homeowners, schools and businesses across the UK which use woodfuel to heat their properties, from burning poor quality fuel.

The Woodsure certification scheme and its logo shows woodfuel users the suppliers and products they can trust.

From this month it has become mandatory to purchase off the government's Biomass Suppliers List. There are thousands to choose from, but look for those that carry the Woodsure logo to be sure you're getting a quality product every time.

What services does it provide?

We test products to ISO, EN and Önorm quality standards that detail the fuel requirements boiler manufacturers and installers specify their customers to use.

Specifically for installers we provide an arbitration service. When a boiler is not working we can eliminate whether or not it is the fuel quality that has caused the appliance fault.

We also operate ENplus for pellets and our quality assurance scheme is certified by the official body HETAS.

How is it relevant to installers?

For appliance manufacturers and installers fuel quality is vital to efficient, reliable boiler operation, and the hard work and commitment of professionally delivered projects can be jeopardised by poor fuel quality. Recommending Woodsure eliminates the risk that sub-standard fuel might compromise an installation.

We know that approximately 30 percent of suppliers fail to meet quality standards. As more and more producers become certified, we can expect to see a reduction in the availability and use of poor quality fuel.

To really maximise the benefits of Woodsure we want consumers to seek out the Woodsure logo on the products they buy. This is where installers can play an important role promoting Woodsure and the importance of using quality assured woodfuel from certified suppliers.

We estimate that some 200,000 tonnes of poor quality woodfuel is being used every year

What has Woodsure already achieved?

Woodsure has improved fuel quality and boosted industry confidence, it has reduced boiler damage but most importantly it is helping to protect UK air quality from pollutants caused by poor quality fuel.

The scheme is now a recognised standard within the UK's woodfuel market. It identifies the conscientious, responsible producers who supply a trusted product.

There are approximately 800 suppliers and producers in the UK, of which 200 are now Woodsure certified, and the list is growing.

We estimate that some 200,000 tonnes of poor quality woodfuel is being used every year, with consequences for the user and the sector.

Before the quality assurance scheme existed there was nothing to control the quality of fuel supply entering the market or to protect consumers from burning hazardous fuel.

What are its future plans?

A wood stove is never better than the wood that is burned in it–it's important that consumers understand this. This autumn we'll be launching Woodsure to the public in time for the beginning of the heating season.

Many consumers already demand quality assured fuel, and we expect more suppliers to become certified as awareness of Woodsure widens.

Installers, retailers and manufacturers are important stakeholders in the supply of quality fuel and in 2016 we hope to engage with them more closely.

Next year we'll be launching a new membership scheme for installers so that we can give them greater support and access to information and guidance.

Before the quality assurance scheme existed there was nothing to control the quality of fuel supply

Charge your business

Ian Halton, training and business relationship director at NAPIT, looks at the growing electrical vehicle market and how installers can take advantage of the opportunities to cash in

The unstable price of crude oil in the world has led to potential car buyers and businesses looking at other alternatives to petrol and diesel transport. An increasingly viable option has emerged with electrical vehicles.

As advancements in the production of electric vehicles are made to make them more affordable and the driving range is increasing to make them more practical, interest is rising in the technology. There is no doubt that climate change is becoming a seriously important issue on a global scale and electric vehicles look set to be part of a future that moves away from unsustainable fossil fuels. If installers could look to take advantage of this growing technology now, they stand to gain the most from the inevitable future popularity.

Cost cutter

One argument against electrical vehicles has always been the high cost of buying and then running them. However, research has now shown that businesses that use a green company car could save £3,000 over the car's lifetime compared to a non-electric vehicle . Also, another study has shown that UK companies could save £2.6 billion on fuel should they switch to electric vans. This shows that cost is not the issue it once was.

The common issue surrounding cost has contributed to an abundance of government support for the technology recently. The Plug-in Car Grant allows potential buyers to apply for up to 35 per cent off the cost of electric vehicles, providing they meet certain conditions . Even though the grant is due to end later this year, it is being replaced with a scheme that recognises the diversity of the technology available.

