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What doesn't kill you . . .

Once again, the renewables sector is dealing with the fallout from the news of the delay of the domestic Renewable Heat Incentive. It does seem that at times, this industry is tested to its core – what else might the government throw our way to hinder progress and put the brakes on profitability?

For many, the news came as a bitter blow. Months spent planning for the increased business opportunities the domestic RHI would bring, seemed in vain with energy now being turned to alternative forms of revenue for the year ahead. The collective frustrated sigh of the renewables sector could be heard up and down the UK.

Interestingly, in an interview in BusinessGreen, Greg Barker acknowledged that DECC had faced a series of technical and resource issues which resulted in the delay of this part of the scheme. Hearing these words was cold comfort to a sector seeking the best way to boost sales until the RHI kicks in next year.

However, not everything is dusted with despair. Barker says that there is now a credible and sensible timetable for the delivery of the scheme which will both boost the appeal of the non domestic RHI and ensure the domestic element comes into existence next year. This can only be a good thing. Perhaps we should recognise the value in a late but solid and concrete scheme? Surely a scheme, ironed flat of uncertainty that can be rolled out effectively and confidently, is better than one that comes too soon, riddled with wrinkles and creases?

Whilst we await for spring 2014 to arrive, we do of course have the extension of the RHPP - something of a stop-gap until next March. New tariffs are expected within the next few weeks and there is also the launch of a voucher scheme to aid training costs.

So, while of course, this is not the news we all wanted, we should at least hope it is a move in the right direction. With an extra year to prepare, the renewable heating sector has time to arm itself in preparation for the heating revolution in 2014.

Editorial panel members



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Renewable Energy



Andy Boroughs,
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Garry Broadbent,
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Ecoskies



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HETAS

Contents

NEWS

5 News

08 News Profile

Enact Energy and the Green Deal

10 News Analysis

Revealing a new PV project

OPINION

12 REI's regular MCS column

15 Q&A Ian Murray, Clear Focus

KNOWLEDGE

28 Heat pumps

Expertise from Samsung EHS

20 RHI Focus

Richard Andrews explains

21 Training

Sure Fire Training Services

25 Controls

An exclusive from Solfex

28 Solar PV

32 Biomass

HETAS update

36 Case studies

39 My working week

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Published by: Ashley & Dumville Publishing Ltd,
 Caledonian House, Tatton Street,
 Knutsford, Cheshire WA16 6AG
Advertising
 Tel: 01565 626762
 Email: jonathan@andpublishing.co.uk
Editorial/press releases
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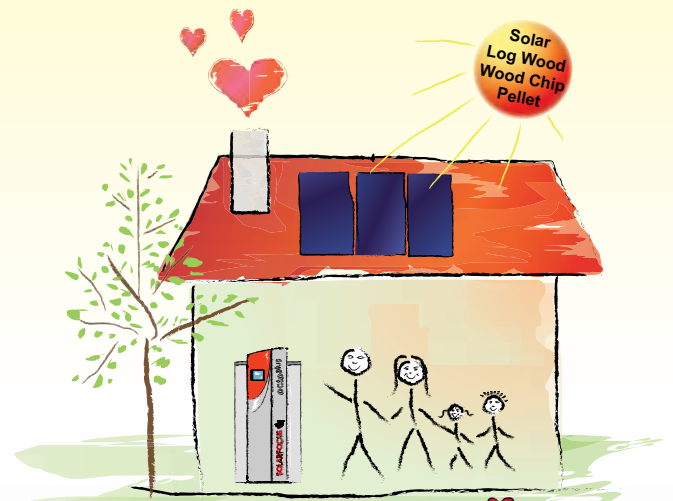
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Industry reaction to RHI delays

Members of the industry have expressed disappointment at the Department of Energy and Climate Change's (DECC) decision to postpone the introduction of the domestic RHI until spring 2014.

The blow was announced in March alongside the publication of DECC's heat strategy dashing any hope of having the financial incentive in place by the summer.

The Renewable Heat Premium Payment (RHPP) scheme has been extended as a stop gap to assist uptake of renewable heating technologies and DECC has pledged to confirm tariff levels in three to four month's time.

Ian Stares, PTS product director for renewable energy products, said: "The announcement that the RHI is being delayed until spring 2014 is arguably a blow. Not just to the heating industry and all of those who have planned for its arrival in 2013, but to the UK's carbon reduction ambitions as well."

Paul Hind, Secon Solar, added: "It is creating uncertainty amongst consumers and anger with installers, suppliers and manufacturers. SMEs are struggling to survive in the current economic climate without the government putting the boot in."

Chris Davies, Dimplex, and Jim Moore, Vaillant Group, hoped that DECC would use the delay to fine tune its proposals ensuring that the scheme is robust and functions well.

"We understand that the government is focused on launching a scheme that works and it is absolutely right as a negative consumer experience would be far more damaging than a launch delay," said Moore, Vaillant Group managing director, Western Europe.

Chris Davis, business development director at Dimplex Renewables, added: "We now need DECC to provide some confidence for the market firstly by committing to automatic grandfathering rights to all installations accepted under the RHPP scheme so that all will be 100 per cent guaranteed eligibility for RHI support, and secondly by uplifting RHPP levels to give more support to householders up front."



Down time: Jim Moore, Vaillant, says delaying the RHI is a lesser evil than launching an inadequate scheme



Time up: Simon Lomax, Kensa Engineering, is disappointed that with the repeated delays, the domestic scheme will only run for a maximum of a year before the next election



Missing link: Mark Menhennet, Hybrid Heating, feels that once again the government has missed an opportunity

Christopher Flaherty, owner, Vietec Heating

"With yet another delay to the RHI, I personally have no faith in DECC and I no longer trust them, this has been going on since 2009 - how much time do they need?
"This delay has put more financial stress on my business, I have paid out for training, joining MCS and paying REAL and for what, no grant means no work, I think Greg Barker should resign, he is not fulfilling his responsibilities.
"We were told last year that the RHI would start in summer 2013, I am not confident that it will start in 2014."

Mark Menhennet, managing director, Hybrid Heating

"Once again the government has missed an opportunity to bring forward the domestic RHI incentive for renewables and delayed yet again what should have been in place up and running two years ago.
"This government came to power promising to be the greenest ever so why do we have to wait yet another 12 months before RHI can be implemented?
"Let's be clear, this industry could be providing badly needed UK manufacturing and installation jobs for our growing army of unemployed whilst reducing our fossil fuel dependency and reducing the nation's heating and energy costs which are rising sharply month on month at the moment."

Simon Lomax, managing director, Kensa

"Given DECC secured a £864m budget, it is difficult to accept the repeated delays which mean the domestic scheme will only run for a maximum of a year before the next election and more uncertainty. Most of the money will be left unspent which may please the Treasury but will have a devastating impact on renewable heating businesses, many of whom have believed previous DECC pronouncements and invested heavily in readiness for the RHI. The coalition originally said it would launch in spring 2011."

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News in brief

Windcrop, installer of small-scale wind turbines, has opened an office in Saltash. The move will aid farmers and landowners seeking free renewable energy and investment opportunities as well as creating up to 30 new jobs.

BSS Industrial has appointed Vikki Horn as heating and renewables product group manager, emphasising the growing importance of energy efficient products within industrial markets.

John Dickson, former chair of the Construction Skills North East Regional Skills for Growth Forum, has been appointed a Board Member and Trustee of CITB, where he will provide strategic direction to the Board and help drive the business forward.

Herefordshire-based solar installer Caplor Energy has appointed Mel Preedy as business development coordinator to take on the responsibilities of implementing new ideas and strategies that will drive the company forward.

Solarcentury has made some new senior appointments. Bertrand Belben is now director of international business development; Tilman Beller, is business development director, Latin America; Archie Fraser is now director of corporate finance; Mike Madeiros, is supply chain director and Bruce Carter has become quality manager.

David Spragg has become original equipment manufacturer (OEM) business manager for domestic building services at Xylem Lowara UK. He will form part of a dedicated team of specialists focusing on bespoke business services and solutions for the domestic building services sector.

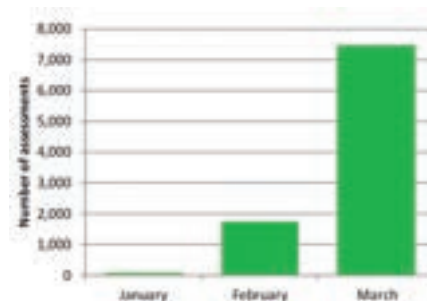
Green Deal shows positive growth

Members of the industry have greeted the latest Green Deal statistics released by the Department of Energy and Climate Change (DECC) as 'encouraging' and indicative of the scheme's rapidly increasing public appeal.

According to data collected by DECC, the number of Green Deal assessments jumped from 1,729 in February to almost 7,500 in March. 108 GD Assessor Organisations and the 1,003 GD Advisors they employ had also been accredited by the end of March, up from 77 and 618 in February respectively.

Maxine Frost, renewables director at PTS, said: "The latest Green Deal statistics indicate an encouraging level of home assessments and business participation. We look forward to the number of participants increasing in the coming months."

Ian Feeley, business development manager, PK Group, said: "Latest figures released by DECC show the slow steady growth in assessments that we envisaged in



the early days of Green Deal. Let's remember, this is not a sprint but a marathon."

Mr Feeley also said that uptake could be more accurately measured if DECC decides to publish information on how many Green Deal measures are installed as a result of the increasing number of assessments being carried out.

Annamarie Blomfield, managing director of One Green Place, added: "The Green Deal statistics show the appetite for the scheme is growing and many of the households we've carried out assessments on have been keen to get their Green Deal plans in place."

Heating and training showroom opens

North West-based Lifestyle Heating has opened its new showroom, demonstration and training centre in Poulton-le-Fylde. Located near to the M55 between Preston and Blackpool, shadow minister for skills & regional growth, Gordon Marsden, cut the ribbon with a speech outlining the growing importance of energy efficiency.

The renewable heating supplier says its service is geared towards projects and applications within the North West which call for efficiency focused heating systems incorporating both conventional and renewable technologies.

Garry Broadbent of Lifestyle Heating said: "Because heating technology is moving forward at a significant pace it is very difficult for an end-user or specifier to fully understand and keep informed of the on-going developments of both existing and new technologies.

"We have found that it is much easier for end-users and specifiers to understand and become comfortable with this new equipment if it can be seen in a fully operational manner within a lifestyle setting and environment."

He added: "This is why Lifestyle Heating has invested heavily in creating its showroom, demonstration and training centre in order to provide an enhanced service."

Lifestyle Heating is also providing product training and seminars for end-users, specifiers and installers to be delivered on a monthly basis in partnership with key manufacturers of both conventional and renewable equipment.

The first two are planned for May and June in partnership with Rehau and Vaillant respectively.



Show and tell: Lifestyle Heating's new Lancashire showroom will also offer monthly training seminars to installers and specifiers

Barker confirms increase in non domestic RHI for businesses

Climate change minister Greg Barker, has sent a strong indication to the industry that tariffs for some renewable heating technologies will be increased for businesses in the non-domestic RHI.

Speaking in an interview with BusinessGreen, Barker said that the Department of Energy and Climate Change (DECC) was seeking to increase payments in some cases when it announces the results of its consultation within the next few weeks.

