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Rebuilding Britain's renewable market

Industry to bounce back after subsidy cuts

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Industry moves on

It has been an interesting return to the editor's chair as I follow Paul Stephen's successful tenure with the magazine. The last time I was involved full-time with REI magazine, the Feed-in Tariff had just been launched and the industry looked set for a smooth and successful future. Since then I have followed the highs and lows of an industry that has managed to strive ahead despite the policy changes, constant interference and shouting from the sidelines.

Following the Government's response to its consultation to reduce FiTs, I was anticipating a gloomy landscape with talk of widespread job losses and a collapsing market. I have seen good friends in the sector lose their businesses that they had worked tirelessly to make a success.

However, it is clear the renewable energy market remains attractive to consumers from households to communities, industry and utility-scale. This is consistently backed up by the DECC-commissioned surveys that tell a very different story... renewable energy remains popular with the public despite the constant distractions and obstacles.

The unprecedented response by the public and businesses to the Government's original proposals for the FiT scheme is proof that this industry is much needed and well supported and continues to have a bright future. The latest anslysis shows that for householders the new rates mean a return on investment of around 5% – a tax free, inflation linked return, higher than any rates on offer today for savings accounts, where interest rates are at a record low.

While the tariff changes remain a significant hurdle, the renewables industry has proved itself to be the best energy sector in the world at bringing down costs and developing innovative products. The Government's own surveys confirm that solar power is the UK's most popular energy technology and REI magazine remains confident that, while renewable energy may be less financially attractive than previously, the market remains on track and has the support of consumers to deliver a green energy revolution that will reduce the cost of bills and emissions.

I look forward to moving forward and helping champion this great industry.

Editorial panel members


Andy Buchan, CEEC, Future Renewable Energy


Dave Sowden, SEA


Garry Broadbent, Lifestyle Heating


John Kellett, Mitsubishi Electric


Paul Joyner, SBS


Liz McFarlane, Zenex Solar


Tim Pollard, Plumb Center


Phyllis Boardman, Green Deal Consortia


Robert Burke, HETAS


Gideon Richards, MCS

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In brief

ENER-G system for Dublin bank HQ
The Central Bank of Ireland will be the country's first building to achieve the highest available BREEAM rating. The Dublin HQ is to install a high efficiency ENER-G Combined heat and power (CHP) system ahead of its scheduled opening in late 2016.

Krannich Solar and Bosch link
Bosch Power Tec and specialist PV distributor Krannich Solar have strengthened their global distribution partnership, with Krannich now bringing Bosch's new and innovative range of string inverters to the UK market.

New pellet tech
Sustainable heating solution provider Grant UK has introduced cyclone technology to its wood pellet stores – an advanced safety mechanism to slow pellets during filling, preventing damage to the fuel.

Waxman launches heating division
Waxman Group is expanding its portfolio to include wood and solid fuel technologies and more. Waxman Heating is a new limited company under the Waxman Group, specialising in the supply of chimney system solutions, solid fuel and wood burning stoves, and renewable heat technologies encompassing solar thermal and heat pumps

Ecotricity and H+H announce new wind turbine at Pollington factory
In its latest green energy partnership, Ecotricity is installing a new wind turbine with H+H in Pollington, East Yorkshire. Ecotricity will finance and build the wind turbine at the Pollington factory, while H+H will consume the energy on-site, significantly reducing its carbon emissions.

Ecotricity pioneered this unique approach 15 years ago, and its wind turbines currently power operations for Ford, Michelin, Sainsbury's and B&Q.

First council switches to smart metering for heat and water

Almost 3,000 council-managed homes have been fitted with digital heat and water metering and improved heating controls, giving social housing tenants the tools to save on their bills.

Bristol City Council is the first large social landlord in the UK to go 'smart'. The system is connected to the council's communal heating systems and comprises heat-cost allocators that can communicate remotely, replacing manually read evaporation heat meters and water meters.

Between 2012 and 2015, 50 of the city's housing blocks have been fitted with state-of-the-art technologies from Danish company Brunata, installed by Integral UK Ltd.

The project is one of a number of council initiatives to help reduce fuel poverty. Tenants will be able to follow their own heat and water use in an easy-to-understand format online, as well as digital displays on the meters and allocators. This has been shown to motivate more careful thought about consumption.

Mayor George Ferguson said: "Bristol is leading the way with the installation of this modern system. It will give our tenants more control over what they spend, and every bit of help towards saving on bills is a step towards alleviating social inequality and fuel poverty."

Public surge in renewables investment during Paris climate change summit

Abundance, the ethical investment platform, witnessed a record pace of new investment during the COP21 climate talks in Paris in December 2015.

As world leaders debated the speed of our transition from fossil fuels to renewable energy, £2.3m was invested directly by members of the British public in the organisation's UK-based wind, biomass and solar projects, demonstrating a growing appetite for clean energy.

With new projects open for investment five days before the start of the talks, from 26 November to 6 December, £2.17m was raised for the 500kW Upper Pitforthie Windgen wind project in Aberdeenshire, £119,000 for Abundance's first biomass project, Minnow Valley Biomass, in Wales and £46,000 for Ecossol PV across the UK. Expected returns are 12% interest per year, and 8% and 7% IRR over 19 years respectively.

EU lawmakers extend 'unfair' tariff on Chinese solar panels

The European Commission extended its punitive import tariffs and price controls on solar panels from China just hours before the crackdown was originally due to expire. The move, called an Expiry Review, means the import tariffs could remain in place for several more years and possibly until 2020.

The Commission announced two Expiry Reviews into anti-dumping and countervailing measures, and an interim review into whether cells should remain subject to the tariffs.

The UK solar industry, represented by the Solar Trade Association (STA), says the extension will continue to artificially inflate the price of solar. The EU can now, as part of its proceedings, officially consider whether the import duties are doing the European solar industry as a whole more harm than good.

Paul Barwell, CEO of the STA, said: "These controls on imports of Chinese solar panels need to be dropped. Europe is currently paying far more than it should for its solar – that applies both to our homeowners and our governments."

Government stats confirm renewables as Scotland's main source of power

Official figures have shown Scotland's renewables industry is now the country's main source of electricity. The sector generated 49.7% of electricity in 2014, the latest year for which figures are available – the highest proportion ever, and up almost 12% on 2013.

Industry body Scottish Renewables hailed it as "a clear sign of how important renewables have become to our energy sector".

Scotland has a 2015 target of generating the equivalent of 50% of its energy from green sources; a marker for an overall 2020 target.

Scottish Renewables Senior Policy Manager Joss Blamire warned: "While we are now almost halfway to our 2020 goal of producing the equivalent of 100% of our electricity from renewables, the second half of the target is going to be much harder to achieve than the first.

"To see further progress, both the UK and Scottish Governments must now put renewables at the heart of their energy policy in terms of cutting carbon emissions, reducing bills for consumers and increasing our energy security."

The new stats came in the quarterly Energy Trends report, released by the UK Government's Department of Energy and Climate Change.

UK's first floating solar farm begins operation on reservoir

An 800-panel solar installation on a reservoir within Sheeplands Farm's 300-acre agricultural property near Wargrave, Berkshire, is expected to pay for itself within six years and deliver profits of at least £620,000 over 20 years.

The installation uses four 20 kW and four 27.6 kW three-phase ABB TRIO string inverters to transform the solar energy harnessed into usable electricity. Its performance is montitored via ABB's Aurora Vision monitoring system.

"This gives me enough in-depth and real-time data to address any issues before they significantly affect my yields," says Mark Bennett, CEO of Floating Solar UK. "Reliability is key. The more downtime you have, the less efficient and less profitable it becomes."

Capacity auction rules change after false data probe

Energy regulator Ofgem has found that generators Adret and Berangere provided inaccurate information when applying to prequalify their diesel-fuelled generating units for the first capacity auction in 2014.

Both companies, now part of GF Energy Ltd, falsely claimed they had already secured planning consent for all their generating units.

Ofgem found that Berangere, who secured contracts for three generating units, did not have planning consent for one of these units when it applied for the capacity auction. Adret secured contracts for two generating units, for which it had supplied correct information. However it falsely claimed that it had planning consent for another unit, which failed to win an agreement in the capacity auction.

As a result, Berangere has had its capacity agreement terminated for the generating unit it did not have planning consent for, and is disqualified from entering the unit into the capacity auction for the next two years.

Wolseley chief to step down after reshaping plumbing group

Wolseley Chief Executive Ian Meakins is to step down after seven years in his post to be replaced by the group's current Finance Director John Martin.

A company statement said that Meakins had "significantly reshaped the Group into a focused plumbing and heating and building products distribution business" that will continue to invest in profitable growth through organic expansion and bolt-on acquisitions.

Meakins commented: "I am very proud of what all our teams have achieved together and the business is well placed for continued profitable growth and delivering attractive shareholder returns."

John Martin said: "Our focus on investing in our market leading businesses, commitment to developing our people and dedication to customer service has underpinned our success and will remain hallmarks of our business."

The company will appoint Simon Nicholls, currently Finance Director at aerospace and technology group Cobham, to replace Martin.

In brief

Trina Solar quits pricing scheme
China's Trina Solar has announced its withdrawal from the European Union Price Undertaking (UT) and will continue to service EU customers through its overseas manufacturing facilities. The move follows the decision to extend anti-dumping duties on solar cells and solar panels imported from China.

Ecotricity raises £18.5m for green energy schemes
Ecotricity has raised £18.5 million from the third issue of its innovative ecobond concept, and will use the funds to build new green energy projects in Britain. ecobond three offered investors a return of 5.5% per annum. The company will channel the money raised through the scheme into six renewable energy projects, which are already in the first stages of construction – between them, they will generate enough green energy to power over 10,000 homes each year.

UK's top firms call on Prime Minister to support clean energy
Ten leading businesses, including Tesco, BT and M&S, have written to PM David Cameron asking for stable policies and adequate funding to support Britain's clean energy sector. In a letter sent last month the major business brands warned Cameron that frequent changes to the Government's energy policy undermine investor confidence and affect the UK's ability to compete in the global low-carbon sector.

Flow markets electricity-generating boiler
UK energy innovation and services company Flowgroup plc last month opened for orders for its ground-breaking, electricity-generating boiler. The Flow boiler provides heating and hot water whilst also generating low cost, low carbon electricity for the household using its patented microCHP technology.

Innovative Mitsubishi heat pump design for new-build homes

Mitsubishi Electric has launched a new 4kW Ecodan air source heat pump designed specifically to tackle the needs of new-build homes, with a system that matches the hot water requirements, while at the same time meeting the lower heating demand, of today's well insulated properties.

Homes being built now differ from any in the past because the requirement for hot water is likely to exceed the demand for heating for the first time. A reduction in fabric U-values and thermal bridging has reduced the energy requirements for heating and also allows for smaller plant.

"What is needed is a new way of delivering energy efficient heating and hot water," explains Jordan Jeewood, Ecodan technical expert for the company. "We have engineered the Ecodan QUHZ monobloc system to provide exceptionally high efficiency in the production of hot water, along with renewable space heating for the home."

The Ecodan QUHZ unit is MCS-approved and straightforward to install, delivering water at 70ºC to a packaged 200 litre thermal store. From here, mains water is heated directly to 65ºC via Mitsubishi Electric's unique plate heat exchanger, so the homeowner gets hot water on demand.