The UK government itself has recently been investing in electric vehicles. Over 100 plug-in cars and vans are now in use by various government departments, with the number expected to grow to help meet the UK's low carbon commitments. With this kind of backing, the technology is unlikely to dwindle anytime soon.

Sales boom

Now the cost issue is being addressed and the benefits of owning an electric vehicle are becoming clear, the popularity of the technology is rapidly growing. Last year alone, there was a huge surge in demand as plug-in electric vehicle sales quadrupled in 2014 compared to 2013.

UK companies could save £2.6 billion on fuel should they switch to electric vans

Green light: With high fuel savings to be had, cost is no longer a prohibiting factor for investment in electric vehicle fleets, argues Ian Halton, NAPIT's training and business relationship director

Kieron Alsop, managing director of Rolec Services, recently said: "As hybrid and electric vehicles become increasingly popular, the demand for commercial and, increasingly, domestic electric vehicle charging points will grow with it. Fuel costs for some electric vehicles can be around a sixth of those faced by those using conventionally fuelled vehicles – and the technology is constantly evolving. As petrol and diesel prices rise, electrical vehicle charging can only grow in popularity."

As demand for electrical vehicles grows, so will the demand for installing charging points up and down the country

Therefore, as demand for electrical vehicles grows, so will the demand for installing charging points up and down the country. If installers place themselves in a position to be able to install these charging points, they can generate a lot of new business for themselves.

NAPIT has a training course that provides installers with the practical skills and technology specific knowledge required to install charging points with confidence. The course is specifically designed for experienced electricians who are interested in expanding or diversifying their business by learning to install this emerging technology.

Show business

With the recent subsidy cut plans announced by DECC, organisers of Solar Energy UK have added a number of seminars specific to coping with the emerging business environment

Solar Energy UK returns to the NEC this month for its sixth year. Billed as the UK's biggest gathering of the entire solar supply chain, this exhibition and conference runs from Oct 13-15 and is free to attend.

This year's show promises to be the biggest yet with 220 exhibitors filling the exhibition hall and over 120 expert speakers delivering seminars across four feature areas. With the recently proposed Feed-in Tariff cuts causing widespread anxiety amongst domestic installers of solar, there will be a number seminars designed to help them get their business in the best shape for the forthcoming changes.

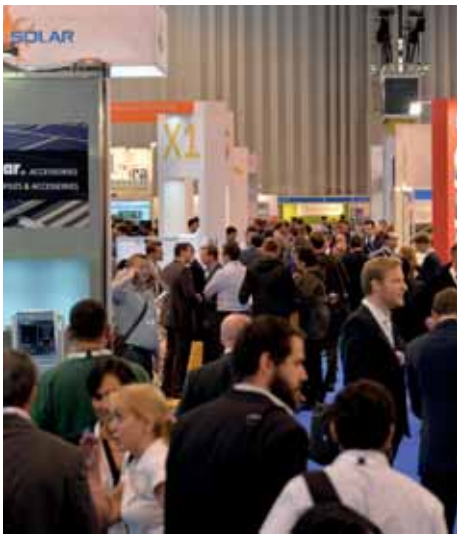
Essential sessions to attend:

- The real impact of FiT drop on your business and how you should prepare now
- When storage will change the game for you
- How you can up-sell to existing customers
- Why getting your load profiling right will guarantee you more customers in 2016

REI will be attending the show on stand P17 so do drop by if you are at the show. Tickets are free and you can register in advance to beat the queues at http://uk.solarenergyevent.co.uk

The Solar Power Portal Awards Gala Dinner take place on the opening night of Solar Energy UK. This year's awards have already surpassed last year with almost 600 tickets sold, and REI will be there to report on the winners and runners-up.

For more information visit: **https://awards.solarpowerportal.co.uk**



Size matters: Over 220 exhibitors will be at this year's Solar Energy UK exhibition, making it the biggest in its six year history

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BOSCH

Invented for life

Renew your business

Tim Pollard, head of sustainability at Plumb Center, introduces the company's new Energy Efficiency Installer Plus scheme

As all installers know, planning is one of the most important parts of the job. It's even more important when it comes to renewable technologies, when installers can find themselves facing problems like having to resize radiators to account for heat loss, or finding the optimum spot for an installation.