Any changes to the RHI would come into effect from next spring, when DECC has also said it expects to extend the scheme to domestic properties.

"I am absolutely determined to drive the take-up of renewable heat and that means ensuring deployment," he said. "We will publish a set of indicative tariffs that we think industry will be encouraged by.

"Basically, within a matter of weeks

industry should have a high level of certainty on the level of tariffs in the non-domestic scheme going forward. They will not necessarily be improved across the board, but they will certainly be improvements in the scheme."

It is also understood that the scope of the non-domestic scheme will be increased to cover other technologies, including anaerobic digestion, air-to-air heat pumps and geothermal, for the first time.



Cash injection: Support under the RHI will increase for some technologies, says climate change minister Greg Barker

Salford opens Solar Research Plant

The University of Salford has opened its Solar Research Plant which will produce small batches of new solar panels to help develop the North West clean energy sector

Offering free consultancy and R&D based on the university's expertise in the energy sector, the facility will give businesses in the region a space to test designs, configurations and installation methods for solar cells.

The Salford-based site is fully equipped with industry standard production machinery imported from Italy, and is staffed by experienced academics and technicians.



Open university: Salford University's new Solar Research Plant provides space for local firms to test new solar designs and configurations

While it is capable of turning out a production line of panels, the university believes it can be most effectively used in the same manner as the Salford Energy House, where a rebuilt terraced property has been installed inside a climate-controlled lab and is used by businesses to test energy efficient technology.

At the launch event on 16 April, businesses were able to see the first panel roll off the production line and hear from research staff. Richard Fitton, energy technical consultant at the University said: "We're working hard to reduce heating and electricity demand using our Energy House and this solar facility adds clean generation to the service we can provide to businesses."

Jabir Sola, managing director of Preston-based Green Utilities was at the event. He added: "This is great for the North West and the UK in general based on my academic and commercial interests in renewables and innovation. Salford University's solar development will not only make the industry more sustainable and credible but improve the end user's experience."

To find out more get in touch with Gary Bateman: g.bateman@salford.ac.uk

Events

The Homebuilding and Renovating Show
18-19 May SECC, Glasgow
29-30 June Sandown Park, Surrey
<http://www.homebuildingshow.co.uk>

The Eco Technology Show 2013
14-15 June The Brighton Centre
www.ecotechnologyshow.co.uk

Intersolar Europe
19-21 June Munich, Germany
<http://www.intersolar.de/en/intersolar.html>

The Energy Efficiency Exhibitions
10 September, South West
12 September, Midlands
17 September, North East
19 September, Scotland
24 September, South East
26 September, North West
www.energyefficiencyexhibitions.co.uk

The Renewables Event
10-11 September NEC, Birmingham
www.therenewablesevent.com

The Energy Event
10-11 September NEC, Birmingham
www.theenergyevent.com/

Solar Energy UK
8-10 October NEC, Birmingham
<http://uk.solarenergyevents.com>

Energy Solutions
9-10 October London Olympia
www.energysolutionsexpo.co.uk

Managing expectations

After much discussion about the pros and cons of the Green Deal, the government scheme was officially launched in January. **John Egan**, chairman of renewable energy specialist and Green Deal provider, Enact Energy, takes a closer look at the Green Deal now it is up and running

For those involved in the renewable energy sector, the new initiative provides undoubted opportunities, but now it is live – just how is it being delivered and how can businesses become a part of this nationwide project and not just end up being muscled out by the big boys?

Since it first took shape, the ethos of the Green Deal and its concept of removing the barriers to making homes more energy efficient by providing the finance up front has been largely supported.

Essentially the Green Deal has been formed in two parts – the ECO or Energy Company Obligation which is moving the emphasis away from CERT (Carbon Emission Reduction Target) and the Green Deal Finance.

ECO works alongside the Green Deal to provide additional support for packages of energy efficiency measures.

Green Deal offers a wide number of measures – over 40 in total which include

Opportunities knock: Under the Green Deal, not all works will meet the Golden Rule, such as double glazing and renewable energy technologies. However, the scheme offers many opportunities for roofing, cladding and insulation sectors, says John Egan, Enact Energy



The key in this new legislative change is that the finance for the works is paid back by the electricity bill payer at the property

internal, external and solid wall insulation, a range of solar technologies right through to double glazing and energy efficient boilers.

The key in this new legislative change is that the finance for the works is paid back by the electricity bill payer at the property. In order to safeguard the bill payer, the annual loan repayments must not be higher than the estimated annual energy bill saving, known as the “Golden Rule”, meaning homeowners should see a drop in their energy costs and as energy prices continue to rise their savings will rise with them.

Not all works however will meet the Golden Rule, such as double glazing and renewable energy technologies.

In these cases the property owner would need to provide an upfront payment towards the cost of the work.

In what are still the very early days of the Green Deal there are some teething problems, the main one of which is the significant shortfall in qualified Green Deal Assessors across the UK to undertake property evaluations.

It is also true that the government has put a massive emphasis on consumer protection within the Green Deal, which means that any company wanting to deliver elements of the Green Deal faces a mass of

rigorous assessments and accreditations.

Whilst this places a massive emphasis on the administrative aspect of delivering the Green Deal, it also serves to prevent another solar gold rush when seemingly every street in the country had its own solar PV provider, flooding the market and seeing consumers left dazed and confused.

Despite this emphasis on consumer protection, smaller operators still have the opportunity to work within and benefit from the Green Deal.

Green Deal providers such as Enact are creating umbrella programmes – www.greendealpartnership.com - which can be joined (pending the successful passing of criteria). These programmes enable approved installers to benefit from a range of services and support, lead generation and opportunities to offer existing customers access to the benefits of the Green Deal.

The major benefit of this approach is the opportunity to bypass much of the red tape associated with the Green Deal and ensure

Not all works however will meet the Golden Rule

opportunities are retained in local areas rather than swallowed up by a national installation company or energy supplier and handle the administrative aspects of Green Deal for smaller local companies.

The Green Deal is very much alive and kicking and providing smaller operators in the roofing, cladding and insulation sectors with opportunities to grow business.

Go for gold

Time is running out to enter the Energy Efficiency & Renewables Awards. And what better way to put your business on the map? Whatever the size of your business, says organiser, **Dan Caesar**, win big at the best awards in the UK construction industry



Being up for these awards, offers much more than just an evening of entertainment in providing your business with an outstanding opportunity to generate more business. Previous participants regularly report that being shortlisted at this event, provided an invaluable confirmation of credentials to potential customers and resulted in them winning work from competitors.

Designed to inspire industry to greater heights, the Energy Efficiency & Renewables Awards return this September. Previously known as the Renewables Awards, this year's show will spotlight the best small, medium & large firms in the energy efficiency & renewables sector.

On the evening, guests numbering into the high hundreds, are guaranteed a genuinely exceptional evening at an event which has boasted high-quality entertainment from Michael McIntyre and Gabby Logan in recent years. The hosts have yet to be confirmed for this September, but the event organisers promise a first class line-up once again this autumn.

So whether you are a larger contractor or a smaller installer, there are only a few weeks remain to enter this years categories:

- Contribution to Energy Efficiency
- Commercial Project
- Residential New Build Project
- Residential Retrofit Project
- Energy Efficient Client
- Energy Efficient Initiative
- Training Initiative
- Rising Star
- Green Innovation
- Glazing Installer NEW!
- Insulation Installer NEW!
- Low-Energy Lighting Installer NEW!
- High Efficiency Boiler Installer NEW!
- Water Efficient Installer
- Biomass Installer
- Solar PV Installer
- Solar Thermal Installer
- Air Source Installer
- Ground Source Installer
- Commercial Installer
- Energy Efficient Installer



Splash the cash: Last year's overall winners walked away with a cheque for £10,000 courtesy of Plumb Center

Nomination packs are now available and the deadline for submissions will be Friday 31 May.

To request a nomination pack today, email team@energyefficiencyexhibitions.co.uk

Shortlisted submissions will be confirmed by 1 July thanks to this year's judging panel

- Head of Sustainability, B&ES (Building & Engineering Services Association)
- Principal Consultant, BRE (Building Research Establishment)
- Editor, REI (Renewable Energy Installer Magazine)
- Head of Sustainability, Wolseley
- Marketing Director, BEAMA (British Electrotechnical & Allied Manufacturers Association)
- Managing Director, Green Heat
- Director, HHIC (Heating & Hot Water Industry Council)

The Energy Efficiency & Renewables Awards take place on 12th September.

University challenge

A €10m project involving universities and businesses across Europe is aiming to develop a new, low cost way of producing highly efficient PV cells, which could play a major role in making solar power affordable to many more households and businesses, explains **Professor Kwang-Leong Choy** at Nottingham University

At the moment, producing silicon solar cells involves the use of complicated equipment such as vacuum processes, high temperatures and clean rooms, which makes the cost of energy generated in this way expensive.

Establishing a way to fabricate cost-effective high efficiency solar cells has long been of interest to both academics and industry and this project, known as 'SCALENANO', involves 13 European partners from research institutes, universities and companies, who all have an interest in the development of PV technologies.

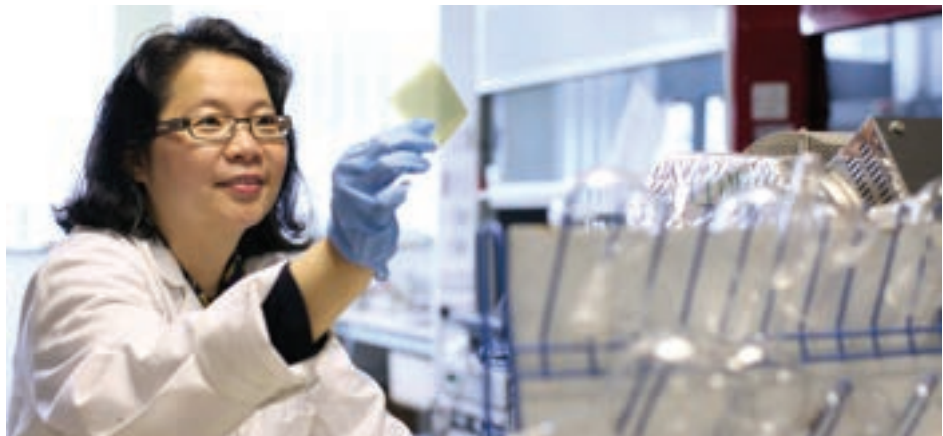
The project brings together businesses and experts with an interest in the sector, including Merck KGaA (Chemicals); NEXCIS (PV); IMPT (thin film technologies) and Semilab (metrology).

The UK partner in the project is the University of Nottingham which is building on groundbreaking achievements they have already made in the area of thin film solar cell technologies.

Thin-film solar cells offer a huge cost reduction compared to the current panels on the market

Speaking about the project, Professor Kwang-Leong Choy, who is leading the research group at the university, said: "As the global supply of fossil fuels declines, the ability to generate sustainable energy will become absolutely vital. Generating electricity by converting solar radiation into electricity, potentially provides us with an unlimited source of energy.