"This model uses CO2 as a refrigerant to ensure a large delta T between the flow and return temperatures to and from the outdoor unit," says Jeewood. "This delivers the high efficiency levels that enable the system to meet today's requirements."

The fundamental design, application and control of the Ecodan QUHZ is the same as the rest of the range with advanced control logic within the thermal store allowing the system to deliver the efficiency that the market has come to expect.

Renewable power generation in the UK grows to same level as nuclear

Renewables generated very nearly as much electricity as nuclear sources during 2015, prompting the continued fall in power supply from coal-fired power stations, according to the latest analysis by industry specialists EnAppSys.

The EnAppSys report shows that the significant growth in renewables seen in recent years continued during 2015 with the generation of 65.4TWh (7.5GW) or 21% of total electricity, only marginally below the contribution from nuclear plants, which provided 21.1% of the total.

Within the renewables sector, wind was responsible for just under half of the total contribution with the generation of 32.4TWh (3.7GW) of power, fuelled largely by an increased contribution from offshore wind farms.

Over the 12-month period, biomass also registered significant growth to 19.0TWh (2.2GW), with the ongoing conversion of some Drax units to biomass from coal.

The rush to meet subsidy deadlines saw solar PV also increase its contribution significantly to 7.1TWh (0.8GW), with solar providing more electricity than hydro plants (6.84TWh) for the first time.

Overall, during 2015 Britain's fuel mix was provided by CCGT (gas) plants at 27.2%, coal (24%), nuclear (21.1%), renewables (21.0%) and interconnectors (6.7%).

Despite a fourth-quarter increase in coal-fired power generation as a number of coal units returned to service following maintenance outages, coal's contribution to the UK's electricity generation actually fell to its lowest level since 1951 – a period when overall power generation was much lower.

During 2015, the total generation from coal fired-power stations fell to 74.5TWh (8.5GW) during the year, representing 24% of total generation (down from 31% in 2014).

As a result of this fall, coal was displaced as the primary source of electricity by gas-fired power stations (CCGT), which contributed 84.4TWh (9.6GW) of electricity.

With the rise of renewables, and the contribution of interconnector supplies from outside the UK, the overall level of fossil fuel power generation has now fallen by 39% over the past five years, from 259.8TWh to 158.8TWh.

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Conergy celebrates launch of UK 'Solar on Schools' scheme

Leading global solar developer Conergy has launched a unique initiative to offer UK schools easy access to solar installations.

The scheme is designed to provide the UK education sector's decision makers with insight and inspiration on the potential financial, educational and environmental benefits of renewable technology.

Named the Conergy Solar on Schools Program, the initiative is part of the company's commitment to working with educational facilities nationwide – including nursery, primary, secondary and academy schools, along with private, public, further education and universities – to deliver a plain English introduction to solar.

The no upfront cost initiative, which can generate significant savings, will provide stakeholders with access to energy use and cost savings analysis, installation and lifetime maintenance of a solar PV system, and stakeholder engagement support and full project management, from planning to installation.

EU 2030 renewable targets must be backed up, warns Lords committee

The EU-wide binding 2030 renewables target will not be delivered unless it is backed up by a monitoring and enforcement mechanism that acts as a guarantor for the agreement, according to the House of Lords EU Committee, which has published its report on EU energy governance.

The Committee calls on the European Council to ask the European Commission to introduce such a mechanism and ensure Member States live up to their commitments and share fairly the effort to meet the targets.

The report also calls for the UK Government to do more to report on its progress on energy and climate goals, and be clearer about its own long-term renewable energy strategy and energy and climate targets.

Committee Chairman Baroness Scott of Needham Market said: "Energy is of crucial importance to everyone in Europe; we all rely on a consistent and affordable supply. Making sure the lights stay on at home and businesses are supplied with power is critical. We are also facing a huge climate change challenge.

"If we are to focus national government minds on meeting their responsibilities they have to know how far they have got to go domestically and have a clear idea on how they will get there. To that end we recommend that our own government should be more open and provide consistency in energy and renewable policy to give investors the confidence to provide the funding needed to meet our targets."

Minister opens green heating showroom

Business Minister George Freeman has opened the new offices and showroom of Finn Geotherm, renewable heating experts based in Attleborough, Norfolk.

Finn Geotherm has recently expanded its workforce by 25% in order to meet a continued growth in demand for the company's expertise in the design and installation of ground and air source heat pumps.

The new development has been built to provide office space for new staff and also

includes a showroom where customers can view the company's full range of heat pumps and heat recovery systems.

REA predicts 2016 will be boom year for energy storage

The REA predicts 2016 will be a key year in the development of the energy storage market following the announcement that leading company Renewable Energy Systems (RES) has signed a milestone deal to build and support its first UK battery energy storage system (BESS).

The deal represents one of the first energy storage projects in the UK to be delivered under a fully wrapped Engineering, Procurement and Construction (EPC) contract.

RES, a global renewable energy company headquartered in the UK, which has pioneered energy storage projects in the US and Canada, has signed the EPC contract with Western Power Distribution (WPD) for a project which will demonstrate nine different applications of energy storage on the grid.

The centrepiece of the initiative is the 300kVA/640kWh battery energy storage system. It will be installed alongside a British Solar Renewables Ltd (BSR) solar park south of Glastonbury, in Somerset, and connected to WPD's South West 11kV network. The project is the first of its kind to explore the provision of ancillary services to a distribution network operator from an embedded storage system.

The project is part of a major initiative being run by WPD to investigate the technical and commercial feasibility of battery energy storage combined within distributed generation (DG) installations in the UK.

The REA's most recent research indicates there are 27 major energy storage projects planned and operational in the UK, with many more in the pipeline. Despite this, Government policy uncertainty remains.

The REA's CEO, Dr. Nina Skorupska CBE, said: "2016 will be the year in which battery storage takes off in the UK, as we have seen in the US, Germany, and Japan, who have all moved quickly to reap the benefits of this technology. The cost of more efficient batteries is rapidly declining. Now the greatest barrier to growth is policy."

Opinion

Two minutes with . . .

Who are you?
Johan Östlund, director at CooperÖstlund.

What do you do?
With my business partner, Stuart Cooper, I run CooperÖstlund – the UK's leading gas engine specification and maintenance expert. Providing site design, engine installation and servicing, we work with a broad client portfolio across the green energy sector.

Where are you?
I'm currently at our headquarters in Northamptonshire, where our engine maintenance and remote servicing operations are based. However, as we work with companies nationwide we're often out and about, ensuring their engines keep running and producing renewable energy.

How's business at the moment?
Business is going really well. With a number of new contracts recently signed, more opportunities in the pipeline and some exciting corporate announcements due to be made in the coming months, 2015 was another excellent year for CooperÖstlund.

How could business be better?
I believe Government incentives are being taken away much too early. Reducing support not only jeopardises progress towards meeting 2020 targets, but also the long-term future of our energy landscape. With the abolition of the preliminary FiTs accreditation programme, the industry has taken another significant blow, and with further degressions set to come into force from March, subsidy support for the renewables sector continues to fade.

Who do you admire in renewables?
It might sound clichéd, but I really admire the CooperÖstlund team. A hugely committed and talented group, each and every one plays a key role in our success. Over the past few years, we've introduced a number of innovative and unique processes, and of this, and the day-to-day team efforts, I'm really proud.

What's the best business advice you've ever received?
To focus on your customers and be flexible. The business world is constantly changing. Unless you keep up-to-date and continue to evolve, you run the risk of not meeting your customers' needs and missing key opportunities.

Government pledges ongo

Industry delivers mixed reaction as Chancellor reveals deta

The renewable energy industry has given a mixed response to the details of the Government's Spending Review, which included sizeable funding for the Renewable Heat Incentive.

Chancellor George Osborne announced that the Renewable Heat Incentive (RHI) will continue with fresh funding until 2020 as he confirmed further information about the Spending Review.

The RHI will provide £1.15 billion of funding in 2021 and will also be reformed with a focus on value for money, saving around £700m. However, it's not clear yet exactly where these savings come from.

There will also be budgetary caps providing a backstop on expenditure, meaning that if the forecast expenditure reaches the agreed budget, the Secretary of State will be able to take action to suspend the scheme to new applications.

Kathy McVeigh, who is on the Solar Trade Association's Board of Directors and the Managing Director of Northern Ireland-based solar thermal business Cool Sky Ltd, commented: "We welcome the fact that the Renewable Heat Incentive will remain, despite the ominous rumours before the Spending Review. Amber Rudd has done well to protect the renewable heat sector.

"However deployment to date of solar thermal under the RHI has been disappointing. We look forward to working with DECC to implement some of the measures we have recommended to increase the uptake of solar thermal, which include making it eligible on new build and providing support for solar space heating and hybrid PV and thermal."

Solar thermal water heating is particularly well suited for smaller and more shaded roofs, and properties off the gas grid, and is also a great solution for commercial buildings like leisure centres, hotels and hospitals with big hot water requirements.

McVeigh added: "We need to make sure that plumbers and heating engineers are offering solar thermal as an add-on whenever they quote for a new boiler, and the Government needs to help get this message out far and wide."

The British solar thermal market has suffered since 2011, due to years of delay in introducing the Renewable Heat Incentive and insufficient levels of support. The market has collapsed from 30,000 solar thermal installations in 2010 to just 6,000 up to November 2015.

Dave Sowden, Chief Executive of the Sustainable Energy Association, commented: "It could have been worse. Having done a phone-round of a number of our senior members, there is a sigh of relief in some sectors, grounds for optimism in others, and despondency elsewhere.

"On household energy efficiency, this statement represents a considerable watering down of energy efficiency policy. Whilst the Government has properly paid attention to limiting the impact on fuel bills, it has missed an opportunity to declare Energy Efficiency as a National Infrastructure Priority, scale up ambition in this area and consider routes for funding other than on energy bills. This is a missed opportunity for millions of families to be permanently better off.

"On heating, we broadly welcome the package of measures that were announced. In particular the uncertainty surrounding the RHI's continuation has been removed (albeit with significantly reduced ambition), and the measures announced for heat networks are to be welcomed"

Niall Stuart, Chief Executive of Scottish Renewables, said: "We are pleased to see the

oing support for the RHI

ails of extra cash for Renewable Heat Incentive

continuation of the Renewable Heat Incentive, though we will need to work through the detail of the expected reforms and the intention to bring down spending by around £700m by 2020/21. Increasing the use of renewable heat is essential to meeting legally binding carbon targets.

"The Chancellor has also announced changes to tax reliefs on investments in renewables, which are yet another cut in support for the sector and which lessen its attractiveness to investors.

"We did, however, see a positive development in research and development with the Department of Energy and Climate Change's innovation programme doubling its investment to ensure it can develop low carbon and renewable energy technologies, including smart grids.

"Overall, the Spending Review still leaves us with no real clarity on the crucial issue of how Government will support the growth of renewables beyond 2020. The Committee on Climate Change's latest reports suggest we need to double the output of renewable power between now and 2030 if we are to meet carbon budgets, and we need to start planning how we intend to do that now."

Leading renewable specialist Rexel UK has asserted that the Government must recognise that a solid environmental policy is imperative to creating stable economic growth.