Installers sometimes need a bit of help with planning, especially with bigger, more complicated jobs such as installing ground source heat pumps, and getting support from their merchant can be hugely helpful.

With this in mind Plumb Center has put together its Energy Efficiency Installer Plus scheme, to give installers support not just with planning, but with every aspect of a renewables job

By design

Like with any installation of large or complex machinery into a property, a renewable installation requires extensive planning and project design. Renewables technologies can take up a lot of space, like ground source heat pumps, or have to be installed in hard to reach locations. As part of its Energy Efficiency Installer Plus scheme, Plumb Center offers a Computer Aided Design (CAD) service.

Scheme members can use the CAD service to plan renewables jobs down to the most minute detail by providing some information about their project, plus floor layout drawings with dimensions. The CAD team can then provide them with heat loss calculations, heat pump and biomass boiler sizing, under floor heating layout and installation drawings, heating and plumbing systems design and layout, radiator schedules and tubes/fittings bills of materials. Best of all the design is turned around within five working days.

Super support

Installers who are part of the scheme will be able to benefit from Plumb Center's Renewables Support Team, which aims to offer a one stop shop to MCS-Accredited installers. Although Plumb Center branch staff can advise installers about renewables, the Renewable Support Team is a group of specialists, including an MCS-accredited installer and trainer.

The main role of the team is to offer the Renewable Support Service which is a multi-step process.

1. Touch base – Installers can give the team a call to discuss their latest renewables project. The experts will talk customers through suitable technologies and any property considerations that might affect an installation.

2. Design service – The Computer Aided Design service (mentioned above) is the next step on the support process.

Plan ahead: With no two jobs the same, Plumb Center has put together its Energy Efficiency Installer Plus scheme, says Tim Pollard

3. Product selection – Being part of the scheme offers members information on the latest renewables technologies, as well as being the first to know about offers on products. The support team will then help installers choose the very best technology for the installation.

4. Pricing and quotations – Quoting customers a price for a job can be tough. If an installer overprices the job they can lose a potential payday, and if they undersell themselves they risk impacting their business financially. The support team will provide quotes on materials for members, so that they can price their projects appropriately enough to make profit, without over-charging their customers.

5. Order and delivery – When it's time to place an order, the team will process the project requirements and arrange for delivery to a destination or local Plumb Center branch if preferred.

Masterplan

Planning is important in most industries, but with renewables it is vital. No two installations are the same, and savvy installers know that it is never just a case of rinse and repeat. Planning a renewables job has never been easier with top notch support from great initiatives such as the Energy Efficiency Installer Plus scheme and its Renewables Support Team.

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Harworth and Energy Prospects Co-op complete second turbine project

Harworth Estates in partnership with Energy Prospects Co-operative has completed the installation of a 500kW wind turbine at the former Shafton Two Gates colliery site in Barnsley

The turbine, which generates sufficient power for 1,000 local homes, was developed on one acre of land on the site. Energy Prospects Co-operative raised money to fund the development through a public share offer, giving priority to those who live locally.

Its opening follows that in February of a first 500kW wind turbine at the former Arkwright surface mine close to Chesterfield, also developed in partnership with Energy Prospects Co-operative.

Hannah Moxon, assistant management surveyor at Harworth's Natural Resources Division, said: "The Shafton Two Gates project demonstrates our expertise at regenerating redundant land for renewable energy use in partnership with trusted partners like Energy Prospects Co-operative.

"We will be bringing forward a number of other low carbon schemes across our landholdings in 2015 as part of the company's ongoing commitment to renewable energy."

Harworth's portfolio includes four operational turbines, and two operational solar farms. It has a pipeline of projects on its landbank with the potential to deliver 170MW of power – enough to power 50,000 family homes.

Freezing fruit, freezing energy bills

East Anglian soft fruit farm **PlaceUK** has cuts its energy bills by £30k a year and carbon footprint by 100 tonnes via its new 200kWp ground mount PV array

The £19m company, which supplies 3,500 tonnes a year of fresh and frozen raspberries, blackberries and strawberries to supermarket chains, invested £205,000 in the 800 panel system installed by EvoEnergy at its 900 acre site.