"By working together with academic and industrial partners across Europe, we are confident that we will be able to find a way of fabricating cost-effective, high efficiency



Bottom line: Pioneering research into alternative materials and manufacturing processes can dramatically reduce the cost of producing PV modules, says professor Kwang-Leong Choy of Nottingham University

solar cells, which will benefit businesses and households across the world."

There are issues with the thin film solar cells currently commercialised at the moment, due to challenges with depositing the materials on the cells over a large area.

Traditional thin-film solar cells also use rare elements such as indium and tellurium, so there is a pressing need to find an alternative technology which is based on more common elements. Professor Choy's team at the University of Nottingham has been working on a way of producing thin-film solar cells using kesterite, an abundant tin, iron, copper and zinc-based compound.

Another problem with today's solar cells is that they need to be produced using vacuum based manufacturing processes, which is very expensive. However, the kesterite thin-film photovoltaic solution uses

We are confident that this technology can be developed into a viable alternative in just two or three years' time

a process known as ESAVD (Electrostatic Spray Assisted Vapour Deposition) to spray the kesterite compound onto glass in a non-vacuum environment, so it is very cheap to produce in comparison.

Although research has been done into kesterite by other research groups, Professor Choy's team is working on ways to further improve kesterite based PV films so that they demonstrate similar performance results to established solar cell formulations, but at a fraction of the cost.

Professor Choy said: "We have already developed, formulated and produced the thin-film solar cells from kesterite, and we are now in the process of testing them. The initial indications are very positive, and we are confident that the technology can be developed into a viable, alternative for the solar energy industry in just two or three years' time.

"This is also very good news for PV installers, as thin-film solar cells offer a huge cost reduction compared to the current panels on the market, therefore this means that the technology becomes affordable to a far greater number of people, offering great potential for market growth."

Slow and steady

The government's flagship environmental initiative, the Green Deal, has polarised opinion since it came into force in January 2013. **Paul Joyner**, director of Sustainable Building Solutions, part of the Travis Perkins Group, gives his thoughts

Step by step: Paul Joyner, Sustainable Building Solutions, says the Green Deal is still in its infancy and is going to be a marathon, not a sprint



Given the Green Deal's relatively short life span, it has certainly divided opinion amongst installers, specifiers, and the wider construction industry. However, whilst there are many who are quick to criticise the lack of awareness and participation in the scheme, I think it is crucial to bear in mind that the Green Deal is very much still in its infancy. This is going to be a marathon, not a sprint.

Despite the rocky start, the Green Deal does have the potential to be a real industry game changer. In reality, it is a market scheme rather than a government incentive, and therefore needs the full backing of the industry. There now appears to be a positive transition underway and the number of applications we've received from installers wanting to become Green Deal Assessors is increasing month on month. This is an indicator that the industry is beginning to understand the potential business opportunities the Green Deal can provide.

Whilst there are many elements to the Green Deal, its overall purpose and aims appear to be understood by the supply chain, from manufacturers to assessors and installers. The next phase is to tackle homeowners, as they are the scheme's targeted end users. There is still some confusion over the 'Golden Rule', that the costs of finance of the work done will be compensated by a reduction in energy bills.

Funding from the government's domestic energy efficiency programme, ECO (Energy Company Obligation), is crucial to moving the scheme forward. ECO places a legal obligation on selected energy suppliers to improve the energy efficiency of households, particularly those on low income. Green Deal plans will rely on a blend of Green Deal finance and ECO funding, and maybe even customers' own finance to make the initiative truly fly.

From the perspective of Sustainable Building Solutions, our key focus is to deliver the right products and educate the industry by offering sound and up to date technical advice. There is little point in spending money on installing renewable products such as energy

efficient boilers or solar PV in a new build or retrofit project if the products are not fitted as part of a 'system approach' and backed up by the correct insulation or building fabric, as the anticipated energy savings will not be realised.

Whilst I am enthusiastic about the impact the Green Deal will have, I am aware that there are still a number of significant hurdles to overcome

Training is another crucial aspect. Through our partnership with Green Deal provider Toriga, and specialist training provider PPL, we have been able to set ourselves apart from competitors by exclusively offering builders and contractors complete training and accreditation programmes that lead to real opportunities to do business in this space.

As well as assessors and installers, housing associations and local authorities must also embrace the Green Deal. A higher number of associations need to look at the benefits of working with a Green Deal provider to not only gain control of installations across communities, but to capitalise on the potential savings to tenants.

Whilst I am enthusiastic about the impact the Green Deal will have, I am aware that there are still a number of significant hurdles to overcome, not least the current cost of funding from the GDFC (Green Deal Finance Company), and the various credit related obstacles being put in the way of adoption by consumers. The complex nature of the Green Deal process is also a concern; we are working hard to make it simple for the end consumer but I am under no illusions that the scheme will need to go through a series of alterations and amendments before it can truly be regarded as an efficient and successful initiative.

Ultimately, the Green Deal needs the full support of the industry to reach its real potential. It is very much a new concept, and like other industry-wide projects, such as the RHI (Renewable Heat Incentive), it will take time to fully comprehend. It was conceived as a project that will take ten or more years to fulfil its aim and it should not be judged three months in. I am confident that ECO in particular, and the Green Deal are very much on course to make a big difference to UK housing stock.

Despite the rocky start, the Green Deal does have the potential to be a real industry game changer



Opportunity for all

This month the MCS looks at the latest Renewable Heat Incentive announcement

The Department of Energy and Climate Change (DECC) has announced that the Renewable Heat Incentive (RHI) is now scheduled to launch for domestic customers in spring 2014. The objective of the domestic RHI is to support households in moving away from fossil fuels for heating, which will promote energy security and to contribute to the UK's target on renewable energy deployment by 2020.

DECC's recent announcement also stated there will be an expansion of the scheme to cover additional technologies. To support the industry, and encourage the continued uptake of the technologies by domestic consumers, the Renewable Heat Premium Payments (RHPP) Scheme has been extended to 2014.

With circa 1,300 MCS installation companies able to carry out the installation of solar thermal systems and approximately 840 companies able to install ground source heat pumps, there is a clear opportunity for companies to establish themselves and for the industry to develop the supply chain to take full advantage of the incentive when it launches. During the lead up to the launch of the domestic RHI, there is an opportunity for companies to go through the relevant training and undertake certification. Supply chain readiness is an important factor in the successful delivery of the RHI and the growth of the sector. Over the coming months MCS will be rolling out more information for installation companies on how to up-skill and re-skill their operatives to take advantage of this opportunity.

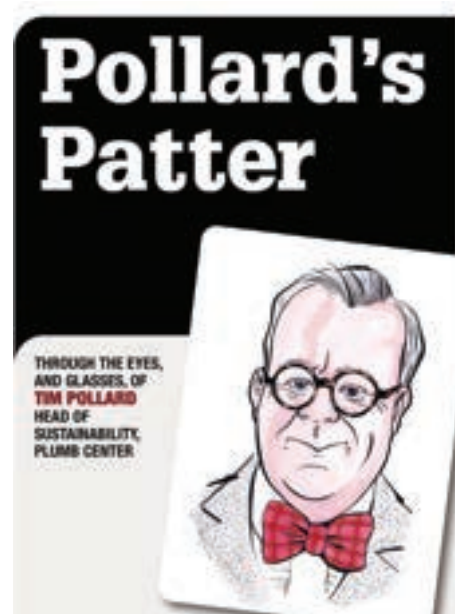
In addition to the RHPP, the Green Deal will also play an important role with supporting the financing of heat generating technologies. As an eligible technology group heat MCS technologies are able to access Green Deal finance, with consideration taken of the 'Golden Rule'.

To make the process of authorisation easier, and reduce the financial costs of working within the Green Deal Framework, the Green Deal Oversight and Registration Body and MCS have developed MCS 023 to enable MCS Installation Companies to become authorised Green Deal Participants. The new standard covers the additional requirements of Green Deal, and is available to download from the MCS website www.microgenerationcertification.org.

It is important that a robust regulatory framework is established to ensure that the RHI is set at the correct level and its launch is on a sound footing. The MCS welcome news that new technologies are to be added, and looks forward to the new opportunities that the RHI will bring for our certificated installation companies and manufacturers.

DECC has stated that it is its intention to issue final details in summer 2013, and open the schemes for payment from Spring 2014.

Opinion



Now we know! The domestic Renewable Heat Incentive is not going to happen until next year. The government statement bearing the news said we will learn 'how a RHI for householders will work and publish the tariff levels in summer 2013. It is expected that the scheme will be up and running for householders in spring 2014.' This is a huge disappointment.

There is, at least, a modicum of good news with the extension of the RHPP until March 2014 and with the news of a voucher scheme with up to £500 or 75 per cent of the cost of the training course per person. The budget for this though will only stretch to £250,000. The RHI was meant to accelerate the uptake of renewables by helping those 'early adopters' to bridge the cost gap between renewables and 'conventional' heating devices. The increase in volumes installed would help reduce the market cost and bring renewables to more households. If we continue to sell in small numbers the unit costs will remain comparatively high. This delay will slow market growth, reducing the confidence of manufacturers, distributors, installers and householders.

However, in the face of this disappointment, I remain convinced that the future for renewables remains positive. The inexorable rise in energy costs will force us to understand the true value of energy efficiency and how we can ensure we protect ourselves from spiralling bills.

It is in all our interests to re-establish the true value of energy efficiency and a positive way forward.

You recommend –

What inverter would you recommend to other installers?



With such a tight squeeze on profit margins, it's tempting to choose an inverter on price, but with seven years of installing experience and 3,500 inverters behind us, we know this is a false economy. A customer will be on the phone as soon as a system stops working and this takes time and a man off the road to sort out. For me, the best inverter make is SMA. It's a well known, efficient brand with a good reputation, warranty and customer service. I like their bolt on products for monitoring and the training - invaluable when things go wrong. We also receive a payment for replacing faulty inverters.

Paul Taylor, research & development director, The Green Electrician Group

We recommend SMA Solar Technology as the inverter manufacturer of choice. A visit to their manufacturing plant in Germany last year presented the opportunity to assess firsthand both the quality of product and the support services in place. The visit also confirmed that SMA has one of the largest inverter ranges on the market, allowing for the correct inverter to be sourced for any occasion. We have built up an extensive experience with SMA inverters and stand by their reputation as one of the global leaders in the development, production and sales of PV inverters.

Paul Hollingsworth, operations and finance manager, Caplor Energy



I now use micro-inverters for my installations for three reasons: cost, efficiency, and transparency.

Cost: Micro-inverter costs have significantly reduced, especially using products like the D480-60s from Enecsys. They come with a standard 20 year warranty, as opposed to the string inverter's 5 years. Moreover with no high voltage risk, they are safer and easier to install.

Efficiency: Micro-inverters do MPPT on a per-module level meaning no restriction to the worst performing unit. As the PV modules degrade with time and mismatch increases, the system still performs optimally.

Transparency: Per-module monitoring allows pinpointing of any flaw within the system, whereas in a string configuration the owner is forced to buy extra monitoring.