As anticipated, the Statement saw Chancellor George Osborne reveal that the DECC budget will be cut by 22% over the next four years, while DEFRA's 'day-to-day spending' will fall by 15%, as part of a deficit reduction drive.

Steve Everard at Rexel UK commented: "Although the green cuts aren't as great as initially feared, it is still disappointing to see the Government pull back on investment in energy policy and propelling a low carbon economy.

"While we, of course, recognise that there are other social and economic concerns which must be addressed, as Osborne noted in the Statement 'there is no more important infrastructure than energy'; it is the only way forward if we are to lessen our reliance on foreign oil suppliers, take control of our energy needs and safeguard our future."

He added: "With eyes now on the Paris summit and our 2020 carbon reduction targets, we just hope that the cuts that are needed in Government spending do not affect our collective ambition to be leaders in the energy revolution that is required in our changing world. We look forward to hearing more of the Government's environmental strategy as details emerge."

Phil Hurley, Managing Director at NIBE, saw the outcome of the review as positive for the heat pump industry – hailing it as an opportunity to ignite future market growth.

He explained: "The Spending Review has provided all-important clarity on two points: firstly, that the RHI will continue for the remainder of this Parliament, and secondly, that the budget for it will be a significant £1.15 billion.

"While there's no denying that a £700m reduction in support for the scheme is a substantial cutback, all is certainly not lost for renewable heat in the UK. At NIBE, we take the review as reassurance that the Government not only believes in the capability of the scheme to drive widespread investment in renewable heat, but also remains committed to meeting its 2020 carbon reduction targets.

"Although we don't know at this stage exactly what the reforms will look like, or how they will affect RHI tariffs for heat pumps, we're optimistic that this injection

"This injection of confidence will have a positive impact on market growth"

of confidence will have a positive impact on market growth.

"For installers, it provides the necessary ammunition to continue communicating the benefits of the technologies – and the financial incentives that back them – to their customers. For consumers, it reinforces the message that renewables are here to stay and that now is the right time to invest.

"And for manufacturers and other industry stakeholders, it presents a fresh opportunity to work alongside policymakers to ensure that heat pumps and other renewable heating solutions remain an integral part of the UK's future energy mix.

"As part of future reforms, at NIBE we would like to see the MCS process simplified and made more cost-effective. Removing some of the red tape around accreditation is the most effective way to make the renewables opportunity more attractive and accessible for installers – which is a vital ingredient to the successful rollout of renewable heat on a national scale."

OFTEC Director General Jeremy Hawksley commented: "OFTEC welcomes the Chancellor's announcement that reforms will be made to the domestic Renewable Heat Incentive scheme to deliver better value for money.

"Unless radical changes are made to the domestic RHI, the scheme will continue to only benefit the wealthy few. We are concerned to see the Department of Energy and Climate Change ploughing a further £1.1 billion of taxpayers' money over the next five years into this floundering initiative.

"Only 43,000 accreditations to the scheme have been made since it started in April 2014 compared to the 180,000+ that DECC had anticipated.

"OFTEC questions whether spending £1.1 billion of taxpayers' money on the domestic RHI is right when energy efficiency schemes are being cut.

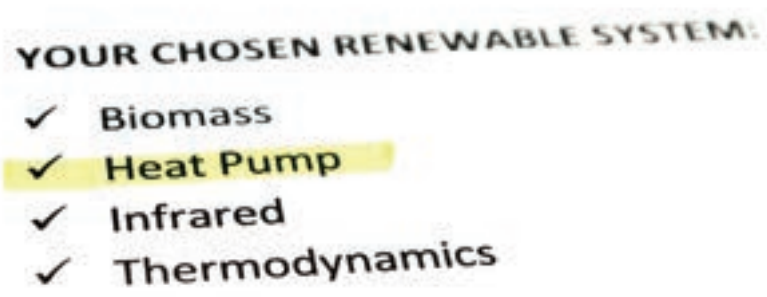
"An incentive to replace the 600,000 standard efficiency oil boilers in Great Britain with modern condensing versions would appeal more to home owners and could deliver significant GHG savings. For an average four-bedroom home, this move would reduce annual fuel consumption by up to 24% (-784 litres per annum) and cut CO2 emissions by 33% (-2418kg per annum).

"In contrast renewable heat technologies like heat pumps are expensive to install and often impose a big upheaval on domestic homes, which is unpopular. This is why the RHI, in its current form, has failed to be taken up or to deliver the promised carbon savings.

"Government needs to urgently re-think its low carbon heat strategy and focus on incentivising solutions that are simple, affordable to install, impose limited disruption on the homeowner and offer competitive running costs.

"The green cuts aren't as great as initially feared"

"This is even more apparent given the latest figures which show the number of excess winter deaths last year reached a 15-year high. Too many people are living in cold homes that they can't afford to adequately heat. These are the very people Government needs to help most but through schemes such as the current domestic RHI, they are being left out in the cold."



Pollard's Patter

We asked for a forward commitment for RHI and now we've got it.

The RHI budget for domestic and non-domestic schemes was confirmed in the Comprehensive Spending Review out to March 2021, rising each year to £1.15bn. This recognises that RHI schemes have a major contribution to make towards targets, that heat accounts for around a third of UK emissions and that we won't meet our climate change commitments without a stronger long-term plan to drive a transition to low carbon heating.

The RHI budget will rise from £430m (2015/16) to £1.15bn (2020/21), an increase of over 250% and equivalent to around 500,000 domestic installations. This means we have a five-year commitment to the scheme and can invest with confidence in the renewables heat market.

The scheme will certainly be subject to some changes in the future and the Government has made no secret of its desire to manage the budget and to ensure it gets the best value for money. The scheme is likely to operate broadly using the current arrangements in 2016, with a major review in Spring 2017. We can expect a consultation document to be released in the not too distant future so we can all have our say.

We have also heard of commitments from the Government to build 200,000 starter homes in this Parliament. I see a great opportunity for those homes to be fitted with the most efficient heating and microgeneration systems.

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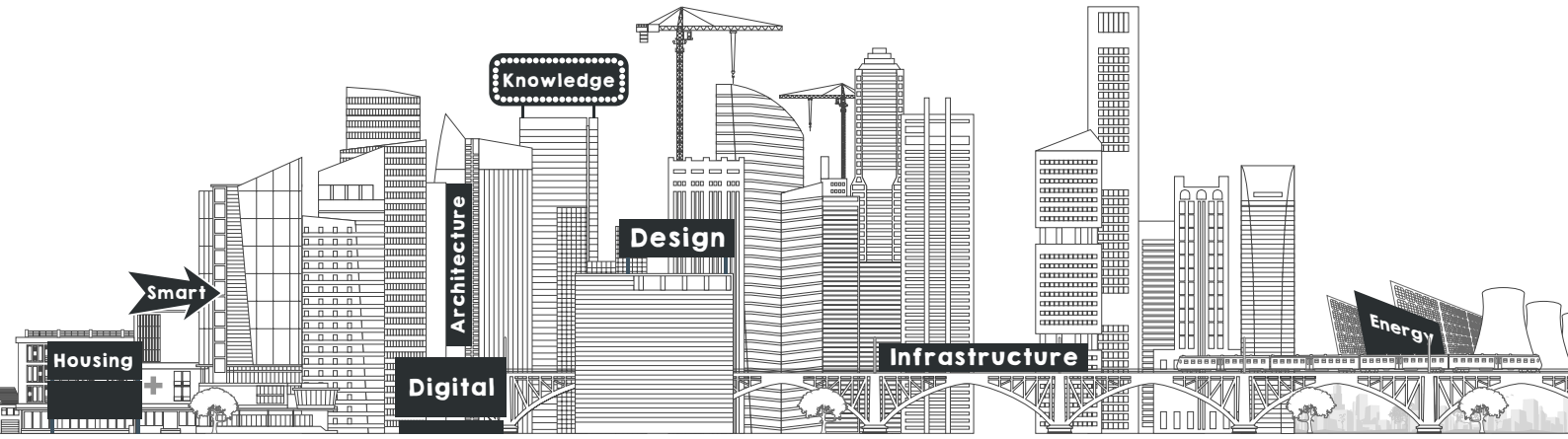

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Treasury announces 15% tax increase on solar and wind installations

UK Government to fall into line with European Union rules on VAT

Treasury chiefs have unveiled proposals to increase the rate of VAT on solar and wind installations to fall in line with European law.

Currently homeowners only pay 5% VAT when installing a solar PV or solar thermal hot water heating system as opposed to the standard rate of 20% VAT on other goods and services.

However, the Government last month put forward a proposal to increase this to 20%.

This would add £900 to the cost of a typical 4kW solar installation on someone's home, which is currently around £6,400.

According to DECC analysis, the tax shift is likely to raise an extra £310m for the Exchequer over the next six years.

"This is bad news for the renewable energy and energy efficiency market"

Under EU legislation, the UK is permitted to have up to two different reduced rates of VAT. Currently, the UK has just one reduced rate at 5%, this being the lowest rate permissible.

However, the European Court of Justice ruled the UK Government applied the relief too widely by failing to restrict the benefit to certain social groups or those with certain social needs.

In line with the CJEU's judgment, the Government has now announced it intends to amend the relevant legislation in the Finance Bill 2016. The Government claims its decision is designed "to retain as much of the relief as possible whilst ensuring that UK law is fully compliant with EU law".

The reduced rate will continue to apply as it does now to supplies made to people living in dwellings who have a social need, to supplies made to 'relevant housing associations' and to installations in all buildings used solely for a relevant residential purpose.

A 'qualifying person' is defined as someone who:

a) is aged 60 or over, or

b) is in receipt of one or more of the following benefits: council tax benefit, disability living allowance, any element of child tax credit except the family element, working tax credit, housing benefit or income support, income based job-seekers allowance, disablement pension, war disablement pension, personal independence payment, armed forces independence payment and universal credit.

Following the change in legislation, where the cost of the materials element of an installation is greater than the labour element, an installer will need to account for VAT at the standard rate (20%) on the material element (the labour element remains entitled to the reduced rate).

However, if the supplier can demonstrate that its customer is a 'qualifying person', a relevant housing association or a building used solely for a relevant residential purpose the whole supply will be entitled to the reduced rate (including the materials element).

The HMRC consultation stems from an EU court ruling that the UK's current reduced rate of VAT for solar and other energy saving products violates the EU's VAT directive as they cannot be considered a 'renovation to a property'. However, it is only solar, along with wind and hydropower, that HMRC is proposing to completely remove from the 5% VAT level.

Mike Landy, Head of Policy at the Solar Trade Association, said: "This requires urgent action from both the UK Government in London and the European Commission in Brussels.

"Instead of just accepting the EU ruling HMRC needs to push back and argue for solar to keep its reduced VAT rate. The Department of Energy and Climate Change and the Treasury also need to take this massive hike in end prices into consideration in their imminent decision on how far to cut the Feed-in Tariff for solar."

"And we need the European Commission to move quickly to amend EU law so that all renewables and energy efficiency products are guaranteed a reduced rate of VAT. Brussels needs to remember that the EU doesn't have many practical tools within its power to promote renewables, but rules on VAT is one of them."

The change is proposed to come into force on 1 August 2016.