The company's two blast-freeze tunnels, cold storage and dry goods stores consume three million kWh of electricity each year. The PV array has cut energy bills by 10 percent and is generating £30,000 per a year in Feed-in Tariff returns. The investment also qualifies for 100 percent tax relief under the government's Annual Investment Allowance.

800 Sharp 250Wp panels took four weeks to install in a field 100 yards from the site's mains power supply. EvoEnergy devised an Export Power Controller to allow the full system's load to be utilised, without exceeding the site's export power limit.

Peter Alder, head of sales and marketing at EvoEnergy, said: "At EvoEnergy we've been working with farms and agricultural businesses over the last five years to help them save money on energy bills through PV and provide them with second incomes via FiT.

"For a firm like PlaceUK, securing its energy supply through renewables made financial sense as well as environmentally."

Finance director for PlaceUK, James Startling, said: "When our factory's not running our cold stores still use a base load of energy. With the extra PV that base load can now be powered entirely from solar power and that's a real breakthrough for us. Our energy supply is more secure and our carbon footprint has been reduced."

Panel debate: Soft fruit farm PlaceUK's energy intensive freezing and cold storage needs made investing in solar PV a no brainer

ReFood completes £6m AD expansion

Food waste recycler **ReFood** has finished work on a multi-million pound expansion of its anaerobic digestion facility in Doncaster

By almost doubling its capacity to process 160,000 tonnes of food waste from Yorkshire and Humberside a year, it is now the largest plant of its kind in the UK.

Generating just under 5MWh of electricity per annum via CHP, ReFood Doncaster will help power more than 12,000 homes in the region.

The £6m expansion work saw two new 3,700 tonne capacity digesters installed, alongside two 1.1MWh gas engines and additional receiving and storage tanks. 30 jobs have been created from the project across sales, transport, operations and maintenance roles.

Phil Simpson, commercial director at ReFood, said: "Huge local demand for an integrated food waste collection and recycling solution has fuelled this multi-million pound investment project, just three years after we initially opened the site.

"Businesses across the region are beginning to appreciate the financial benefits of diverting food waste away from landfill and we're pleased ReFood Doncaster can continue to deliver these benefits to an ever-growing number of customers. As well as being a more financially viable waste management process, food waste recycling is hugely beneficial from an environmental perspective."

The resulting digestate is repurposed by a network of local farmers as a PAS 110 certified fertiliser, replacing the use of chemicals and closing the food chain from field to supermarket and back again.

Wasting away: ReFood Doncaster is the largest anaerobic digestion facility from food waste in the UK, following a £6m expansion

SALLIS flies high in Belfast

Ireland's largest PV system has been completed at Bombardier's wing facility at **Belfast City Airport**

Designed, managed and installed by Belfast-based SALIIS Renewables, the 3.6MW system comprises 14,000 panels on the roof of Bombardier's 50,000 sq m facility. Costing £3.5m, it took 10 weeks to install and is expected to generate three million kWh of electricity a year.

Due to the location of the site, and its proximity to the runway, a number of unique solutions were designed to ensure health and safety. These included a specially engineered structure resistant to high winds, on which the panels were mounted.

Winging it: Bombardier's 14,000 panel 3.6MW PV array at Belfast City Airport is the largest solar system in Ireland

"At its peak we had over 50 employees and sub-contractors working at height of 18 metres on this installation," said Michael Burke, managing director of SALLIS Renewables.

"In preparation we designed a system to create a safe working environment for all involved. This included the construction of a 1.2km safety handrail system around the exterior of the wing facility and a bespoke stairwell."

To fund the project, SALLIS brokered a PPA agreement whereby Oxford Capital financed the 14,000 panels and retains ownership of the system. Bombardier is contracted to buy the system's electricity for a fixed period. SALIIS Renewables will be responsible for maintaining and remote monitoring the system for the next 25 years.