Bruce Bellingham, director, Cornwall Energy

Eco2Solar recommend the SMA Sunnyboy range of inverters to installers and customers. SMA is the world's best-selling inverter, due to its excellent products, warranties and service packages. We recommend it as we are confident in its ability to perform at the highest possible level on our installations, from small domestic installs, to large-scale commercial solar systems. SMA also invests heavily in the research and development of its inverters, meaning that its products are always at the cutting edge of new inverter technology. Alongside its commitment to high quality products, SMA's impeccable ethical values, provide the final reason that we feel confident in recommending them.

Paul Hutchens, managing director, Eco2Solar



Inverters have increasingly developed to solar PV market conditions, including the incorporation of G59 technology and standard/extended warranty – now available up to 25 years.

We provide availability of inverters covering all key aspects of any PV system install from a complete range: Samil, SMA, Fronius, Master Volt, Steca.

We recommend selecting inverters using best practice and best fit for purpose, with the leading brands; for example, SMA for robustness and capability to locate outside in the environment (IP65) and Fronius for their ease of use, reliability and working life.

Lee Baxter, general manager of Myriad Solar PV

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Winning combination

Heat pump trouble shooter **Bob Long** continues his series of articles focussing on issues for installers working with this technology.



Sticking to the subject of bivalency, it is always advisable to consider alternatives when deciding upon a fuel source for the delivery of supplementary energy.

In general, a well balanced heating system, designed to operate with the lowest effective water flow temperature will optimise the efficiency of any heat pump, and deliver the best financial and low-carbon result possible.

However, domestic hot water production is an entirely different matter and requires a much higher water temperature, often beyond the economically viable limits of a heat pump.

Systems are sometimes offered with “Y plan” strategies, where the heat pump has the ability to operate in two different temperature ranges. Installations are usually equipped with a motorised diverting valve to periodically apply energy to the hot water cylinder at higher temperature, and then revert back to heating where low temperature water production is resumed.

This solution is not ideal for two reasons. 1) Cost of hot water production, 2) Minimum safe temperature required for elimination of the legionella virus.

Safe temperatures

Attaining a “safe temperature” is usually achieved by periodically raising the temperature of the domestic hot water (DHW) cylinder. This is achieved by employing an electrical immersion heater, and a timer fitted with an auto-reset and limiting thermostat.

A pre-determined pasteurisation cycle is initiated by a timer which is organised to re-set as soon as a defined target temperature is reached, usually somewhere around 65 to 70°C.

Although this method of DHW production is used widely in heat pump system design, it is not without potential problems, and usually relies upon expensive direct electrical energy, which by comparison is probably the most costly of all available forms.

Natural gas, LPG, Diesel oil, Bio fuel, or Log burner with back-boiler, are all potential heat sources capable of generating high grade energy for DHW, and further, maintaining the DHW cylinder above the minimum safe holding temperature, eliminating specific pasteurisation cycles.

This method of DHW production is used widely in heat pump system design, it is not without potential problems

Multiple advantages

The possibility of using one of these heat-sources should not be dismissed for dedicated production of domestic hot water, as the advantages can be multiple.

A heat pump, dedicated to space heating purposes, and designed for low temperature operation, i.e. under floor or fan/coil, can and will deliver its most economic output under these conditions.

To optimise the economics of DHW production, a heat exchanger can be incorporated into the system’s buffer cylinder. The heat exchanger is used to pre-heat the incoming domestic water supply prior to feeding the DHW cylinder. This method provides a significant temperature lift to the mains water supply very economically, reducing the amount of energy required for the DHW to reach its target temperature.

Numerous fuel sources

Assuming DHW is held in a dedicated cylinder, and heated by one of the numerous fuel sources available, the energy contained within the DHW can also be a source of bivalent energy. The energy can be used to supplement the heating circuit when outdoor temperatures fall into minus figures, and bivalent energy input is permitted.

Integration of the cylinder to provide bivalent support requires nothing more than a heat exchanger coil embedded in the DHW cylinder and a thermostatically controlled diverting valve to control the flow path of low temperature water from the heating circuit as required.

In this way, bivalent support for the heating circuit can be supplied from the alternate fuel source, primarily installed for the production of DHW.

The methods discussed here, are an illustration of the wide range of possibilities and solutions available to engineers, when considering designs for specific locations and customer needs.



Two minutes with . . .

Who are you?

Alan Wright, sales director, commercial & utilities, **Kingspan Environmental**

What do you do?

I oversee our commercial specification team that sells solar thermal tubes, rainwater harvesting systems and air source heat pumps with a focus on driving strategic growth within the sector.

Where are you?

We have a number of UK factories and offices, including Portadown in Northern Ireland, and Wakefield, Yorkshire. But during the course of a working week I can be based anywhere from Cornwall to Aberdeen.

How's business at the moment?

Challenging at times, as it is for many people at the moment. That said, utility bills are continuing to rise and business owners are increasingly looking at alternative means of heating water, space heating, and water management.

How could it be better?

Sadly, the non-domestic Renewable Heat Incentive (RHI) hasn't yet given renewables technology the traction it needs in the market. Removing red tape and bureaucracy from this important financial incentive would help enormously.

Who do you admire in renewables?

It's more of a what than who. I admire Western European economies where renewable technologies have been embraced and installing green energy is standard practice.

What's the best business advice you have received?

If you don't look after your customers someone else will.

How are you going green?

I have a wood-burning stove at home. We are also currently upgrading our insulation and installing solar thermal panels and a new hot water cylinder.

Q&A

Ian Murray

Clear Focus



REI: What have you got planned for the rest of the year?

We'll be working hard across our R&D projects and launching some very exciting products, in addition to maintaining a high standard of everyday service. We've started the year with the PV Plus launch, an energy back-up system with automatic switch technology, while also working on a public sector project which requires bespoke, cutting-edge technology.

What do you see as the growth areas in renewables?

I predict energy storage systems will see dramatic growth, in response to the government-predicted scheduled shortages. It's crucial to provide power the public can rely on. Storage technology used in the solar industry can be outdated and expensive to maintain, presenting opportunity for uptake of safer, greener, more robust alternatives, like our new lithium phosphate package.

Q: How is your company cutting its carbon footprint?

Our footprint is minimal as we're a small family business. We use local manufacturers and suppliers wherever possible, to reduce our footprint and also to support the community. We recycle our materials as much as possible, with a minimal waste policy, and of course we are solar powered.

Ian Murray is technical director at Gloucestershire-based PV installers Clear Focus



“What if, within that statement, the government were to consider a move which links the domestic RHI assessment to the Green Deal assessment? Richard Andrews, Kingspan Environmental” P20

Talking Ten to the Dozen

Leading renewable experts reveal their opinions

Do you think that the EU is right to consider imposing import tariffs on Chinese PV products?



Andy O'Leary, business development manager, Sibert

“If the intention is to strengthen the position of already failing EU PV module manufacturers then perhaps it is a little too late. Short-term impact has seen an immediate increase in panel costs, long-term impact is yet to be realised but ‘closing the stable door after the horse has bolted’ springs to mind.”



Nick Boyle, ceo, Lightsource Renewable Energy

“No, and it would be hugely surprising if Europe chose to snub China, but it’s impossible to speculate. Anti-dumping legislation would damage, and potentially kill, the solar industry globally.”



Lee Baxter, general manager, Myriad Solar PV

“With the prospect of duty being levied on Chinese goods, this brings another period of uncertainty to the market. It must be said, however, that the continual lowering of prices by module manufacturers has been equally damaging. Perhaps the anti-dumping tax will level the playing field.”



Steve Griffiths, sales and marketing director, Tritec

“Whilst it is a social requirement for Chinese manufacturers to operate on a level playing field, the news is untimely when we are focusing on pushing PV as cost-effective. However, PV has been at an unprecedented low price and it will very much remain a viable option.”



Mark Elliott, director, Energeno

“Escalating a trade war with China through targeted import tariffs will not assist anyone, especially not the European consumer who will be left with rocketing prices for installation as solar cells come into short supply.”



Suzanne Burgess, director, Solway Renewable Energy

“In principle I agree with the EU investigation. Unfortunately I can’t afford principles and I think it’s another uncertainty that the solar world could well do without in this period of economic uncertainty and energy insecurity. A more timely intervention would have been welcomed.”



Richard Jenkins, managing director, Ecolution Energy Services

“The PV industry is growing dramatically due to its increasing competitiveness versus traditional energy sources. This has been achieved by the significant reduction in cost of the modules, mainly supplied by Chinese companies. Therefore imposing a levy on Chinese modules will set the UK industry back several years.”



Mariana Hall, vice president, Phono Solar Europe

“The Chinese and European PV markets have been inter-connected since their beginnings. A complementary co-dependency exists between them, and we are certain that the proposed anti-dumping measures put this in danger. There is no winner in a trade war.”



Howard Johns, managing director, Southern Solar

“Manufacturing in the EU represents a very small amount of the jobs and value in the total supply chain, so this action to protect those few jobs would almost certainly jeopardize many more elsewhere. It’s the last thing we need after 18 months of ‘solarcoaster’ in the UK.”



Chris Laughton, managing director, The Solar Design Company

“Active protectionism of this nature can have many repercussions. I am not in favour of targeting a single country like this simply for selling goods cheaply. There’s nothing to stop the Chinese doing the same to our exports. Instead, we need better quality standards behind our subsidy schemes.”

Talking point

Liz MacFarlane, Zenex Solar reveals why heat pumps provide an endless source of interest



Source of interest: Liz MacFarlane still finds the heat pump sector fascinating

My life over the last two years has been taken over by Zenex and solar PV but heat pumps are my real passion. Heat pumps were my reason for entering the sector almost five years ago when we established Q-Gen, in preparation for the Renewable Heat Incentive, which was supposedly just around the corner.

I still get a much greater satisfaction from a single domestic heat pump installation than any other aspect of my role. Of all the companies in our group, Q-Gen gets the most unprompted gushing positive feedback. I'm lucky to have a team of experienced and knowledgeable staff who would rather walk away from an install if the property is not suitable. In fact, we probably turn away more sales than we take. You might ask how we've survived. If turning work away seems like nonsense to you then you obviously haven't experienced an inappropriately installed heat pump. There is nothing more costly or time-consuming.

And it's for that reason that we at Q-Gen have mixed opinions about the latest delay in the RHI. Yes, the advent of the world's first ever incentive for renewable heat will eventually open up our door to many more opportunities, but it will also see the arrival of many newcomers to the market who underestimate the complexities of heat pumps or for that matter, biomass. The industry needs to be very careful of poor installations. We do not want a repeat of the Energy Saving Trust's earlier study which examined historical heat pump installations, many of them DIY jobs, and cast a shadow over the piece of technical wizardry that is the heat pump.

Installing a family's sole source of heat is a very different responsibility to installing solar PV and it's for this reason that, dare I say it, I welcome the government's commitment to earmarking £250,000 towards the training of heating installers and to the funding of 100 green apprenticeships for young people. Yes, this funding commitment comes at a price – a further delay in the RHI. I've yet to compose the email to explain this to our existing Q-Gen customers. I can't quite find the words to tell them again. However, I am pretty confident that now they've experienced the technology at its best, ultimately the RHI will just be the icing on the cake.