Greenpeace UK's Chief Scientist, Dr Doug Parr, said:

"A vital part of the sustainable energy future championed in Paris is being undermined in London by changes to VAT that must be resisted.

"In addition to the confusion created by dramatic cuts to solar support, this creates a new round of uncertainty for business, and more expense for homeowners who are seeking to do their bit for

"HMRC needs to push back and argue for solar"

"This creates a new round of uncertainty for business"

the climate, as loudly requested by David Cameron.

"This move makes a mockery of Cameron's claims to climate leadership, and shows once again that it is Osborne who is ultimately holding the reins on energy policy in the UK."

Initial analysis conducted by the Solar Trade Association suggests that taking the proposed hike in VAT into account, Feed-in Tariffs would need to be raised back up to 12p/kWh to achieve the same payback on investment for homeowners.

Mark Bramah, Director of Association for Public Service Excellence (APSE) Energy, commented: "The fact that three renewable technologies were singled out for the removal of the social exemption is particularly perplexing – if there is ever a set of technologies delivering a social benefit then it is renewables.

"Our members have already put on hold a number of projects that would help reduce fuel poverty due to previous renewable energy cuts. This will further damage the ability of many local authorities to act on their ambition to improve their housing stock and reduce fuel poverty in an effective, low carbon way."

The proposed VAT change shouldn't just be examined in isolation but must also be viewed in the wider policy context. Since June last year there have been no fewer than 13 proposed and enacted policy changes, which have been hugely damaging to the renewable energy and low carbon industries.

The REA continues to wait for an announcement on a replacement for the Green Deal as the Government has yet to unveil any new policy that would effectively increase the efficiency of the UK's housing stock.

Lauren Cook, Policy Analyst at the REA, said: "Once again this is bad news for the renewable energy and energy efficiency market, if the proposal is successful. An increase in costs of 15% for all wind, hydro and solar projects is yet another blow to an industry facing significant job losses and shifting sands when it comes to policy.

"We need more renewable power to meet our legally binding renewables targets and carbon budgets, which even Ministers admit are now looking challenging. Although this is an EU ruling, the Government has some leeway in implementing the change but has chosen to do so in the least favourable way."

The dozen policy changes since the General Election

1: Removal of Levy Exemption Certificates (LECs) for all renewable power generation. Some projects will lose 5% of revenue. Implemented on August 1, 2015 with under four weeks' notice for all existing & new renewable electricity projects

2: Watered down low carbon car incentives. Following the first year, all cars will pay the same vehicle excise duty, where previously this varied based on emissions

3: No new subsidies for onshore wind. Implemented by banning onshore wind from the main (Renewables Obligation) support scheme, banning them from Contracts for Difference (proposed, not yet implemented) and probable changes to the small-scale Feed-in Tariff scheme to exclude schemes over 1.5MW

4: Zero-Carbon Homes delayed. Initial 2016 target date scrapped. Some action will be required by 2019 (non-domestic) & 2020 (domestic) to meet European targets

5: Sub-5MW solar subsidies withdrawn from Renewables Obligation, and grandfathering rights removed

6: Ending 'grandfathering rights' for coal power stations converting to biomass in the Renewables Obligation. This is a key part of investor protection that will be withdrawn, impacting wider confidence in UK investments

7: Contracts for Difference auction delayed. The planned auction for large scale power for October 2015 was delayed, and a final date is still awaited

8: Green Deal energy efficiency scheme scrapped. Funding not renewed for Green Deal finance company, meaning no new applications can be accepted

9: Green tax target scrapped. Government will no longer increase green taxes as a proportion of overall revenues (for example, in the case of fuel duty). Introduced with immediate effect

10: Cuts to Feed-in Tariff support rates along with quarterly deployment caps

11: Removal of EIS support for community renewables projects. Announced with only four weeks' notice and with a considerable knock-on impact for community schemes

12: Proposed increase in VAT for solar, wind and hydro technologies. End of reduced 5% VAT rate for these technologies. EU mandated but intrepreted in a anti-renewables manner by UK Government.
Source: REA

Q&A

Nancy Jonsson
Daikin UK

Heat pump installers must now provide customers with energy labels and a product fiche for the products and systems they have supplied. However, many questions from installers still remain unanswered. Here Nancy Jonsson, Commercial Director, Heating and Renewables, at Daikin UK, covers the queries and uncertainty that are leaving heat pump installers uneasy after the introduction of ErP.

REI: What is a product label?
NJ: A product label shows the efficiency of the product and other information including the manufacturer's name, product model, internal and external sound levels. This is available from the manufacturer.

REI: What is a product fiche?
NJ: The technical information, or data sheet, required by ErP is related to a specific product, and is often referred to as the product fiche. Again, this is available from the manufacturer.

REI: Is there a difference between the heat pump and traditional boiler ratings?
NJ: Yes there is, as traditional boilers cannot achieve an efficiency rating of more than 94% and, therefore, the highest product rating a boiler can achieve is A. Heat pumps, however, can achieve ratings as high as A++ because the technology can actually produce efficiency ratings of over 100%.

REI: Why does a heat pump have two separate labels covering 35°C and 55°C and what are the differences?
NJ: Heat pumps have two temperature scales because 55°C is classed as medium temperature applications while 35°C is classified as low temperature applications. The efficiency of the heat pump depends on the ambient temperature and flow temperature, so the energy rating will vary depending on whether it is a low or medium temperature application.

REI: Can I mix products from different manufacturers?
NJ: Yes, you can. However, you will need to manually calculate and create a 'package label' that will show the overall efficiency for the combined system. This can be worked out using the fiche data of each individual product, provided by the manufacturer.

REI: What do I need to produce a specific package label?
NJ: A package label is required when a new system consists of a heat pump along with either additional controls, a solar system or another heat source. You will need to obtain information from the product fiches of all the individual products contained in the system in order to create the package label. For a system comprised of only Daikin products, the package label can be created from Daikin's free-to-access online energy label generator.

REI: Once printed, what do I have to do with the labels?
NJ: When they have been printed, the labels can either be stuck onto the product, or stored away depending on the end-user's preference. As long as the labels have been given to the end-user, the products will be ErP compliant.

REI: Do I need to print labels for heat pumps already installed, or only for those about to be installed?
NJ: Any heat pumps installed before 26th September 2015, or those that have been bought and are pending installation and, crucially, were listed in the installer inventory before 26th September 2015, will not be affected by the new ErP energy labelling legislation. Anything more recent must have the appropriate label provided.

REI: How does this link to the Microgeneration Certification Scheme?
NJ: The Microgeneration Certification Scheme (MCS) heat pump installation standard has been updated to account for the introduction of ErP. The updated standard, MIS 3005 version 4.3, was published on 6th May 2015 but it is not mandatory to use this standard until 26th March 2016. The main change relates to how the SCOP of the system is estimated. Currently this is determined from the Heat Emitter Guide but product specific data will eventually be published on the MCS website for use instead.

Boost your business this Spring

Looking ahead to a good opportunity to freshen up your company

Traditionally, Spring can be a quieter time for heating installers. However, these months can serve as a great time to work on all the things that were put off during peak heating season. Bruce Allen, CEO of HETAS, provides his top 10 tips on how installers can use this time to boost their business for the rest of the year and beyond...

1. Housekeeping

When Spring arrives, a fresh look can be taken to organising the general admin of the business. For example, is your logo on all of your paperwork? One task that will prove incredibly useful is creating a customer database that features a list of jobs completed over the winter period. This will save you time in the long run, as when you receive your next call out, you'll immediately be up to speed with the history of the appliance and subsequent requirements.

2. Think ahead

Once the database has been created, you can be proactive and start thinking about what you can do for each customer next. Spring and Summer are ideal times for homeowners to have their chimneys swept, also for carrying out maintenance on the appliance itself. It is a good time to update heating controls, such as installing thermostatic radiator valves where appropriate. There is no better time to give your existing customers a courtesy call to check if they have any stove servicing or maintenance needs. It's surprising how many people appreciate these extra initiatives.

3. Advertising

Think about placing an ad in your local paper. Advertising your business during the quieter months might prompt consumers to consider you when investing in a new heating appliance. An effective way of showing a greater depth of industry knowledge in your region, as well as offering helpful advice readers might remember in future, would be an advertorial in a local newspaper. Perhaps talk about old open fires and the benefits of changing to a new wood-burning stove. Feel free to use information from the HETAS website. Many homeowners aren't aware of the safety and environmental issues around open fires, so this is a sound way of informing consumers and encouraging them to think about how they heat their home.

4. Technical whizz

Take the time to check out what's new and exciting in the world of home heating. Use this quieter time to read up on the latest technologies and new appliances and components so you can be the technical whizz of your business. There might be something you can offer to your customers; perhaps something that will save you money or make your work easier. It is always useful to look at how you can expand the range of services you currently offer.

5. Training

It is important that your installers are fully trained in all aspects of the trade. Make sure all training is up to date, book any courses that still need to be undertaken and give some thought to extending the scope of training into new areas of the business. HETAS is always refining its courses and refresher sessions, so be sure to visit the website regularly for ideas and options.

6. Insurance

Check that all your insurance policies are up to date and relevant so you are fully prepared for the year ahead.

7. MOT

Without a safe and reliable mode of transport, businesses are at risk of breaching health and safety legislation. Check van servicing and MOTs in the Spring months so they're ready and raring to go for the next heating season. It is essential to present your company as a good trader, so ensure that you have your registration scheme stickers displayed on all company vehicles.

8. Debts

Check on any outstanding customer debts that may have been waylaid in the busier period. You could consider signing up to Prompt Payer, which does all the hard work for you, as well as promoting your business on its platform.

9. Quality tools

Think about throwing out tired tools and purchasing some new ones. Give some extra thought as to how you present your company. Devoting time and money to ensure your business maintains its level of service year on year is time well spent.

10. Instruments

Use this time to calibrate your electronic measuring instruments to ensure reliability. Although you may be using top quality gadgets, throughout the course of the year something may have occurred that would render your instrument less accurate or even, in the worst scenario, unsafe.

All the small things

The future success of the heat pump industry lies in the hands of the installers, the people on the ground, and everyone should benefit...

Domestic heating currently accounts for a third of the UK's carbon emissions. With the requirement to meet carbon reduction targets and reduce running costs for consumers, heat pumps are seen as an important technology for delivering considerable cost and CO_2 savings. With this in mind, Daikin UK and its installers evaluate the importance of offering the right level of support and product innovation to heating installers in the UK.

The Department of Energy and Climate Change (DECC) has consistently outlined the importance of the heat pump market growth to meet the UK's 2020 energy policy objectives, in documents such as 'The Future of Heating: meeting the challenge', published in 2013, which shows the projected uptake of heat pumps that is required to meet the strategic framework for domestic heating. However, to encourage the necessary growth of the market and ultimately to decarbonise domestic heating, heat pump manufacturers have to ensure they provide the best heat pump technology and technical sales support to the UK's base of committed renewable heating installers.

When it comes to support from manufacturers, it is often the small things that make the biggest difference for installers. For example, in April 2015 Daikin UK launched its loyalty scheme to reward installers for installing Daikin units. Daikin KEY is designed to both attract new installers to the market and reward existing members with free training, exclusive tools and other business support such as extended warranties on heat pump products.