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Keep calm and carry on

In May this year and in response to the changes brought about by ErP, MCS published an update to its heat pump installation standard MIS 3005 v4.3, and released a new Seasonal Coefficient of Performance (SCOP) calculator–MCS 026. This is a positive step forward and installers should carry on as normal for the time being, says **Graham Wright**, legislation specialist at Daikin UK

MIS 3005 v4.3, the updated MCS installation standard for heat pumps, will see the Heat Emitter Guide replaced with an online Seasonal Performance Factor calculator from 26 March 2016. Additionally, the Ecodesign of Energy-related Products Directive (ErP) that came into effect during September this year will apply to space heaters, water heaters and combination heaters, plus water tanks. Products will have to meet minimum requirements for energy efficiency and maximum sound power levels.

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 Labeling Directive, which also comes into force.

Under the ErP, installers must ensure they only install products meeting the new minimum efficiency requirements and provide customers with a 'package' energy label for their system (if required). Labels will be available to create and download, free of charge, from manufacturers' websites.

While MCS describes the update to the heat pump standard MIS 3005 as minor, it does reflect the SCOP of heat pumps differently, and introduces a new way to calculate the Seasonal Performance Factor (SPF) of installed systems. The calculator gives MCS installers a new way of declaring the design SPF.

Under the new standard, MCS installers will become MCS Contractors and have until 26 March 2016 to comply. Currently, the likely SPF is determined using the Heat Emitter Guide, and in future, installers will have to use a method based upon the new MCS SCOP calculator.

Heat pump manufacturers, which wish to retain their products on the MCS list, will be required to provide product performance data to MCS, which will then appear in the calculator database. Installers will then enter product and property information into an online calculator on the MCS website, which will estimate the system SPF and can ultimately be used to determine dRHI eligibility.

MCS installers have plenty of time to prepare themselves for these changes and they will still be able to use the Heat Emitter Guide and the current version of MIS 3005 (v4.1) until 26 March 2016. After that, the new version of the standard and the SCOP calculator must be used.

When it comes to determining dRHI eligibility, for those systems installed before 26 September 2015, MIS 3005 v4.1 should still have been used. As before, customers have a year from the commissioning date shown on the MCS certificate of their system to apply for dRHI payments.

New order: Installers still have until 26 March 2016 to get to grips with a new and compulsory method of calculating SPFs of installed systems, reminds Graham Wright, legislation specialist at Daikin UK

The introduction of ERP and energy labelling is a significant step forward in providing performance data that is closer to the conditions found in the EU. Whilst the change to the installer standard is only small it will allow installers to design systems that meet householder expectations, even if this will lead to slightly higher burden in helping them gain access to RHI payments.

After 26 March 2016, the new version of the heat pump installation standard and the SCOP calculator must be used

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Generation tariffs for non PV technologies

Technology	Band (kW)	Tariffs (p/kWh) from 01 Oct 2015
Hydro	≤15	15.45
	>15-≤100	14.43
	>100-≤500	11.4
	>500-≤2000	8.91
	>2000-≤5000	2.43
Wind	≤1.5	13.73
	>1.5-≤15	13.73
	>15-≤100	13.73
	>100-≤500	10.85
	>500-≤1500	5.89
	>1500-≤5000	2.49

(Source: OFGEM)

Number of MCS registered installers per technology

Technology type	Cumulative number	Registered July 15
Solar PV	2490	40
Biomass	373	06
Air source heat pump	807	11
Ground source heat pump	628	04
Solar thermal	875	04
Small Wind	74	0
Total	2642	75

Number of MCS registered installations per technology

Technology type	Cumulative number	Installed July 15
Solar PV	733051	10643
Biomass	14344	54
Air source heat pump	38923	542
Ground source heat pump	10578	112
Solar thermal	7888	59
Small Wind	4886	02
Total	809670	11412

(Figures supplied by Gemserv)

Generation tariffs for Solar PV

Tariff band	FiT rate (p/kWh)
<4kW	12.47
>4-10kW	11.3
>10-50kW	11.3
>50-150kW	9.63
>150-250kW	9.21
>250kW-500kW	5.94
Standalone	4.28
Export Tariff	4.85