Open for business

Steve Pester, BRE, describes the aims of BRE's National Solar Centre, now officially open



Star opening: Steve Pester, BRE, outlines the aims of the NSC

The big news in renewables at BRE at the moment is that by the time you read this the BRE National Solar Centre (NSC) will be open for business. As a reminder, the centre's purpose is to be the main source of reliable information on all things solar for professionals operating in the UK market. For example we will be conducting side-by-side trials of products and obtaining performance data from real systems across the UK.

The NSC will also be linking in with universities, other research centres and solar organisations across Europe in order to filter and channel reliable information for the UK industry. Another strand to the centre's activities will be the provision of due diligence services to companies funding or developing large-scale PV projects.

The centre has already secured some European funding via ERDF, but in order to release that support we now also need some match funding from organisations who would like to be involved in research projects, trials, writing industry guides, etc.

Some topics of special interest are:

- Product performance and longevity testing
- System performance monitoring
- BIPV products and systems
- Energy storage solutions
- Grid integration

As an industry-focused centre of excellence the centre is completely open to ideas and suggestions from industry and will endeavour to develop the best suggestions.

Further information on the NSC can be found at: www.bre.co.uk/nsc, or write to us at nsc@bre.co.uk

Current thinking

Why is it so hard for our industry to accept the benefits and savings from voltage optimisation in domestic buildings? **Chris Norman**, chairman of the Energy Services and Technology Association (ESTA) makes his voice heard

In response to an article published in the October issue of REI, entitled "Taking the Test", I believe the conclusion drawn in this article was invalid.

The average voltage in the UK is around 245V, the cumulative effect of PV arrays becoming commonplace is to drive this voltage higher still. Excess voltage increases energy consumption and reduces the lifespan of domestic appliances. Products respond differently to voltage variation so the energy savings will vary depending on appliance mix; domestic voltage optimisation has been tested in both the lab and in field trials, the results have clearly shown that the expected savings will range from 4 to 12 per cent.

So why is there so much scepticism around voltage optimisation? Some of the reasons are:

There is a lack of knowledge of how products respond to voltage variation. Devices do not always respond as you would expect.

Ad hoc testing is yielding confusing results. Energy consumption testing is not easy and must be done in a controlled, professional and statistically valid manner.

Some voltage optimisation product manufacturers have historically made exaggerated savings claims. These have served to undermine the credibility of the technology.

Voltage optimisation has been inappropriately associated with often fraudulent plug in products which offer no energy saving benefits.

It is time for the electrical industry to move beyond all this and come to terms with the fact that domestic voltage optimisation is a serious proven technology that offers real benefits. Take the test by all means, but do it properly.



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Solo PV



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Chorus PV



Hotting up

Graham Hendra, technical director, Samsung EHS, looks at the state of the heat pump market today and says that this is the year the heat pump becomes a serious contender



Heating up: According to Graham Hendra, Samsung EHS, 2013 is set to be a good year for heat pumps

Within the renewables sector it is said that 2013 is the year of the heat pump. Many in the heat pump industry are convinced this will be the year heat pumps become a serious contender in the heating market.

In 2012 the heat pump market was 14,000 pieces, according to official figures. To put that into perspective, over 65,000 oil boilers and over a million boilers in total were sold in the UK, so there is plenty of room for the heat pump market to grow.

The biggest objections the heat pumps industry needs to overcome are unfamiliarity with the technology, a problem that education and time will solve, and the higher cost of heat pumps. In the past, heat pumps were massively complicated, cumbersome, noisy and unreliable. New heat pumps are simple, quiet, small, and efficient. Samsung's expertise in the white goods market has supported the development of the attractive and quiet Samsung Monoblocs.

A typical boiler and cylinder can be installed for between £3,000 and £5,000 in a

In 2012 the heat pump market was 14,000 pieces, according to official figures. To put that into perspective there were over 65,000 oil boilers sold and over a million boilers in total sold in the UK

four bed house. A heat pump installation will currently be almost twice that price for an air source machine. The reason for the higher prices are, the kit is more expensive, as it is manufactured in smaller numbers, and there is quite a bit more work to fitting a heat pump when compared with installing a boiler.

As heating engineers become more comfortable with the technology the costs will fall. At Samsung, we have already seen a dramatic fall in prices for this technology; installations costing £14,000 were common place three years ago.

Heat pumps have seen some bad press, with problems caused by poor application and sizing

Heat pumps have seen some bad press, with problems caused by poor application and sizing. To properly size the units takes time and cannot be done using rules of thumb, in many cases of incorrect installation this was not done properly, the units were misapplied and the problems stacked up. In March 2012 the MCS stepped in and gave a set of very strict guidelines about sizing radiators and other heat emitter sizing and positioning of units. The result is that heat pumps and radiators are sized accurately and the number of problem units has dramatically declined. The MCS calculations are not simple; to survey a 4 bed house takes about an hour followed by an hour's calculations or data entry. The result is a very detailed breakdown

of the heat losses on a room by room basis. This gives the installer and the home owner all the information they require to make informed decisions. The Samsung EHS version of the software automatically sizes every radiator, compares run costs with all other fuel types, works out the Glycol required for the system and even works out the direct debits required for the end users.

Over the last few years the government has started stimulus packages to get this market moving. This has taken the form of the Renewable Heat Premium Payment (RHPP), a one off payment of £850 to help you to choose a heat pump. There is also the Renewable Heat Incentive (RHI), which although delayed now until next year, should hopefully offer much greater incentives to home owners to take the green option when replacing their fossil fuel heating system. The RHI will work on a calculated value based on the heat loss of the house, hence making the heat loss calculation even more important. If the figures stay as they are a typical 4 bed house could receive between £800 and £1500 a year for seven years.

In the past, heat pumps were massively complicated, cumbersome, noisy and unreliable.

Joining forces

Would linking RHI and the Green Deal provide clarity and confidence in renewable technologies? **Richard Andrews**, marketing manager, Kingspan Environmental, examines this possibility

In recent months, we have had announcements around two important funding initiatives that could have enormous bearing on energy usage in the domestic sector. The first, was the launch of an initiative aimed at improving energy efficiency, the second was a long-awaited announcement on a tariff scheme that aims to support renewable technologies and reduce our current, deeply rooted reliance on fossil fuels for heating and hot water.

The first announcement of course was Green Deal, launched in January, which aims to fund energy-saving measures to reduce domestic energy consumption without any upfront costs to the property owner.

While the Green Deal is set to deliver energy efficiency, the scheme also includes the provision of microgeneration renewable technologies. The question is, will the Green Deal actually lower bills and - taking this a step further - in the long term reduce incidents of fuel poverty which currently affects an estimated 5.5 million British people?

The concern is that if the cap on the size of the loan remains inflexible, the majority of the fund will be unavailable for the use of microgeneration technologies. The opportunity for homeowners to install renewable energy technology such as solar thermal, biomass or air source heat pumps to provide for their own heating requirements will have been lost.

Which brings me to the second initiative, the domestic Renewable Heat Incentive (RHI). Disappointingly, the government, which had stalled on the domestic RHI on a number of occasions, has once again



United front: Kingspan Environmental's Richard Andrews would like to see the Green Deal linked to the domestic RHI to improve outcomes for both these industry schemes

chosen to defer the start date, this time to 2014.

The announcement of a further delay has generated understandable concern within the industry. Many commentators feel it could damage investor confidence and, ultimately, diminish public interest and industry belief in the government's energy policy.

The delay also served to further highlight the confused state of affairs that currently exists within the microgeneration sector. There is a notable lack of clarity around how microgeneration fits within the government's wider energy strategy which has been suggested by many to be little more than a 'dash for gas'.

While the Green Deal is set to deliver energy efficiency, the scheme also includes the provision of microgeneration renewable technologies

It's clearly a situation that the government needs to move quickly to address. We need a statement from ministers that offers an authoritative, credible position on renewable technology to restore industry and investor confidence – and to my mind, a possible solution might not be very far from where we are now. Hopefully the update, which is scheduled for the summer, will bring clarity and provide confidence.

What if, within that statement, the government were to consider a move which links the domestic RHI assessment to the Green Deal assessment?

The Green Deal on its own empowers individuals to reduce the amount of energy they use. But further use of renewable technology, promoted through the domestic RHI, would take this a step further and empower individuals to be responsible for generating the energy they use thus insulating them from rising fuel prices and future instances of fuel poverty.

Should this be adopted, it does not need to involve the levels of bureaucracy or red tape which have been seen in certain technologies in the non-domestic arena. However, it would require a proper assessment of the microgeneration options to ensure the benefits conferred by the renewables system were maximised in terms of both effectiveness and payback and there should be a wide choice of technologies to choose from – with no one option favoured financially.

Fuel for thought

2013 is a big year for anyone who installs solid fuel heating domestic appliances. **Sure Fire Training Services** describes the service it offers to ensure installers don't lose their Competent Person status

New government legislation means that from June 2014, any engineer who hasn't completed a HETAS assessment or refresher course in the past five years must undertake a re-assessment or risk losing their Competent Person status.

Changes to legislation can seem daunting, but Sure Fire Training Services, a leading accredited HETAS training provider, aims to make the process as time-efficient and straightforward as possible

Michael Waumsley, managing director of Sure Fire Training Services comments: "In the past, there has been no follow up provision after an installer has gained their original training qualification in solid fuel heating system installation. The new initiative will help to ensure that engineers undertake follow-on training and keep up to date with the latest regulations and safety directives."

At present, HETAS is the first of the solid fuel heating governing bodies to run this initiative but others are expected to follow very soon.

"From June 2014, the changes mean that HETAS registered installing engineers must have completed a relevant HETAS course or refresher course within the previous five years. Refresher courses will be available from Accredited Training Centres such as ours. The assessment system has a number of options for installers to meet or bring their individual competence and knowledge to a standard that meets the requirements," adds Waumsley.

HETAS is the official body recognised by government to approve biomass and solid fuel domestic heating appliances, fuels and services including the registration of competent installers and servicing businesses.

It is responsible for overseeing the new regulations which came about after the Department of Communities and Local Government (DCLG) put in place

authorisation for Competent Persons Scheme (CPS) operators and their members. These requirements come into full force from June 2014. One requirement of the conditions is to ensure HETAS Competent Persons Scheme (CPS) registrants are kept up to date and maintain their Minimum Technical Competence (MTC). The current and relevant MTCs require technical qualifications to be renewed on a five-year cycle.

HETAS has already started to advise registrants of their obligation to carry out refresher training, initially for those trained prior to 2008. After that, it plans to capture all those with training older than five years by 2014. HETAS has also created a refresher course that is designed to cover all changes to the Building Regulations, Health and Safety, BS EN Standards legislation and technical standards within the last five years. The course must confirm the installer's competence through practical and theoretical assessments.

The assessment comprises a choice of one and two day refresher courses, or the option to take the full H003 course again.

"The courses have been designed to be flexible so that people with different training requirements can work towards achieving the standards," says Waumsley.

"They have a modular and practical format, giving installers the chance to be tested and undertake a refresher course if necessary, in a one or two day visit to the training centre. This means installers need only spend the minimum amount of time away from the workplace while meeting their obligations."

Course Options

To accommodate those installers who have genuinely kept themselves compliant, the HETAS courses offer at least two options to prove competence:



Sure winner: Sure Fire Training Services is a HETAS accredited training provider

Current H003 Dry Installation Course

(originally named the Dry Solid Fuel Awareness Course without practical assessment.)