With up to five-year extended warranties available to the most advanced installers, installers are already seeing the benefits of this offer to their businesses. As Mark Davey, Director at renewable heating installation company, Davey and Gilbert Mechanical said: "The extended warranty that Daikin UK offers is excellent. It puts us one step above any competitors and is definitely a job winner."

Through the Daikin KEY online portal, installers are able to quickly and efficiently register their installations to ensure that the householders are able to accessvwarranties on their laptops or mobiles, saving time and money in the process.

When it comes to product innovation, manufacturers are also recognising that smaller is better.

For example, Daikin has recently launched its most compact ever all-in-one heat pump solution, the Daikin Altherma LT Monobloc air-to-water heat pump, designed specifically for the UK market. It consists of only one outdoor unit, which can directly supply low temperature radiators, under floor heating or heat pump convectors and is an ideal solution for properties with little indoor space. The compact design of the outdoor unit (h735 x w1085 x d360mm) was developed to meet the needs of smaller properties and locations such as under windowsills or where space is restricted. The product is small and light (76kg) allowing for easy handling, thus giving even greater freedom of installation in places or in small gardens.

For new heat pump installers, monobloc systems require no refrigerant handling during installation, making them an easy and cost-effective way to install renewables in smaller buildings. With sealed refrigerant circuits and only requiring a water connection, an installer can fit monobloc systems after attending just one training course, eliminating the need for additional expense on FGas training.

But even with easier to install solutions available, installers still need to provide their own level of service to homeowners. As Martin Perrin, Technical Director at Dorset Energy Solutions says: "Customers often express concerns when installing new technologies and need reassurances that the equipment is of high quality and that there is also good back up, support and parts available for the future. Daikin has good technical helpdesk support, parts are available with next-day delivery and they offer a great after-sales service."

Russell Burtenshaw, Director, Energize UK concurs: "It is this support with technical information, training, backup and marketing that has helped us develop our business."

The success of the heat pump industry going forward lies in the hands of the installers who have already invested time and money into their businesses and it's important that manufacturers and distributors of the technology continue to provide outstanding, supportive service to the installers. With the right products, marketing, technical support and training provided on a regular basis, there is no doubt that these businesses and the industry will flourish.

Energy Ministers offer cash step down for Feed-in Tariff

Industry relieved after Government confirms smaller-than-expected cuts to the FiT scheme in the face of fierce reaction to its initial proposals

The Government has reacted to the huge wave of national support for the renewable energy industry and backed down from proposals to implement massive cuts to the Feed-in Tariff.

Instead, one commentator described how Energy Ministers have swapped a "blunt axe for a sharp scalpel" to bring in revised smaller-than-expected reductions that still maintain solar and wind as a good investment for consumers.

Paul Barwell, CEO of the Solar Trade Association, said the 2016 Feed-in Tariff levels for homeowners and small businesses increased significantly on proposals released as part of the consultation exercise.

He commented: "Government has partially listened. It's not what we needed, but it's better than the original proposals, and we will continue to push for a better deal for what will inevitably be a more consolidated industry with fewer companies.

"However, in a world that has just committed to strengthened climate action in Paris and that sees solar as the future, the UK Government needs to get behind the British solar industry. Allocating only around 1% of its clean power budget to new solar is too little, particularly when solar is now so cost-effective.

"Poor ambition for solar risks missing out on not only our renewable energy targets in the UK, but on the world's greatest economic opportunity too."

"The industry will certainly try its hardest but we will be pressing Government to do much more to boost solar power."

The Government has heeded the evidence and unprecedented support for solar power and moved to cut domestic tariffs by 64% to 4.39p/kWh in place of the original proposal, which stipulated cuts of up to 87% to 1.63p/kWh. This is compared to a rate of 12p/kWh today.

The new tariffs come into force from 8 February, and the deadline for projects to receive the current higher tariffs is now January 15.

The decision comes after a prolonged campaign by the Solar Trade Association and many supporting organisations from the Church of England to the CBI.

For a modest commercial rooftop scheme the size of a school or small commercial building, the Feed-in Tariff rate will be 4.59p/kWh.

As well as the tariff rates, the STA has been very concerned by the 'cost control' mechanism that could lead to damaging stop-starts in the market. The Government has put maximum caps on the total amount of solar it wants to see installed in every quarter.

The STA warns this could be very detrimental although the Government does appear to have taken on board requests for unused capacity to be recycled from one quarter to another and a queuing system for projects that don't get in on time.

The detail

New tariff arrangements

The Government has adjusted the target rates of return for technologies – it is targeting a 4.8% rate of return for solar, 5.9% for wind, and 9.2% for hydro. This is higher than first proposed in the consultation.

New Caps system

All new installations applying for FiTs on or after 15 January 2016 will be subject to a new system of caps from 8 February 2016. Ofgem will track the deployment of technologies in real-time where deployment in a given quarter cannot exceed the cap for that tariff band. Once Ofgem assesses that the cap has been reached, any further applications received will be placed into a 'queue'. This means an installer's applications for FiTs accreditation are temporarily frozen and the installer has a

Tariffs (p/kWh)	Installed capacity	Consultation tariffs	New tariffs (Jan 2016)
PV	<10kW	1.63	4.39
	10 - 50kW	3.69	4.59
	50 - 250kW	2.64	2.70
	250-1000kW	2.28	2.27
	> 1000kW	1.03	0.87
	Stand alone	1.03	0.87
Wind	<50kW	8.61	8.54
	50-100kW	4.52	8.54
	100–1500kW	4.52	5.46
	>1500kW	0.00	0.86
Hydro	<100kW	10.66	8.54
	100-500 kW	9.78	6.14
	500-2000kW	6.56	6.14
	>2000kW	2.18	4.43

Source: DECC

place in line for when the next cap opens with a new tariff rate.

The data that will be used for determining if and when a cap has been hit is as follows:

- Data on new <50kW solar PV and wind projects registered on the Microgeneration Certification Scheme (MCS) database from 00:00:01 on 15 January 2016; and
- Ofgem's records of applications received for full accreditation under the ROO-FIT accreditation process from 00:00:01 on 15 January 2016 and of applications received for preliminary accreditation from 00:00:01 on 8 February 2016.

The Government's view is that these caps are an absolute maximum on the level of deployment that can be afforded at a particular tariff.

Therefore, if an installation both hits and exceeds the cap (essentially 'straddles' the maximum deployment figure), that installation would not qualify under the cap but would be in the queue for the next cap.

Furthermore, the cap should be considered as having been hit and no further deployment is eligible for the tariffs available under that cap. Any unused capacity that results from this will be included in the budget reconciliation process.

The first cap period will now run from 8 February to 31 March 2016. Ofgem guidance on how to apply will be published ahead of this start date.

Changes to eligibility

Pre-accreditation will be re-introduced from 8 February 2016. As before, it will be available for solar and wind projects over 50kW and for all anaerobic digestion and hydro projects. Community energy projects will have an additional six months on top of the relevant period per technology.

Extensions to existing systems will no longer be eligible for the generation tariff from 15 January 2016. There are also no new technologies eligible for FiTs at this time. Ofgem will continue to accredit any extension that commissions before the 15 January 2016. For any installations with extension commissioning after the pause date the licence conditions have been amended so that suppliers may still pay FiTs in respect of their electricity generated by the accredited part of the installation.

Energy Secretary Amber Rudd pledges support for renewables

Finally, all new applicants must now ensure that the Energy Performance Certificate (EPC) is issued before the commissioning date listed on the MCS Certificate.

Transition to the new arrangements

To aid transition to this new arrangement, there will be a 'pause period' from 15 January until 8 February 2016. The practical effect of this is that, during the pause, no new installations will be accredited for FiTs, with the exception of those with pre-accreditation granted before 1 October 2015 who are applying for accreditation within the period of validity of the pre-accreditation. Generators will continue to be able to apply for FiTs in the normal way. Installations that commission and apply for FiTs during the pause period will have their place in the queue when the new deployment caps and tariffs come into force on 8 February 2016.

Transitional arrangements are in place to clearly set out whether installations will count towards the cap, based on the commissioning date.

Industry reaction

The Solar Trade Association has welcomed the fact that the Government has not increased energy efficiency requirements to be eligible for the solar Feed-in Tariff, and has not made any changes to how the tariffs are indexed over time or to the export tariff when electricity is sold back to the grid.

Paul Barwell, CEO of the Solar Trade Association, commented: "The new tariff levels are challenging, but solar power will still remain a great investment for forward-thinking homeowners who want to protect themselves from volatile energy prices and do their bit to reduce global carbon emissions."

"Our initial analysis shows solar is still worth considering if you consider the wider benefits such as the increased value to your home. Homeowners can also benefit by changing the way they use their generated electricity through higher day-time usage or via storage which is now a rapidly developing market."

Recent research by Barclays Mortgages found that solar power is considered the most desirable technology with homebuyers willing to pay an extra £2,000 more for homes equipped with solar panels. Although installation companies are not allowed to sell on this basis, if investors in solar are willing to consider the potential to attract a higher sale price for their home in future, then it still makes economic sense to invest in solar all over the country with an improved payback.

Solar power is also a 'no brainer' investment for anyone replacing their roof, where attractive integrated solar can replace traditional roofing materials and provide a good return on investment.

In addition there is potential for a number of complementary technologies to become cheaper over the next few years and change the economics of solar. Battery storage will allow people to use the electricity they

generate during the day later in the evening. Electric immersion hot water heating, electric vehicles, smart timers for appliances and innovative heat storage can all allow people to use as much of their solar electricity as possible, bringing down their bills.

The STA has welcomed the fact that pre-accreditation has been re-introduced for all solar above 50kW in size – roughly the size of a school – which will give businesses and other bigger rooftops more certainty when investing in solar.

However, for rooftop and ground-mount projects above 1MW in size there will in effect be no support given at all, with a tariff of just 0.87p/kWh.

The STA is disappointed to see there is no dedicated support for community solar or solar on social housing. Community energy will, however, benefit from changes to ISAs next year, with the potential for tax-free investment in local solar projects.

Paul Barwell continued: "Commercial rooftop solar has been a small but growing part of the solar rooftop market. However, even with these lower tariffs, the nature of high electricity self-consumption and a maturing commercial market should ensure solar is still a good choice for many power-hungry businesses across the UK looking to reduce their bills and utilise the empty space on their roofs.

"The global solar revolution has only just begun. Whilst the news will be disappointing to many solar businesses, our solar technology is an unstoppable force, and while the British industry might contract, we will be doing all we can to catch up with the booming international market. If we can bring installation costs down, and encourage homeowners, businesses and investors to accept lower returns, I'm confident the UK solar sector will weather this."

The STA will be working with Government departments to look at further measures to improve the opportunities for solar power and a level playing field. Particular emphasis will be on removing red tape, and the regular reviews of the cost control mechanism. Measures should be taken to improve project economics, as well as pushing to remove EU import tariffs and price controls on Chinese solar PV and making sure solar retains its low rate of VAT.

Despite the modest concessions made by the Government following consultation, the cuts are a hammer blow for households, jobs and UK plans for tackling climate change, warns Friends of the Earth.

The cuts announcement came just a day after the Government pushed through plans to allow fracking beneath National Parks and protected areas.