Domestic RHI tariffs

Technology	RHI rate (p/kWh)
ASHP	7.42
Biomass boilers	6.43
GSHP	19.1
Solar thermal	19.51

Green Deal*

Month	Assessments	Live GD Plans
August 15	8579	1264
Total	598612	12479

Green Deal supply chain*

Month	Assessor organisations	Providers	Installers
August 15	-30	01	-87
Total	364	180	2087

***The Green Deal Finance Company is now closed to new applications**

(Source: DECC)

Cost comparison of heating fuels (not including RHI payments)

Fuel source	kWh provided per unit of fuel	Efficiency of system (%)	Units consumed by house (kWh)	Price per unit of fuel (£)	Units consumed per annum	Cost per annum
Heating oil (kerosene)	10 per litre	90	25300	0.31 per litre	2530 litres	£784
Wood pellets	4800 per tonne	94	24300	256 per tonne	5 tonnes	£1,280
Natural gas	1 per kWh	90	25300	0.04 per kWh	25300 kWh	£1,012
LPG	6.6 per litre	90	25300	0.38 per litre	3833 litres	£1,457
Electricity	1 per kWh	100	23000	0.14 per kWh	23000 kWh	£3,220
*Air source heat pump	1 per kWh	290	7931	0.14 per kWh	7931kWh	£1,110
*Ground source heat pump	1 per kWh	360	6389	0.14 per kWh	6389kWh	£894
Dual mode system 1						
Oil boiler (30% of heat load)	10 per litre	90	7590	0.31 per litre	759 litres	£235
*Air source heat pump (70% of heat load)	1 per kWh	290	5552	0.14 per kWh	5552 kWh	£777
Dual mode system 2						
Gas boiler (30% of heat load)	1 per kWh	90	7590	0.04 per kWh	7590 kWh	£304
*Air source heat pump (70% of heat load)	1 per kWh	290	5552	0.14 per kWh	5552 kWh	£777

Based on 23,000kWh needed to meet typical household's heating and hot water needs per annum. Prices and costs are indicative only and may vary.
*Calculations based on continuous operation at maximum efficiency. Fuel costs taken from Nottingham Energy Partnership and other sources.

RHI non-domestic rates

Tariff name	Eligible technology	Eligible sizes	Tariff rate (pence/kWh)	Tariff duration
Small biomass	Solid biomass: Municipal solid waste (inc CHP)	Less than 200 kWth	Tier 1: 4.18 Tier 2: 1.11	20
Medium biomass	Solid biomass: Municipal solid waste (inc CHP)	200 kWth and above, less than 100 kWth	Tier 1: 5.18 Tier 2: 2.24	20
Large biomass	Solid biomass: Municipal solid waste (inc CHP)	1000 kWth and above	2.03	20
Small ground source	Ground source heat pumps, water-source heat pumps, deep geothermal	Less than 100 kWth	Tier 1: 8.84 Tier 2: 2.64	20
Large ground source	Ground source heat pumps, water-source heat pumps, deep geothermal	100 kWth and above	Tier 1: 8.84 Tier 2: 2.64	20
Solar thermal	Solar thermal	Less than 200 kWth	10.16	20
A2W heat pumps	ASHPs	All	2.54	20

(Source: OFGEM)

Domestic RHI deployment

Technology	Accreditations (since Apr 14–Aug 15)	% of total
ASHP	17807	43
GSHP	5911	14
Biomass	10232	25
Solar thermal	7018	18
TOTAL	40,968	100

(Source: DECC)

Knowledge: Case studies

BIOMASS

What: Agriculture college swaps big bills for biomass

How: 4 x 199kW HDG Compact wood pellet boilers

Result: £80k RHI payments and 400,000kg carbon saving per annum

Hartpury College campus, in Gloucester, approached Euroheat in a bid to reduce its £800,000 annual oil heating bill and save on carbon emissions.

Covering 360 hectares and accommodating more than 1,300 residential students, the agricultural and sports college already boasted a large PV array.