Candidates can make a decision from the following two options - a one day assessment, where an installer must pass a preliminary test in advance of an assessment. (This assessment is the current HETAS H003 exam and assessment.) If candidates are unsuccessful they must continue to Option 2. This is two-day training, covering relevant changes to the Building Regulations and/or BS/EN standards or technical standards, using the current H003 training manual. It also comprises a theoretical and practical assessment as per Option 1. The H004 Wet Course is also offered.

Training centres

Sure Fire Training Services is a HETAS accredited training provider and was the first HETAS approved centre back in 2009. The centre contains specialist equipment with live appliances, chimney products and fuel displays so delegates can see and experience a wide range of equipment from different manufacturers in one location for both HETAS Training Courses and the specialist Sure Fire Training Courses such as chimney surveying and working at heights.

Sure Fire Training Services also offers practical training for new entrants to the industry with the opportunity to install an open fire, a stove and a flexible flue liner in a safe and supervised location rather than practising in a customers' home.



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Current affairs

Number 10 has it. So does a number of Environment Agency buildings. And a leading climate change campaigner says it should be rolled out in schools and council buildings across the UK. But does voltage optimisation really work? REI got the lowdown from **Manhal Allos**, the founder of iVolt

In February David Cameron said: “The economies in Europe that will prosper are those that are the greenest and the most energy-efficient,” and he’s absolutely right. There can’t be a business owner or facility manager on earth who hasn’t had to give considerable thought to reducing their impact on the environment. Similarly, no one can rest on their laurels when it comes to reducing operating costs.

One energy-saving solution that ticks all the boxes is voltage optimisation. On paper, it’s an attractive idea – by lowering the incoming power supply from a UK average of 242V to a more efficient 220V, it can reduce your electricity bills, slash your carbon emissions and protect your equipment. But until the iVolt system came along, no one was able to show how much voltage optimisation (VO) was saving.

Intelligent system

The iVolt system, with its Intelligent Real Time (IRT) Energy Monitor, means that any of our clients – from supermarket, hotel and restaurant chains to airports, railway stations, factories and schools - can log on to a cloud-based database and see, in percentage and monetary terms, how much a particular site is saving at any given time. They can even use the system to tap into a premises’ supply and tweak it, without disrupting business.

There are various claims about the sorts of savings VO can achieve but at iVolt we’re very clear about the fact that while in many situations it’s very effective, there are cases where it isn’t. No one can afford to invest in a technology based on theoretical savings; businesses need to be able to see what they are actually saving to justify the initial capital expenditure and to calculate their RoI - and that is precisely where iVolt’s technology comes in.

A lot of companies require months to demonstrate savings and even then these amounts are calculated through assumptions of usage, footfall, weather and other regression modelling methods. The problem is there are too many variables; it’s technically impossible to prove that voltage optimisation has saved X per cent when energy consumption is affected by so many factors. But with us, the proof is in the pudding.

No one can afford to invest in a technology based on theoretical savings; businesses need to see what they save

Identifying savings

Just a few simple tests will clarify whether a site could benefit. We carry out detailed surveys to assess the power quality, the consumption and to identify where we could make savings – and also if voltage optimisation could have any adverse effects. Our transparent approach continues when the unit is installed. The built-in monitor works by adjusting the voltage output to compare energy consumption with and without optimisation, over a defined period, comparing consumption levels to identify the energy savings actually being delivered: so a client can see exactly how the iVolt is performing.

So far we’ve shown savings of up to 20 per cent are possible. The dramatic reduction in energy consumption at Chaucer Technology School not only led to the pupils being nominated for a national science and engineering award, but won iVolt a Green Apple Award for Environmental Best Practice.



Real deal: Manhal Allos, founder of iVolt, says that savings of up to 20 percent can be made on electricity bills through voltage optimisation

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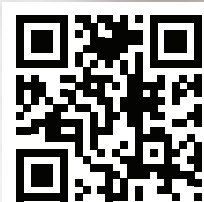
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Are you in control?

Stuart Cooper, Solfex Energy Systems, reports on the importance of the correct selection and parameter set up of controls within solar thermal and heating systems, including the features and benefits of the Prozeda Primos, Grandis HK, Conexio 600 and Convisio controls and software

Solar thermal and multifunctional heating controls are complex and offer many variations of hydraulic layouts. They also offer multiple inputs for various temperature sensors such as hot water store sensors, collector sensors, external temperature sensors for weather compensation, irradiance sensors and also volumetric flow meters. Multiple outputs are also high priority on such a controller to operate electrical valves, standard circulation pumps and also low voltage outputs with Pulsed Width Modulation (PWM) to control high efficiency pumps, back up heat sources and also as an interface to the building management system (BMS) within a commercial installation. Most manufacturers of such controls also offer various features such as data logging and web or fixed viewing of the relevant system information the controller is actually serving.

First of all, the correct controller should be selected for the right application and hydraulic schematic which will be installed. Is the solar system a drain back type and can the proposed controller handle such a scheme with the relevant drain back functions?

Other considerations should also be given to potential future system changes such as another renewable heat source and how that would be electrically integrated and controlled at a later stage, any potential changes or extensions to the heating circuit zones. Further consideration should also be given if high efficiency pumps are to be used within the system and if the selected controller has designated PWM low voltage outputs to control such pumps.

Once the controller type has been selected and installed, its correct operation solely relies on the commissioning engineer who has set the system parameters. Most of these system parameters should have



Controlling interest: Stuart Cooper, Solfex Energy Systems, discusses the importance of the correct selection and parameter set up of controls

been agreed at the same time as all the other considerations and approved into the overall system design and set up. The simplest function is the operating principle and most basic such as delta T switch on and off temperatures. In domestic systems the Prozeda default settings of 7K / 3K will suffice but consideration should be made within commercial applications with longer pipe runs for a greater differential of delta T to reduce pump cycling and energy wastage, it can also make sense on commercial systems with long external pipe runs with an high efficiency external plate heat exchanger to

design a bypasses into the flow pipe prior to the plate heat exchanger, using Tyforcor LS for the transfer medium for example. With a frost protection of -28°C the fluid will still be in liquid / slush state beyond -20°C depending on system pressure. In direct winter sunshine solar thermal collector fields will still heat up and function, raising the possibility of circulating sub-zero temperature fluids from long external pipe runs directly through a plate heat exchanger. This can cause significant damage to a plate heat exchanger by freezing the primary direct water and it's better to recirculate the transfer medium

Knowledge: Controls

around the collector field to a set higher temperature, prior to diverting around the main plate heat exchanger, this alone requires a more advanced controller with additional outputs to control a divert valve.

Pump speed modulation can also have a positive impact on overall system performance and efficiency by automatically adjusting the volumetric flow rate according to increasing or decreasing differential in delta T, using pump speed modulation also decreases energy consumption and wear and tear on the actual circulation pump because the pump won't be operating at a higher power setting and then throttled down using regulation. Alternatively, the system hydraulics should be designed and sized accordingly and the correct stage of the



Bright idea: The Primos 250 control. This is ideal for simpler solar applications with one field collector and has the ability to log data as well as boasting a web view system

pump should be set to overcome pressure loss across the entire circuit and collector field.

Conexio web-module & Convisio software

The comprehensive features of these controls are also enhanced further by the ability to data log along with other various methods of viewing system information. As standard a micro SD card slot is inbuilt into the Primos and Grandis range of controllers, once the SD card is in place this will record all historical system parameters and information which is then available for viewing through Prozeda Convisio software which gives a graphical performance chart from an adjustable date range and can display up to 12 outputs / 27 sensor inputs. The Prozeda Convisio software is free of charge and is available as a download on the Prozeda or Solfex Energy

Prozeda controller range

The Prozeda Primos 600 solar thermal controller has 6 x temperature inputs (PT 1000 sensor), 4 x 230V outputs & 2 x additional low voltage outputs with Pulsed Width Modulation (PWM) to control high efficiency pumps. It also has a connection for Vortex Flow Sensor for yield measurement. This controller is predominantly for solar thermal applications with various hydraulic layouts including systems with two collector fields or two stores. It can also be used to control various back up energy sources and to operate diverting valves within the hydraulic circuit. For simpler solar applications with one collector field, the Primos 250 will suffice and still has the ability to data log and web view system information as standard, this control also can control HE pumps and has a relay output to control another heat source.

The Grandis 600 HK will perform the same duties as the Primos 600 & 250, however this controller is more advanced and has 10 x temperature inputs (PT 1000 sensor), 8 x 230V outputs and 2 x additional low voltage outputs with Pulsed Width Modulation (PWM) to control high efficiency pumps, it also has a connection for 2 x Vortex Flow Sensors for yield measurement. The Grandis 600 HK will also control and weather compensate two separate mixed heating circuits, this is ideal for high temperature panel heating systems working alongside mixed lower temperature under floor heating, both controllers are available to connect with a BMS and also sounds an audible alarm on any system error.



Scan the QR code for version containing technical data



Systems website and is a good tool for technicians and end users alike to oversee the performance of the system; the data can also be exported to PDF or Excel for file saving or printing or even email sending to a solar thermal technician who can analyse the data and advise if any changes are required. This data can then be shown on 2D and 3D charts and graphs. In the 2D chart, the operator can select a sensor, for example S1, collector sensor and then zoom in on that time period to get more accurate data from that point of the system.

Technical assistance

Despite a lot of controller options, sometimes the correct product selection can still be daunting, Solfex Energy Systems has three full time solar thermal sales engineers supporting Prozeda products within the UK. They are

available to assist installers with not only the correct product to select, but also to technically support and offer training on that product as well as assist with the design of the entire solar thermal system and provide CAD and dimensioning of the entire circuit if required.



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Safe as houses

Sulaiman Ahmad, VP European project business, Enecsys shares his knowledge on reducing solar PV fire risks in rooftop installations

In conventional solar PV systems, high DC voltages are a source of danger during installation, operation and removal of equipment. Only specially trained electrical installation technicians can work on these systems and they need to have an understanding of fire-fighting procedures and requirements.

In daylight, PV modules generate a low DC voltage. However, when the modules are connected in series the output voltage of the resulting 'string' can reach up to 1,000V. This high DC voltage is converted into a grid-compatible AC (alternating current) voltage by means of an inverter and fed into the grid via a distribution box. Even if the inverter can be cut off via the main fuse or circuit breaker, the high DC voltage generated by the modules continues to exist on the roof. This originates on the roof but is usually fed to a lower-level location for the inverter, perhaps in a garage or basement. Fire risks due to short circuits and DC arcing therefore exist throughout the building.

Controlling AC voltage isn't as problematic as circuit breakers offer a disconnection function to help prevent a short circuit and the formation of an arc. With photovoltaic installations, however, a safe disconnection to stop electrical arcing is more difficult to implement, which increases the risk of fire. Many factors can cause a fire when using DC voltage such as ageing photovoltaic equipment or arcing triggered by defective or damaged insulation.

Micro inverters to the rescue

Making contact with DC voltage higher than 120V is life-threatening, according to VDE standards. That's why firefighters need to locate the circuit breakers or isolating switches when they are called to a property with a solar PV installation and take great care when handling the terminal box.