While the tariffs being offered to households for solar have been reduced by less than originally proposed (65% compared to 87%), the overall spending cap for all technologies (wind, solar, hydro and anaerobic digestion) remains at £100 million until 2018 – just £35 million per year.

More than 55,000 responses were received by the consultation.

Commenting on the announcement, Friends of the Earth renewable energy campaigner Alasdair Cameron said: "Less than a week after the UK Government agreed in Paris to keep global temperatures well below 2°C, the Government has shown its true colours – and they're certainly not green.

"These huge, misguided cuts to UK solar are a massive blow for jobs and the economy, and further undermine the Government's already tarnished credibility on tackling climate change.

"Massive public opposition to the Government's original proposal may have forced Ministers to modify their plans, but this is still terrible news for the UK and its small-scale renewables industry.

"It's outrageous that the Government continues to hand out billions of pounds in subsidies every year to climate-wrecking fossil fuels, while trying to block the clean energy sources we urgently need to power our homes, hospitals and schools.

"The good news is that the global renewable revolution is unstoppable, and the technology is advancing far faster than Government thinking. But that will be scant comfort to the thousands of people whose jobs are under threat as a result of this short-sighted decision."

Published alongside its official response, the Impact Assessment reveals the Government itself has now estimated that between 9,700 and 18,700 solar jobs could be lost as a result of the changes to the Feed-in Tariff for solar.

Greenpeace UK energy campaigner Barbara Stoll said: "Bowing to pressure from the public and leading businesses, the Government has swapped a blunt axe for a sharp scalpel, but it's still cutting in the wrong place.

"If built, one nuclear plant at Hinkley will swallow up four years' worth of subsidies for the whole solar sector in just one month. Why are ministers signing a blank cheque for expensive, outdated nuclear power whilst pinching pennies for an energy source on the cusp of a massive investment boom? This makes no economic sense and will only put up bills in the long run.

"With costs falling, demand rising, and post-Paris momentum growing, the UK solar sector will see off the Government's attacks. The question is how many more jobs, investments, and business opportunities are

we wasting because of George Osborne's incoherent policies.

"If the Government is as committed as it claims to be to the Paris climate deal, then solar is one of the cheapest and safest ways for the UK to deliver on it."

Head of Policy and External Affairs at the REA, James Court, said: "The Government has taken on board many of the common-sense suggestions from the REA and wider industry, such as bringing back pre-accreditation for long lead schemes, reallocating budgets from under deployed technologies and increasing deployment caps for solar.

"The tariffs are still very challenging and whilst the changes will help save some in the industry it remains that many will be exiting. But this is an improvement, and may still provide the base to get to post-subsidy."

REA CEO Dr Nina Skorupska added: "From where we were after the initial consultation this is a real improvement and praise has to be given to DECC Ministers in their willingness to listen and change.

"The past six months have been challenging for our members and the renewables industry, but we now have to draw a line and turn our attention to building a stable, robust and enduring industry leading to a business built without subsidy."

Director of Business Services at the Electrical Contractors' Association, Paul Reeve, commented: "The fact that many are relieved at a 64% reduction is an indication of what we've managed to avoid. Solar simply needs five more years to head towards a no-subsidy future, and the Government's announcement may just allow it to get there.

"However, there is more to the Government plans than a headline domestic rate of 4.39p /kWh, there is also a cap on the tariff of £100m up to 2018. This could effectively ration solar PV deployment going forward, so the industry really does need to move towards a no-subsidy, grid parity model as soon as possible."

Reeve concluded: "For solar PV, the cavalry, when it comes, will be in the form of greatly increased electrical storage capability that will allow solar to make a second breakthrough."

Darren Edwards, a partner at leading renewable energy consultants Fisher German, said: "This is an important moment for the UK's renewable energy industry – providing much-needed certainty to a market which, post-election, has been anything but.

"The FiT review outcome demonstrates the Government is capable of listening, with the re-introduction of pre-accreditation and less severe cuts for higher risk technologies, although target returns of 4.8% for solar, 5.9% for wind, and 9.2% for hydro are hardly palpable for setting the pulse racing.

"Many solar developers view the Government's decision for their sector to be a stark betrayal of the Paris Agreement.

"I remain sceptical that the announcement will mean investors now look away from renewable energy toward other less challenging diversification opportunities, but I would urge them not to be too hasty as it is still likely to be possible to improve on the target returns, particularly at locations with high on-site electricity usage.

"The amended tariffs place greater emphasis on matching supply with demand, something that has often been overlooked when the tariffs have been generous. Factor in continued improvements in technology efficiency, further manufacturer cost reductions as demand falls, and the emergence of battery storage technology in the UK and the impact this will have on the viability of renewable energy schemes, and the future can remain green.

"Finally, another important consideration for projects affected by this announcement is the payment of FiT generation and export rates, which will not occur until Ofgem has fully ROO-FIT accredited the installation. Given that this is currently taking anywhere from six to 12 months post-application, this could mean serious knock-on cash flow implications, which need to be accounted for through the project development.

At a glance: What you need to know

* All new installations applying for FiTs from 15 January 2016 will be subject to a new FiTs scheme

* Generators are not affected by these changes if you have a FiT plan under the current scheme

* Applications for the current scheme close on 14 January 2016. Applications for the new scheme open on 8 February 2016.

* The new scheme involves the introduction of deployment caps. These caps limit capacity deployed under a tariff rate for each technology.

* When a cap limit is reached (based on figures from the MCS database and Ofgem application records), there will be a queuing system for applicants who have missed out. This means their applications for FiTs accreditation are temporarily frozen and they are allocated a correspomding place in the queue for when the next cap opens.

* Tariffs are not guaranteed once an application has been submitted. It is up to the FiT licensee to confirm the tariff secured with consumers once the application has been processed.

* Extensions to existing systems will no longer be eligible for the generation tariff from 15 January 2016.

* An applicant's position in the queue is determined by the time and date of their MCS Certificate.

* To prepare for the change, a pause period has been put in place running from 15 January until 8 February 2016. During the pause, no new installations will be FiTs accredited and any new applicants will be placed in the queue.

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Is solar thermal ripe for UK market?

Chris Laughton, Managing Director of The Solar Design Company, looks at whether solar thermal is now due for re-evaluation and how the technology can fit into the existing market

With the Government appearing hesitant on continuing support for photovoltaics (PV), we should not forget the Renewable Heat Incentive (RHI). In its household and commercial forms, the RHI financially rewards the system owner for generating heat from renewable sources such as solar. There is now an opportunity for PV installers to expand into solar thermal, transferring their core skills and using Government subsidies to maximise sales interest.

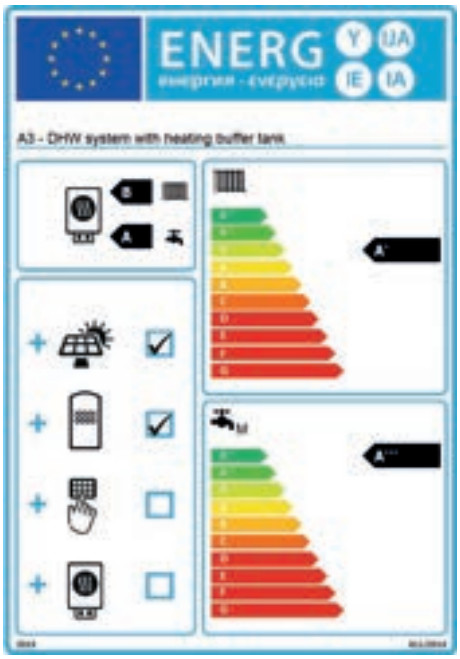
This cross-over of technology is possible not simply because of common sales and warehousing techniques but also the fact that there are shared installation techniques for roof access, roof fixings and site assessment. MCS-accredited installers will also have the necessary office procedures in place, so adding another technology is relatively easy.

But there is also plenty of business to be had outside the MCS and grant schemes, as many applications do not currently enjoy grant support. One advantage is the absence of related paperwork overheads. Both swimming pools and space heating (neither currently qualifying for RHI funding) benefit from solar thermal, reducing costs and atmospheric emissions, and increasing independence.

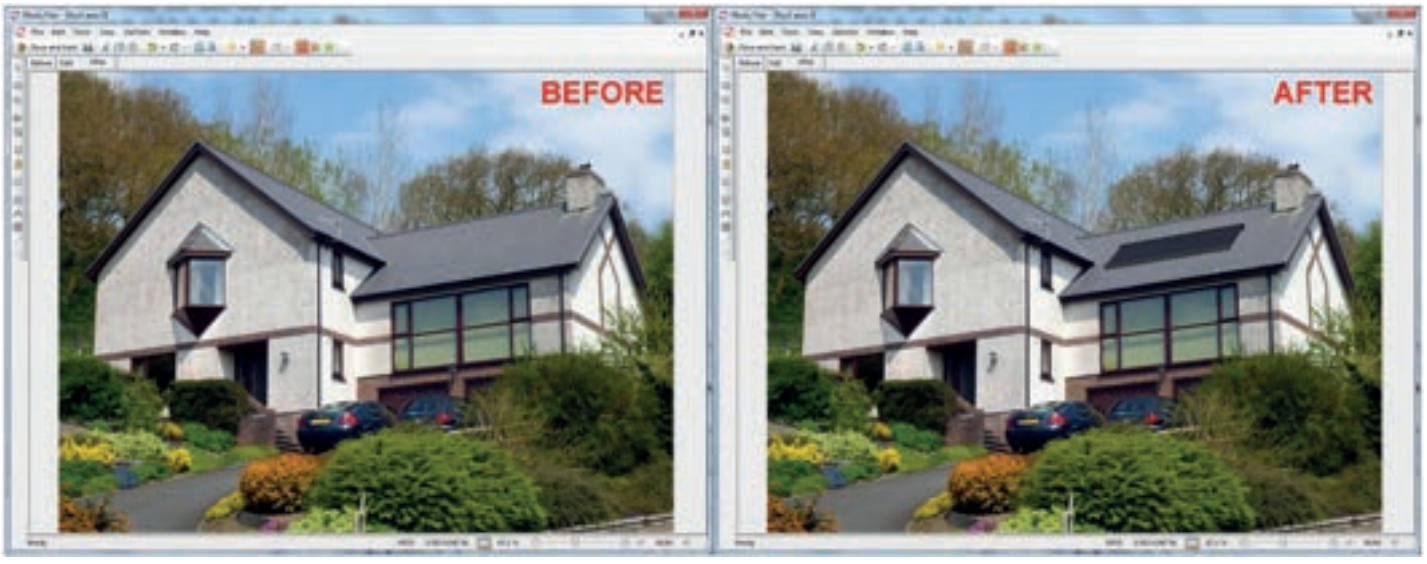
Swimming pool operators know that a lot of energy is needed to gain even a few degrees in pool temperature. Solar heating works well here, as the filtration system already has to run at high circulation rates. This requires only a modest temperature rise across the collectors, so cheaper unglazed collectors can be used. (If combined with hot water heating (DHW), glazed collectors tend to be used.) In all cases, sizing ratios need careful design, collector arrays often filling pool roofs.

Solar space heating support is all the rage in Northern Europe (where it is known as solar combi-systems), but is surprisingly little seen in the UK. Off-the-shelf underfloor heating designs using solar thermal can contribute around 10% of annual demand for well insulated homes.