Euroheat duly supplied a biomass district heating system and installed four of the company's prefabricated Energy Cabins, each containing a 199kW HDG Compact wood pellet boiler, integrated 14 tonne pellet store and a 4000 litre accumulator tank.

"Campus managers can now look forward to saving on the cost of over 150,000 litres of oil previously used on-site, replacing it with the estimated 300 tonnes of wood pellets the boilers will use," said Simon Holden, co-founder of Euroheat.

Steve Luker Associates, consultants for the project, added: "There were no real issues with installation. Once the preparation work had been completed to link into the existing oil system, which is being retained as a back up, the Energy Cabins were simply and swiftly installed.

"The part of the campus now benefiting from biomass previously cost some £143,000 per year to heat, so taking into account previous fuel costs, we can say that it is hoped that savings will amount to over £100,000 a year when lower cost fuel is combined with RHI payments."

Hot prospects: Hartpury College, with its rollcall of 1,300 residential students, can now add a biomass district heating system to its green credentials and existing PV system

BIOMASS

What: 16th century estate achieves fuel savings

How: 180kW wood chip boiler

Result: £20,000 annual bill reduction

The owners of a 16th century estate in Cornwall have turned to a biomass district heating system to heat their manor house and six cottages.

The Vyvyan family, owners of Merthen Manor on the Lizard peninsula, are now saving £20,000 per year on energy bills compared to oil and LPG, receiving income from the RHI and netting a 43,000kg annual reduction in CO^2 emissions.

Having assessed the estate's heat requirements, Forest Fuels specified a 180kW wood chip boiler, supplied with fuel from the estate's own woodland. Forest Fuels then took care of the tendering process.

"Biomass is ideal for an estate like Merthen Manor," said Forest Fuels' director Sam Whatmore.

"Our job was to ensure that the end solution would not only meet the Vyvyan's exact requirements, but also guarantee that it would provide more than enough heat, be as simple to maintain as possible and save them money."

Tony Vyvyan added: "It may be simple to get quotes from different biomass installers, but it's not easy to know the right questions to ask. That's where Forest Fuels' advisers have been invaluable to us. They handled the specification and tender parts of the process and advised us at every stage.

"Our biomass system has made a huge difference to us, and we couldn't have realised such a marvellous solution without the help of Forest Fuels."

Citizens advice: Merthen Manor owner Tony Vyvyan recruited the help of Forest Fuels to specify the optimal biomass heating system for the estate, and put the job out to tender

HEAT PUMPS

What: Self-built eco house opts for sustainable heating

How: 8.5kW Ecodan ASHP

Result: Carbon neutral living

Chris Gibbins, a former business analyst, set out on a mission to build an exemplar in sustainable housebuilding, by combining straw bales as a building material with a number of other energy efficient measures.

Following a four day course on building with straw at the Centre for Alternative Technology in Wales, Chris constructed a four bedroom, three storey property in the East Riding of Yorkshire.

The house has underfloor heating, loft insulation, solar thermal and solar PV panels but had no access to gas heating.

"We were faced with a choice of using either oil or electric," said Chris.

"Straw is thermally insulating, it's a waste product, there is no carbon – in fact it locks up carbon – so from every angle it's a great product to use.

"Originally we thought we might be able to get away without heating the house at all, but we had a month at minus 13 Celsius, and the house wouldn't remain warm at that temperature for that length of time. So we installed the heat pump as a background source to ensure we achieve the right level of comfort through the winter period."

Chris Wilde of Yorkshire Energy Systems, who installed the Ecodan unit, added: "The whole house is incredibly efficient. Despite the fact that it is quite a large house we have installed a very modest size pump, as that is all that will be required to achieve the desired level of heating."

Final straw: Chris Gibbins has achieved zero carbon living by building his house with straw bales, and using an Ecodan ASHP for space heating and hot water

HEAT PUMPS

What: Water source heat pump delivers carbon savings to Grade II listed building

How: Kensa 24kW single phase twin compressor

Result: Annual heating cost lower than gas

Keith Clarke and his family recently moved into River House, a large Grade II listed farmhouse in Cambridge. Already familiar with ground source technology, Keith was eager to replace his 20-year-old gas boiler with a renewable alternative.