There are ways to help those tackling fires on roofs with solar modules, including

emergency-stop switches or obscuring the photovoltaic module with a cover, but many of these are still theoretical and could prove to be costly and unreliable. A relatively new approach to eliminating the problem involves the use of micro inverters mounted on the rails behind individual solar panels, or modules. Micro inverters replace string inverters used in conventional solar PV architectures. They convert DC to AC from just one or two solar modules. Since the AC voltage conversion is carried out behind each module and the micro inverters are connected in parallel, high DC voltages are not present anywhere in the system.

In addition to improving safety, micro inverters provide effective solutions to many problems associated with conventional string or central inverters.

- Energy harvest is maximised (improvements of between 5 per cent and 20 per cent) by operating each individual solar module at maximum power and reducing the effect of shadowing or any other cause for a performance drop of individual modules on the overall installation.
- The performance and yield of each module can be monitored so issues can be identified and rectified quickly and easily.
- Micro inverters often guarantee reliable operation over the entire anticipated service life of 25 years, matching the life of the solar module itself.
- PV array design and installation is simplified as solar modules do not need to be matched and can be installed in any orientation on any roof plane.



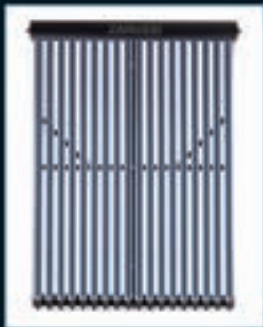
Play it safe: Sulaiman Ahmad, Enecsys, shares his expertise on reducing fire risk in solar PV rooftop installations

With the lifetime cost of solar PV systems based on micro inverters now lower than those based on string inverters, there is no longer any logical reason why installers of residential and commercial rooftop installations would choose to use traditional string inverters.

In addition to improving safety, micro inverters provide effective solutions to many problems



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Quality management

As the benefits of biomass become apparent to commercial and domestic users, **HETAS** highlights the importance of fuel quality

With the majority of Renewable Heat Incentive (RHI) funding so far allocated to biomass installations, it's evident that more and more commercial users are seeing the benefits of using biomass as a low carbon heating fuel. For domestic users, automatic pellet and chip fired stoves and boilers and modern batch fed appliances also mean it's now possible to provide lower output heating for the smaller home. Using a biomass stove or boiler offers an ideal way for developers to meet their target carbon emissions.

To ensure safe and efficient operation of wood and biomass appliances, it's essential that a good quality fuel is used. Moisture content has the biggest effect on heat output as any water in the fuel has to evaporate away before the wood or biomass will burn, using up energy and reducing the amount of useful heat as opposed to steam up the chimney. Fuel with a high moisture content will produce lots of smoke and tars. These tars can be corrosive, potentially damaging the lining of the flue and increasing the danger of a chimney fire.

To help end users identify good quality, sustainable fuel, HETAS operates a fuel quality assurance scheme called Woodsure with partners from the industry. The scheme has four categories covering logs, chips, briquettes and pellets.

HETAS has also been approved as the UK certification body for ENplus by the European Pellet Council (EPC). ENplus is the only Europe wide assurance scheme for pellets which meet the new European standard (EN14961-2) for solid biofuels. As the dedicated certification body for the solid biomass industry HETAS is able to certify both producers and traders under the ENplus scheme.

ENplus certification sets out minimum

standards for ash content, ash melting temperature, wood pellet size, dust, moisture content and heat output. Pellets with a low ash content will burn more efficiently, whereas high ash levels could point to impurities in the pellets such as bark. A low ash melting temperature below 1200°C could lead to clinker, potentially damaging the appliance.

Having a consistent pellet size is important; domestic appliances usually take 6mm pellets whereas commercial boilers take 8mm pellets. Each individual appliance will have been installed and commissioned for a specific pellet diameter, and if the wrong size is used it will affect combustion conditions meaning the boiler becomes less efficient. Wood pellet dust will also affect the appliance by blocking the feed system, and to comply with ENplus wood pellets should contain less than 1 per cent dust. ENplus certified pellets should have a moisture content of 10 per cent or less and should emit 4800 kW/h of heat per tonne of fuel burnt. Both requirements are important for the safe and efficient combustion of pellet burning appliances.

The scheme also covers distribution as pellets need to be handled correctly in transit, otherwise they can start to break down causing a high percentage of dust in the boiler hopper feed which can clog up the a biomass boiler. All of these issues are addressed by the certification process.

For boiler and chimney manufacturers, fuel quality is also of paramount importance. Burning biomass with a high moisture content will reduce efficiency combustion and in some cases affect the figures that manufacturers claim. Installers will get frequent call backs to equipment that isn't working properly, or is expensive to run. The end result is general dissatisfaction with the boiler or heating system – simply because the end user was not using guaranteed quality fuel.



Team effort: To help end users identify good quality, sustainable fuel, HETAS operates a fuel quality assurance scheme called Woodsure with partners from the industry

Just as there are standards guaranteeing the quality of gas supplied through pipelines to homes and businesses, so we should be able to guarantee the quality of biomass used to heat homes and businesses. High quality producers must be able to demonstrate the calorific value of their fuel, and end users must be given the means to differentiate between good and bad quality fuel.

A full list of approved fuel suppliers is available on the HETAS website at www.hetas.co.uk.



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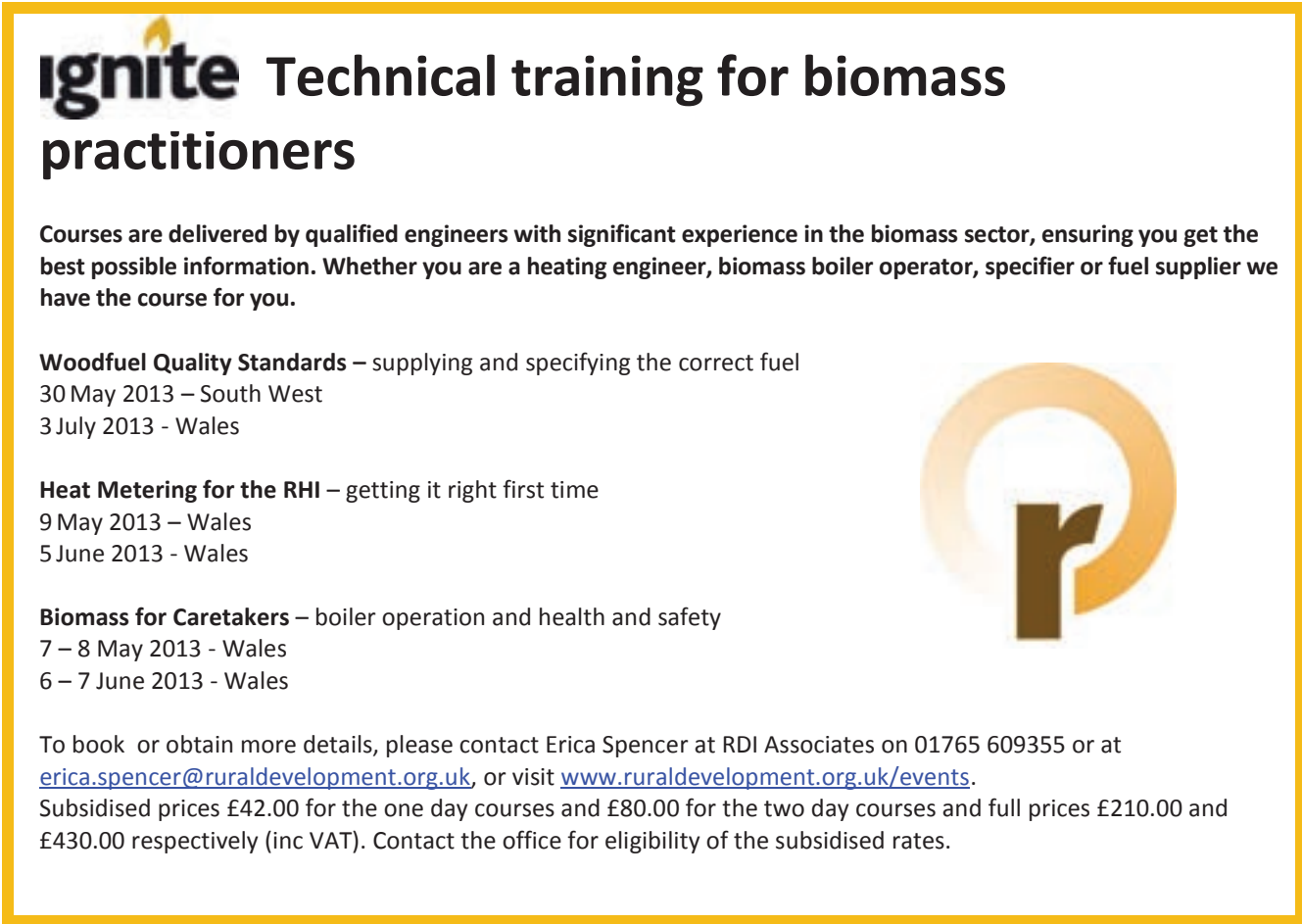
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Figure it out

Generation tariffs for non PV technologies

Technology	Band (kW)	Tariffs from 01 April 2013 (p/kWh)
Hydro	≤15	21.65
	>15-≤100	20.21
	>100-≤500	15.98
	>500-≤2000	12.48
	>2000-≤5000	3.23
Wind	≤1.5	21.65
	>1.5-≤15	21.65
	>15-≤100	21.65
	>100-≤500	18.04
	>500-≤1500	9.79
	>1500-≤5000	4.15

(Source: OFGEM)

Number of MCS registered installers per technology

Technology type	Cumulative number	Registered March 13
Solar PV	3617	38
Biomass	256	10
Air source heat pump	879	24
Ground source heat pump	741	19
Solar thermal	1167	14
Small Wind	139	03
Total	4268	127

Number of MCS registered installations per technology

Technology type	Cumulative number	Installed Jan 13
Solar PV	416083	7202
Biomass	2450	314
Air source heat pump	13061	1180
Ground source heat pump	4111	215
Solar thermal	3966	110
Small Wind	3914	38
Total	454604	9496

(Figures supplied by Gemserv)

Generation tariffs for Solar PV

Tariff band	FiT rate (p/kWh)
<4kW	15.44
>4-10kW	13.99
>10-50kW	13.03
>50-100kW	11.5
>100-150kW	11.5
>150-250kW	11.0
>250kW-5MW	7.1
Standalone	7.1
Export Tariff	4.64

Proposed tariff ranges for the domestic RHI

Technology	Proposed tariff rate (p/kWh)
ASHP	6.9-11.5
Biomass boilers	5.2-8.7
GSHP	12.5-17.3
Solar thermal	17.3

Domestic RHI is expected to be introduced in spring 2014 and will apply to all eligible installations installed since July 2009

Number of Green Deal assessments

Month	Assessments
January	74
February	1729
March	7465
Total	9268

(Source: DECC)

Cost comparison of heating fuels

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	0.67 per litre	2530 litres	£1,695
Wood pellets	4800 per tonne	94	24300	245 per tonne	5 tonnes	£1,225
Natural gas	1 per kWh	90	25300	0.048 per kWh	25300 kWh	£1,214
LPG	6.6 per litre	90	25300	0.47 per litre	3833 litres	£1,802
Electricity	1 per kWh	100	23000	0.146 per kWh	23000 kWh	£3,258
*Air source heat pump	1 per kWh	290	7931	0.146 per kWh	7931kWh	£1,158
*Ground source heat pump	1 per kWh	360	6389	0.146 per kWh	6389kWh	£933
Dual mode system 1						
Oil boiler (30% of heat load)	10 per litre	90	7590	0.67 per litre	759 litres	£509
*Air source heat pump (70% of heat load)	1 per kWh	290	5552	0.146 per kWh	5552 kWh	£811
Dual mode system 2						
Gas boiler (30% of heat load)	1 per kWh	90	7590	0.048 per kWh	7590 kWh	£364
*Air source heat pump (70% of heat load)	1 per kWh	290	5552	0.146 per kWh	5552 kWh	£811

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.