Historically, solar thermal has been used for DHW – as less roof area is needed to provide the same contribution of solar energy compared to PV. But the advent of intelligent switching of electrical appliances



Energy label from T*SOL: "Energy labelling is now easily created with software such as T*SOL 2016"



Photoplan before and after: "Less roof area is needed to provide the same contribution of solar energy compared to PV"

Solar thermal technology sharing roofspace with PV on a house in the UK

(matching peak PV generation) means that PV-powered DHW electrical resistance elements for DHW are more common – meaning that larger heating loads that are now most attractive for solar thermal. Many commercial applications have high process heat demands – including agriculture (milking parlours), food production wash-downs and cleaning (car washes, holiday accommodation), offering good returns for solar thermal. With the advent of improvements in district heating, no is no reason why we can't also see the success of large solar thermal arrays serving wider communities with other renewable sources.

Solar air collectors are becoming more popular. Glazed or unglazed, they can be used on vertical facades as well as roofs. Energy savings result from adding a few degrees of heat to the incoming ventilation air (assuming a forced air supply is already necessary in the building). Fans, ducts and in-line heat exchangers provide a full ventilation and heating solution.

Some new skills will be needed – and training courses are available to assist this. The movement, transfer and storage of heat is fundamentally different to the way we treat electricity – for example, interaction with other heat sources (such as gas, oil, biomass and heat pumps) has to be considered. Solar thermal generally acts in tandem with other heat sources, so some understanding of heat engineering is necessary to optimise system performance.

Energy Labelling to EU 2010/30/EU is now very straightforward for solar thermal, when using commercial design software such as T*SOL 2016. Once the system is designed and checked, the energy label is automatically generated.

There has been a solar thermal market established within the UK for decades, without the assistance of any grant support – and it can develop and grow again with a change in sales technique that emphasises independence of supply, fuel and emission savings.

Energy management system cuts airport costs

Birmingham Airport slashes energy use with unique energy data analysis

Despite substantial expansion and rising passenger numbers in recent years Birmingham Airport has managed to reduce its overall energy consumption with the help of energy management analysis.

The airport is the UK's third largest outside London, and seventh largest overall, handling more than nine million passengers a year. In the past decade, over £200m has been invested in its infrastructure, giving the capacity for 36 million passengers a year.

A major part of identifying excess consumption has been the TEAM Sigma Software, which the airport uses to turn vast amounts of raw data into meaningful energy management information.

Birmingham Airport uses TEAM' Sigma energy management software to turn all the raw metering data into relevant facts and figures. TEAM software is then used to produce weekly reports analysing fluctuations in energy consumption to detect where the

organisation's plant and equipment have gone out of their parameters.

In August 2013, electricity consumption at Birmingham Airport peaked at 26.5m kWh. A degree day cooling analysis identified that the high consumption was largely down to running the cooling plant, which is a substantial cost to the business.

Geoff Brunt, Engineering Manager at the airport, said: "Sigma Software highlighted this. If a piece of equipment or a sensor is 1% out of its calibration it can add 10, 15 or even 20% to your overall energy bill. In 13 months we managed to reduce electricity consumption in the terminal alone by 2.6m kWh."

£10.5m community energy portfolio develops

Bristol community-led renewable scheme to get £5m solar park boost

National energy efficiency solutions provider Anesco is working with community energy company Bristol Energy Cooperative (BEC) on its latest scheme, which will substantially boost community renewables in the region.

The project will see a £5m solar park brought into community ownership, as part of a larger £10.5m project portfolio BEC is currently raising funds for.

This is the eighth community energy initiative Anesco has been involved with. Delvin Lane, Anesco's Commercial Director, said: "We have a strong heritage that has been based on regeneration, supporting the local communities in which we operate and a commitment to helping tackle fuel poverty. It was a natural step for us to become one of the first owner/operators in the UK to develop community-led renewables schemes."

Earthmill secures exclusive CHP deal

Renewables firm lands contract to supply small-scale CHP units

Renewable energy firm Earthmill has signed a deal to become the exclusive supplier of a new state-of-the-art power generation technology across several UK regions, as part of a significant diversification into the combined heat and power (CHP) market.

The deal will see Earthmill selling leading Finnish-built CHP systems across Yorkshire, Cheshire, Mid and North Wales.

Earthmill, whose wind power division has supplied farmers with more than 250 turbines since it was established by Managing Director Steve Milner from his garage in 2009, launched its CHP division earlier this year. Following more than a year of research and negotiation with suppliers in the low carbon technology sector, the business has announced its partnership with Arbor, the UK distribution partner of Finnish company Volter.

Milner said: "Small-scale CHP isn't a new concept in Europe but it's still in its infancy in the UK. Drawing on Arbor's expertise, this new partnership perfectly complements our wind turbine offer and, since the cut in wind subsidies, represents a financially viable alternative that will help farms and businesses with a large heat demand future-proof themselves against rising energy costs."

Fuelled by woodchip, the CHP process uses a specially designed reactor, which heats the fuel to temperatures in excess of 1000°C, producing a flammable gas to drive a generator. The heat is transferred into water which can then be used to heat dairies, or pig or poultry sheds on farms. The process is more than 88% efficient.

These were the first small-scale CHP systems accredited by Ofgem to qualify for the RHI and double Renewable Obligations Certificates subsidies, and offer a return on investment in under five years.

Mushroom grower switches to solar

Busy farm looks to save on energy costs with PV system installed by Mypower

Evesham-based Walsh Mushrooms in Worcestershire is already reaping the rewards of its switch to solar after turning to Mypower to help reduce its energy bills.

The company, started by Pat Walsh in 1979, supplies mushrooms to many of the major supermarkets and food manufacturers. Growing, packing and distributing mushrooms is an energy-intensive business and Walsh recognised that rising energy costs had the potential to be disruptive.

The company invested over £400,000 with Mypower, who installed 426kWp of solar generation across two buildings. The result is that Walsh now produces 60% of its annual electricity demand from its own roof. The seven-day-a-week operation of the business means that all the electricity produced is consumed at site.

Small-scale energy storage scheme launches

€15.5m RealValue energy storage project to roll out across Europe

The RealValue consortium, led by Glen Dimplex and made up of 13 Pan-European companies, has revealed details of how the RealValue research and innovation project, consisting of 1,250 homes in Ireland, Germany and Latvia, has the potential to revolutionise how consumers use and store energy via their homes.

A €15.5m energy storage project, funded by Horizon 2020 (€12m EC funding), RealValue has been designed to accelerate innovation and develop business models necessary for small-scale energy storage in residential homes.

Crucial to the success of the RealValue consortium is the involvement of all 13 partners – including ESB Networks, EirGrid, Glen Dimplex, SSE Airtricity, Intel and the Electricity Research Centre at University College Dublin – who represent the entire energy supply chain and will collectively deliver a 36-month large-scale pilot study, across five EU member states.

RealValue Business Director Rowena McCappin explained: "It is this collective effort to further push the boundaries in renewable technology that has the potential for RealValue to be a real game changer. RealValue will produce a robust study that will be instrumental in developing business models that quantify the potential of small-scale storage moving forward.

"It will help to shape ground-breaking new ways for consumers to store and use renewable energy in their homes, via their heating system, and for energy companies to realise Demand Side Management."

Sainsbury's signs biogas deal with dairy producer

Cheesemaker **Wyke Farms** to supply supermarket chain with green gas

Wyke Farms, one of the UK's largest independent cheese producers and milk processors, has announced a unique partnership with Sainsbury's to supply green gas for its stores.

Running for a year, Wyke Farms will supply a large proportion of the supermarket's green gas, which makes up 6% of Sainsbury's total gas use. This will save over 16 tonnes of carbon dioxide emissions per day or 24 thousand tonnes over the length of the supply partnership.

Richard Clothier, Managing Director and third generation family member at Wyke Farms, said: "Supplying customers with gas as well as cheese, and taking waste back in return, all forms part of the type of circular approach where everyone is a winner – especially the environment!"

Paul Crewe, Sainsbury's Head of Sustainability, Engineering & Energy, added: "We are always looking for innovative ways to reduce our impact on the environment. Our partnership with Wyke Farms shows the commitment we have to drive down our carbon footprint in what we are sure will be an efficient and sustainable way."

Figure it out

REI 10 – Share performance of UK's leading green energy companies

	52 week high	52 week low	December price	Current price	
Drax Group (DRX)	451.30	205.60	225.10	220.10	
Good Energy Group	255.13	200.00	208.35	204.00	
Intelligent Energy	151.50	67.00	85.00	75.36	
ITM Power	36.45	19.88	25.27	20.23	
Leaf Clean Energy	43.00	22.00	34.00	36.80	
PV Crystalox Solar	13.00	7.78	8.50	8.50	
Rame energy	11.00	5.75	9.62	9.60	
REACT Energy	9.00	2.00	2.58	3.45	
Renewable Energy Holdings	2.69	0.70		Suspended	
Rurelec	4.60	0.50	0.75	0.949	

Number of MCS registered installers per technology

Technology type	Cumulative number	Registered Dec 15
Solar PV	2385	35
Biomass	336	7
Air source heat pump	747	6
Ground source heat pump	566	1
Solar thermal	793	3
Small wind	69	0
Total	2209	52

Number of MCS registered installations per technology

Technology type	Cumulative number	Installed Oct 15
Solar PV	833,506	26,247
Biomass	15,984	513
Air source heat pump	43,085	570
Ground source heat pump	11,640	135
Solar thermal	8,213	52
Small wind	4,950	16
Total	917,378	27,533

(Figures supplied by Gemserv)

Feed-in Tariff
Distribution of FiT installations by technology

Technology	Type
Anerobic Digestion	48
Hydro	337
Micro CHP	405
Solar PV	345,471
Wind	3,739

(Source: Ofgem)

Generation tariffs for non PV technologies

Technology	Band (kW)	Tariffs (p/kWh)
Hydro	< 100kW	8.54
	100 - 500kW	6.14
	500 - 2000kW	6.14
	> 2000kW	4.43
Wind	< 50kW	8.54
	50 - 100kW	8.54
	100 - 1500kW	5.46
	> 1500kW	0.86

(Source: OFGEM)

Generation tariffs for solar PV

Tariff band	FiT rate (p/kWh) from 01/01/16
< 10kW	4.39
10 - 50kW	4.59
150 - 250kW	2.70
250 - 1000kW	2.27
> 1000kW	0.87
Standalone	0.87

* Currently subject to consultation

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: 3.76 Tier 2: 1.	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
Deep geothermal			5.08	
Solar thermal	Solar thermal	Less than 200 kWth	10.16	20
Air source heat pumps	ASHPs	All	2.54	20

(Source: OFGEM)

Domestic RHI deployment

Technology	Accreditations (Apr 14–Oct 15)	% of total
ASHP	18887	44
GSHP	6223	14
Biomass	10832	25
Solar thermal	7260	17
TOTAL	43202	100

(Source: DECC)

Domestic RHI tariffs

Technology	RHI rate (p/kWh)
ASHP	7.42
Biomass boilers	5.14
GSHP	19.10
Solar thermal	19.51

(Source: DECC)

SOLAR PV

What: 160,000 cubic metres of earth relocated in ground levelling works

How: 4,224 SOLARWATT glass-foil PV modules are expected to generate 975 MWh annually

Result: Electricity for 315 average homes

Military base gives the order for solar

Army training centre marches toward solar-powered future

Specialist project-management company Task Contract Solutions and SOLARWATT have released details of their joint delivery of the first solar energy installation for the North West of England and the Isle of Man Reserve Forces' and Cadets' Association (NW RFCA).