After approaching Cambridge-based installer Cernunnos, a Kensa 24kW single phase twin compressor was identified as the best heat pump to handle the property's high heat load. Kensa also recommended that the Clarkes use the heat energy in the large lake within the grounds at River House, fed by a natural spring.

With the return temperatures from the lake being 5-6˚C higher than ground collectors, Cernunnos sank five pond mats consisting of 300m of slinky pipe to the bottom of the lake. They connected the closed loop system to the heat pump housed in an annex building via pipes under the lawn.

Many of the house's existing radiators were oversized, and basic insulation measures were installed, reducing the amount of remedial work required.

Chris Davis, commercial director at Kensa Heat Pumps, said: "More and more people are realising that they can use water as a heat source for their ground source heat pump as it is an excellent conductor. In this case, the lake has a natural stream flowing into it replenishing the energy supply and creating a highly efficient water source system."

Mr Clarke said: "I knew that ground source was a great technology for extracting natural heat to provide a completely green heating system. There's a big investment involved, however we realised that we could get the whole thing paid for with the RHI. Plus we've got a system where the yearly cost of electricity is less than we would have been paying for gas."

Pond life: The Clarke family's lake provides a reliable heat source to meet all it's space heating and hot water needs

My working week

Who: Josh Wolfendale, apprentice renewable energy installer at Hero Renewables

What: Based in Cheshire, Hero Renewables offer design, supply, installation and support in a range of renewable energy technologies

Progress report: With constant travel and a wide range of skills to acquire, Josh Wolfendale is enjoying the many challenges of being an apprentice at Hero Renewables

Getting off the ground

Monday

As an apprentice, I'm always leaping from job to job, which keeps things exciting. With my schedule being so varied it allows me to develop a broader set of skills as I work on different installations. Today I'll be starting a ground source installation in Chester, so first off I attend the handover of the job file with my lead engineer and head of operations. Then out to the warehouse with the team to pick up all the parts needed and to go over everything. Once we're all prepared it's off to see the client for a pre-start meeting and to look over the job with them. The borehole drilling finishes today, so the last thing to do is make my shopping list for any extra fixtures and fittings we're missing!

Tuesday

After picking up the shopping we arrive back on site early to begin the long day's graft, installing pipework. My job's very hands on and there's not much I'm not allowed to do. I've still got a lot to learn but the team says I'm progressing well, after fitting my first hot water cylinder.

Wednesday

Back on site at 7.30am ready to install the remaining pipework. First we drain down the existing system (which turns out to be gravity fed, which means me being up in the loft) to then connect up the heat pump unit.

Whilst adjusting pipework to change over to a pressurised system, I discovered a leak on the hot water cylinder which means a call to our supplier to get a replacement by the end of the day. It took a few hours for it to arrive so I spent some time with the electricians observing the wiring of a heat pump. We stayed late to finish the pipework to make sure it was ready for commissioning the next day, job done.

Thursday

After finally finishing up in Chester, it's up to Scotland at the crack of dawn for the remainder of the week, it's a busy job being an installer, especially for an apprentice. After a long drive up the country I'm ready to meet my supervisor for the job briefing. This time it's the start of the project and I will be helping out with the groundworks. I spent the rest of the day in the trenches making up slinky pipes and getting my hands dirty. Now the slinkies are laid, it's my job to complete the Electrofusion Welding, under supervision of course!

Friday

After staying the night in a charming B&B in the middle of West Ayrshire, it's back on site at 7am to clean the pipework ready to be flushed with sanitiser. After a successful pressure test it's time for the finishing touches, first lagging the rest of the pipes and finally backfilling round the manifold. After a hectic but fulfilling week it's time for the long drive home for a well earned weekend's rest.

Working as an apprentice at Hero Renewables has certainly been challenging, it has sparked my interest in the renewable energy industry and there is always something new to learn. I love travelling and working in different environments, and also meeting new people. Hero Renewables is seeking new apprentices. For more details call 0808 222 0 111, or email **careers@herorenewables.co.uk.**

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