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: 8.6 Tier 2: 2.2	20
Medium biomass	Solid biomass: Municipal solid waste (inc CHP)	200 kWth and above, less than 100 kWth	Tier 1: 5.3 Tier 2: 2.2	20
Large biomass	Solid biomass: Municipal solid waste (inc CHP)	1000 kWth and above	1	20
Small ground source	Ground source heat pumps, water-source heat pumps, deep geothermal	Less than 100 kWth	4.8	20
Large ground source	Ground source heat pumps, water-source heat pumps, deep geothermal	100 kWth and above	3.5	20
Solar thermal	Solar thermal	Less than 200 kWth	9.2	20
Biomethane	Biomethane injection and biogas combustion, except from landfill	Biomethane all scales, biogas combustion less than 200 kWth	7.3	20

(Source: OFGEM)

Green Deal Cashback Scheme example rate

Energy Saving Measure	Cashback level
Loft insulation	£100
Cavity wall insulation	£250
Solid wall insulation	£650
Draught proofing	£50
Heating controls	£70
Condensing oil boiler	£310
Condensing gas boiler	£270
Double/triple glazing	£20 per m ² (up to £320)

A full list and further details can be found online at: <http://bit.ly/RKmr50>

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Knowledge: Case studies

SOLAR PV

What: 0.96MW Devon solar farm overcomes planning obstacles

How: Lightsource sites modules away from local badger population

Result: Ecologically sensitive development

Palfreys Barton Farm in the village of Cove near Tiverton has recently become one of the latest farms in Devon to rent out a small percentage of its land to UK solar power generator, Lightsource Renewable Energy.

The land will now accommodate a solar farm generating 0.96 MW of green energy – the equivalent of enough power for around 282 households.

However, before the scheme was given the go ahead by Mid-Devon Council in December 2012, there was the important matter of the local badger population to address.

Conor McGuigan, business development director for Lightsource, said: “As a responsible developer, before we apply for planning

permission we always carry out our own viability studies of each proposed site. In the case of Palfreys Barton Farm, our initial ecology report identified two badger setts, both in current use.

“We discussed our findings with Mid-Devon Council and were advised to conduct a detailed badger review. Lightsource worked closely with the council on this matter and the badger review affirmed the setts and identified a number of runs. We proceeded to ensure all construction works and the positioning of the PV panels will take place over 30m away from both setts as set out in Guidance published by Natural England.”

Badgers will not be the only mammals free to come and go across the site of the new solar farm. The farmer’s sheep will continue to graze on the land as a result of the Lightsource Grazing Policy recently put in place. Although the site is already very well-screened, Lightsource will also be putting in additional planting where there are any gaps in the existing hedgerow.

Creature comfort: Lightsource has seen its 0.96MW solar array at Palfreys Barton Farm, Devon, get the go ahead after accommodating the local badger population



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ENERGY EFFICIENCY

What: Gin distillery reduces carbon emissions by 60 per cent

How: Solar PV and 6kW hydro-electric plant

Result: 'Outstanding' design stage BREEAM sustainability accreditation

The Bombay Sapphire gin distillery at Laverstoke Mill in Hampshire has become the first distillery and refurbishment to achieve an 'Outstanding' design-stage BREEAM (Building Research Establishment's Environmental Assessment Method) accreditation.

The completed distillery will see a 60 per cent reduction in carbon emissions and nearly an 85 per cent improvement over what is required by building regulations. This is as a result of a number of renewable technologies incorporated into the distillery's design, including solar panels, a bio-fuelled steam-generating boiler and 6kW hydro-electric water wheel.

The distillery is set to open in autumn 2013, and is being built on a two hectare brown-field site in buildings which include restored and refurbished Victorian Mill buildings, some of which are Grade II listed, within a Conservation Area and Site of Special Scientific Interest (SSSI).

Emma Johansson, global marketing manager for Bombay Sapphire, said: "We are immensely proud of achieving this 'Outstanding' BREEAM accreditation. This rating, from the



High spirits: Bombay Sapphire's Hampshire gin distillery has more than halved its carbon emissions using PV and hydro-electricity

world's most highly respected environmental assessment method, is a testament to all the care, skill and imagination that has ensured this distillery is built with sustainability at its very core. Bombay Sapphire aims to seamlessly fuse the modern requirements of a premium distillery with the original features of the rich heritage of Laverstoke Mill."



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My working week



Who: Lee Baxter, general manager, Myriad Solar PV

What: Based in Melton Mowbray, Myriad Solar PV is part of the Myriad CEG group.

Trade war: Lee Baxter, Myriad Solar PV, says the registry of Chinese PV imports has already had an effect on the wholesale price of solar panels

Adding value, city working and retrofitting PV

Monday

First thing on the agenda is a meeting to discuss the progress of our new Value Engineering programme - the development of an in-house department which we see as key to the company's future growth.

Our focus is very much on delivering value engineering by listening and responding to the needs of our customers.

The fact is there are different ways of delivering value for money; it is not always about price.

The meeting with key people involved in the initiative is very positive. We're also getting some strong feedback from customers. All in all, it's a good start to the week.

Tuesday

Off to a major annual conference that is a good chance to get up to date with the very latest movements in the sector. It's a busy, non-stop day but valuable in terms of information and networking.

It's interesting to hear various opinions about how to implement renewable energy systems into existing heritage buildings, particularly when it comes to solar PV.

It is always important to stay on top of what materials the next generation of architects and consultants are excited about

using and to check out what innovative materials are coming into the market.

Wednesday

Back in the office today with the engineering team working on our London School of Economics (LSE) project for its new students' centre. Having worked on two phases of solar PV system design and installations over six of the University's sites last year, we have been contracted to design and install roof-mounted panels on their next project.

London is my home turf so it's really encouraging to see the city becoming increasingly sustainable.

We have just been commissioned to assist Camden Council in the centralising of its council resources. The new building, at 3 Pancras Square, will re-house many council services currently spread across the borough in old, expensive and inefficient offices to one cheaper, more sustainable building to manage. The project should earn the Council a BREEAM 'Outstanding' rating.

Thursday

A catch up on paperwork and with sales teams out on the ground.

We also take the chance to discuss in detail the impact of the confirmation that

customs officials are to register imports of solar panels from China.

We are already seeing an increase in the price of solar panels and chats I've had with our suppliers indicate that may continue.

The impact on stock can also be seen with wholesalers, who are no longer bringing Chinese panels into the UK.

It's not great news but PV has been at an unprecedented low pricing and new prices will only return to a sustainable level.

Friday

The marketing team has just told me that our LSE project has been shortlisted for a prestigious award. Best start to the day this week so far.

This morning I'm signing off a news update to our clients and connections to let them know about the Chinese solar panel legislations. It's important to always keep our clients in the know on these issues.

This afternoon I'm heading out to meet a client and discuss their requirements in a site visit. In this case the client is retrofitting a PV system and has asked us to consult on the design and project-manage the installation too. Looks like he's about to book up some of our stock.


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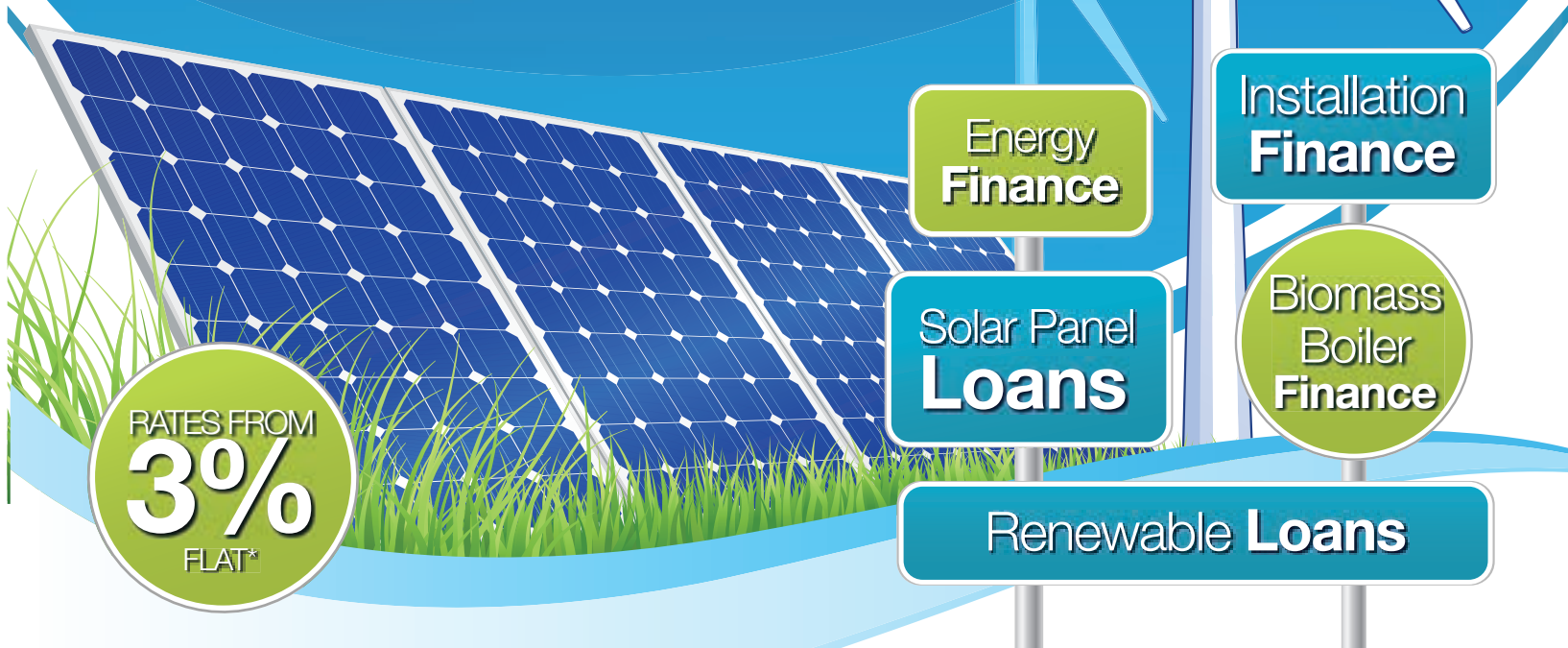
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