NW RFCA has begun producing renewable energy from its Altcar Training Camp site on Merseyside. The new facility will enable NW RFCA to reduce energy costs, limit its exposure to price inflation and lower its carbon footprint while benefiting from green-energy financial incentives.

Task and SOLARWATT are responsible for management and technical aspects of the venture.

The facility, consisting of 4,224 SOLARWATT glass-foil PV modules, is expected to generate 975MWh a year, enough to provide power for 315 homes. The power will pass via 39 inverters through a 1-megavolt ampere transformer to meet the camp energy needs, with surplus feeding into the Grid.

The five-acre solar farm occupies a small proportion of the Hightown site, which remains an active, important military training facility.

The venture marks the entry into renewables of Task Contract Solutions. Managing Director Ian MacVicar said: "We wanted to demonstrate to public bodies and NGOs that we could deliver renewable energy generation using a power purchase agreement without upfront capital."

Now Task and SOLARWATT are reviewing the potential for further joint arrangements across the UK using the latest glass-glass technology. These could include the use of SOLARWATT's MyReserve solar energy storage systems.

BIOMASS

What: Chilly home transformed by wood pellet heating makeover

How: ÖkoFEN wood pellet boiler

Result: Family cuts £1,000 a year electricity bill to £30 a month

A family's three-bedroomed 1930s semi in Barton on the outskirts of Cambridge has been transformed with a heating system upgrade to a wood pellet boiler.

Purchased as a family home for a couple and their two young daughters, it soon became apparent that the heating system they'd inherited wasn't going to meet the family's needs.

Homeowner Amy explained: "The house had electric storage heaters, which weren't very effective at all. The bedroom the girls share was really chilly. Not only that, there was a separate hot water heater, which was so small that if just one of us took a shower or bath it completely emptied and you had to wait ages for it to fill up again.

"We're not especially green, just the usual bit of recycling, but when we started looking into what would suit us best we narrowed it down to either an air source heat pump system or a biomass boiler. Roly and Shane from Eco Installer, our local Organic Energy Approved Installer, came out to survey the house and recommended an ÖkoFEN wood pellet boiler."

Installation of the new system, including 12 new radiators and a new, larger hot water tank fed by the ÖkoFEN boiler, took around two weeks, although the family was enjoying hot water on demand after just a week.

Amy added: "The boiler is now on a timer and it's really easy to use. The house is warm when we want it, and much more pleasant for us all to live in. On top of that, we've cut our £1,000 a year electricity bill to £30 a month, and the wood pellets, which we have delivered two or three times a year, are much more cost-effective. We've been so pleased with what Eco Installer have done for us and our new ÖkoFEN boiler we've been recommending it to other parents at the school gates."

SOLAR

What: National Trust blends solar energy with the landscape

How: 175-panel array from Panasonic to generate 43,000 kilo watt hours a year

Result: Saved an instant £40 in the first morning it was operational

An array of 175 solar panels is now providing energy for the Pavilion café at the internationally renowned Bodnant Garden in the Conwy Valley.

The state-of-the-art panels, which have been installed on a rocky hillside above the overflow car park, also provide power for two car charging points and recharging the batteries of power tools like leaf blowers.

The work has been carried out for the National Trust by solar energy specialists Carbon Zero.

The Panasonic system was supplied as part of a new corporate partnership agreement with the technology company and will generate 43,000 kilo watt hours a year.

The initiative is part of the National Trust's drive to reduce their overall energy use by 20% by 2020 and to use renewable technologies to reduce the Trust's use of carbon based fuels by at least 50%.

Carbon Zero boss Gareth Jones was thrilled to have been awarded the contract, particularly as the civil engineering side of the work was done by the family business Mini Muckshift, which is run by his father Tom.

Gareth said: "It's a unique system because we've actually incorporated the panels on a curve into the hillside and it's now sending power back down to the café via a 350m long 95mm cable.

"This is a prestigious project for us and we were delighted to be chosen by the National Trust who are very knowledgeable about this industry."

SOLAR PV

What: Solar installation supports drive to achieve an "excellent" BREEAM score rating

How: 212 x Risen 250W panels mounted on rooftop

Result: Annual CO2 Savings of 19,985kg

Innovation Hub taps into solar PV

EvoEnergy installs 53kW system at pioneering Infinity Park Derby

The Innovation Hub at the heart of Derby's multi-million pound Infinity Park Derby is now being powered by clean, on-site renewables thanks to a new 350m² rooftop solar system installed by EvoEnergy.

A total of 212 panels will generate more than 37,000kWh of electricity every year for the Innovation Hub, which provides managed workspace for advanced manufacturing companies and startups working in the high-tech aerospace, automotive or transport industries.

The 53kWp solar system is one of a series of environmental features included in the design of the building, which aims to achieve an "excellent" BREEAM score rating for sustainable construction. In addition to a solar PV system, the building has air source heat pumps, natural ventilation and a floodwater drainage system to save almost 20 tonnes of CO2 emissions annually.

James Clifford, project manager for EvoEnergy, said: "We're pleased to be supporting such an exciting project that will boost the East Midlands economy; in terms of developing local talent, Derby City Council is definitely going the right way about it.

"Tenants at the Innovation Hub will attract a workforce from the local area, creating local jobs and helping fledgling high tech companies to grow. The fact that its design has had sustainability at its heart from the very beginning serves as an inspiration to other firms with green ambitions."

Who are you? David Hunt, Managing Partner at clean energy recruitment specialist Hyperion Executive Search Ltd

What do you do? Hyperion recruits for commercial and technical roles in solar, storage, renewable heat, cleantech and energy efficiency

David Hunt spends much of the week travelling, gaining vital firsthand knowledge and engaging face-to-face with clients

Coffee and conversations – and perfect industry matches

Monday
The week kicks off with a team meeting to access where we are with each search assignment. We then plan and dedicate time and resources as required. The best thing about this business is that you really get a chance to change people's careers and lives for the better, and help companies reach their growth goals. The variety of projects is great, from Country Director roles to senior engineers. I try to stay office based on a Monday if I can. Monday mornings also mean a scheduled conference call with colleagues and members of the Renewable Energy Association (REA), getting the latest with regard to consultations, policy announcements and industry news. The afternoon involves a lot of coffee and a lot of conversations. Our business is all about our network and our knowledge.

Tuesday
After a very brief morning meeting I tend to get stuck into some business development. We like to be selective about who we work with; if the company and opportunity aren't exciting, how can we encourage candidates to join? So we're constantly expanding relationships with key accounts, and looking to engage the best companies in each of our niche markets.

Wednesday
An early start on the 6.05am from Liverpool to the London office. Up first, though, a policy board meeting with the REA. As chair of onsite renewables and decentralised energy there is always a hot topic to discuss, and to find a way for the REA to best respond and approach contacts at DECC and in the Government, plus of course responding to the numerous consultations. The afternoon is spent catching up with clients and candidates, and closes with interviews for a senior sales role we are recruiting. A bite to eat and the late train home. The train at least allows some time for reading and usually writing blog or opinion pieces for our website or trade publications.

Thursday
The start of the day is with the research team, getting updates on where we are with the projects we're working on, particularly the assignments I am handling directly. It's important to keep at the coal face, and I love what we do. The rest of the day is the usual mix of coffee and conversations, approaching contacts and potential candidates about the roles we are recruiting for. We're not a database agency, so most of the people we place aren't on job boards or registering with agencies, they are busy being successful with their current company. They are, though, open to the right opportunity to move their career forward, and these are brilliant and fascinating conversations to have.

Friday
Another early start, this time to drive to a client site to discuss in greater detail an assignment we've just been retained to fill. In our mind, company culture and working environment are a vital piece of the recruitment puzzle. It's essential we match not only skills, experience and ability, but also cultural fit and team dynamics. Very hard to achieve unless we've spent good time with the client and at their premises. Plenty of hands-free phone calls then on the long drive home in Friday traffic.

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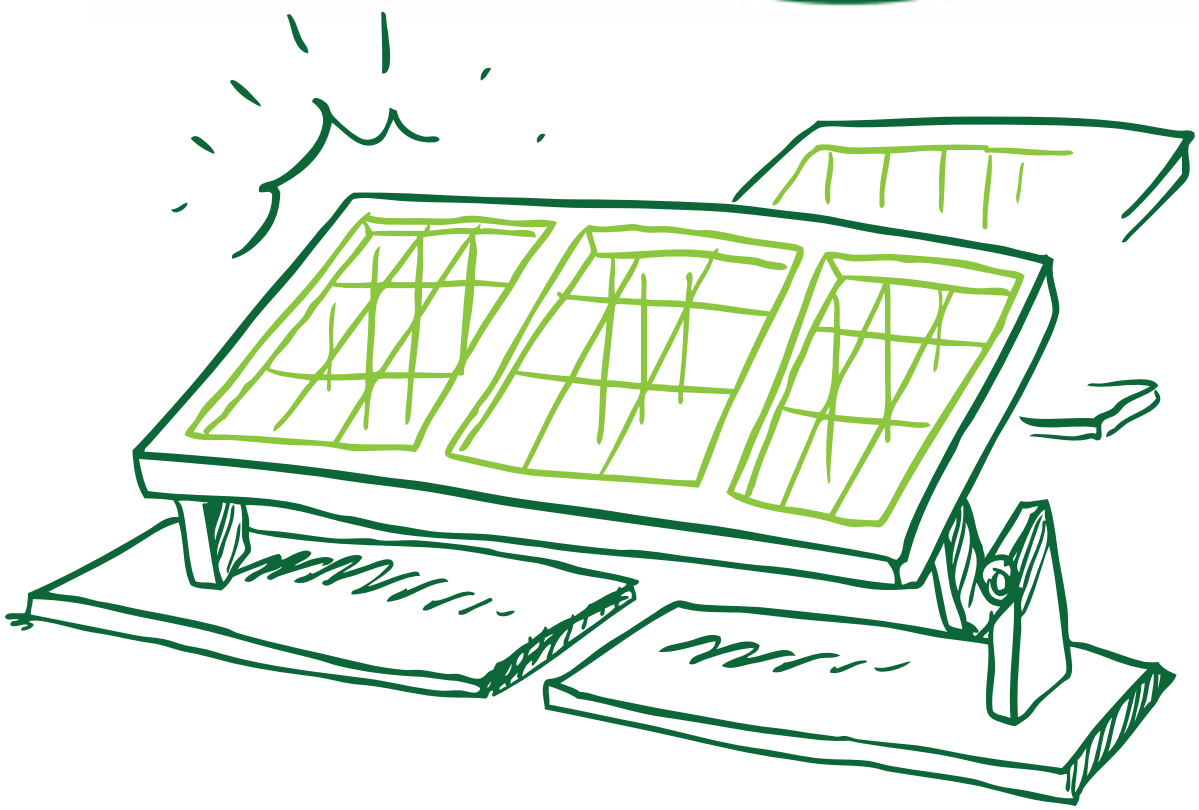

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