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### BS News March/April

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# bs news

building services news

March/April 2012



## Energy Show Awards



CIBSE  
Annual  
Conference



SDAR\*  
award  
winners



RACGS  
at  
Bunclody

# High Efficiency <sup>2013</sup>

The ErP Directive is coming in 2013.  
The products for it are already here.

*From 2013, the ErP Directive will turn the heating pump market on its head. The **change to high efficiency** is already paying for itself.  
Info: [www.wilo.ie/he](http://www.wilo.ie/he)*

Uncontrolled pumps turn out to be real energy-wasters, using billions in extra electricity every year. It's a good thing then that more than 90% of these power-guzzlers will soon become scrap. The EU are making sure of this with the ErP Directive for energy efficiency, which is gradually coming into power for glandless pumps from 2013 and it is already effective for glanded pumps in 2011. Better yet, you can start today to reduce your footprint on the environment and relieve household budgets. With Wilo high-efficiency pumps.

More info about high efficiency at [www.wilo.ie/he](http://www.wilo.ie/he)



Pumpen Intelligenz.

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## opinion

### Success for representative bodies

**C**ongratulations to everyone involved with the Association of Plumbing & Heating Contractors of Ireland (APHCI), the Heat Pump Association of Ireland (HPA), and the Irish Ventilation Industry Association (IVIA).

Over the last few months in particular the three bodies have made separate formal representation at different levels on behalf of the industry, and all have made significant gains on behalf of the various sectors represented.

While some of the activity has been very high profile – witness APACHI exposure on radio, tv and in the print media — the real gain is that government institutions and legislative bodies now recognise all three associations as *bona fide* voices for the sectors they represent. They have gained not just acceptance, but respect, and this augers extremely well for the industry going forward.

So, for all of you commentators on the sidelines who have plenty to say but do very little, you owe a great debt of gratitude to the volunteers who give so generously of their time to run these organisations. ■

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News and Products

## PM Group appoints Dan Flinter

Dan Flinter has been appointed Chairman of the Board of Project Management Holdings (PM Group) which employs over 1,600 people in 25 locations worldwide. In the past year it has continued to develop by expanding its office in Boston, and opening a new office in Shanghai, China.



Welcoming his appointment, PM Group Chief Executive, Dave Murphy said: "I very much welcome Dan's appointment. His experience in dealing with multinational organisations will be of

enormous benefit as we continue to develop our position as a leading international provider of engineering, architecture and project management services."

## Hitachi Handy App

Hitachi Air Conditioning and Refrigeration (ARG) has developed a new App for Smart phones, that can also be viewed on the web, to provide service engineers with fast, easy access to alarm codes and their meanings.

The App is an alarm code identification tool and also provides detailed "troubleshooting" flowcharts directly on Smart phones or via the web. This information is available 24/7, making diagnosing problems much easier – even for those not familiar with Hitachi equipment.

Fergus Daly, Hitachi Ireland said: "Hitachi makes reliable, quality products and we constantly look for ways to make the lives of service engineers easier. On the odd occasion where a problem arises, this App will help engineers resolve things quickly, saving both time and money."

The App will be available from the App store for Apple devices and from Android outlets for those with other Smart devices. It will also be published as a functional website.



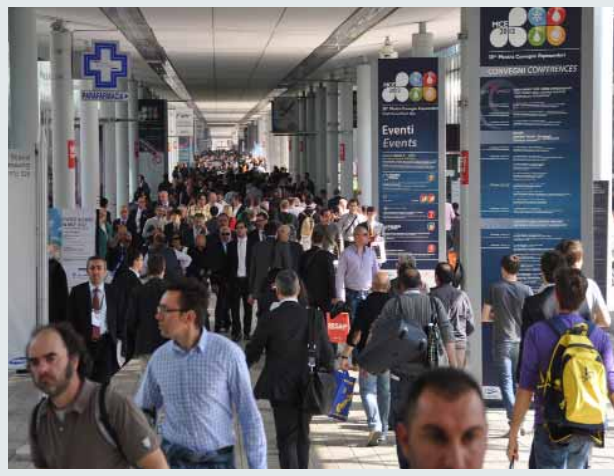
## Mostra Convegno, Milan

Last month's Mostra Convegno Expocomfort, held at the Fiera Milano Exhibition Centre, was by far the largest yet with 2100 exhibitors attracting 155,000 trade and professional visitors from all over the world.

There were four key themed areas – heating, air-conditioning and refrigeration; plumbing technology; water treatment; and HVAC components. Renewables, energy efficiency and sustainable comfort were common to all.

An incredible array of ground-breaking products, representing pioneering technological developments, was evident across all industry sectors, the complementary programme of technical seminars and workshops helping to reinforce the cutting-edge nature of the overall event.

See [www.mcexpcomfort.ie](http://www.mcexpcomfort.ie)



## McKeon Group Mechanical Services Division

McKeon Group has established a new mechanical services division to complement the company's well-established construction, energy, electrical and telecommunications divisions.

The new division has resulted in two new full time positions in the company, coupled with an increased use of mechanical sub-contractors. The Group also has plans to take on a further two employees over the next year.

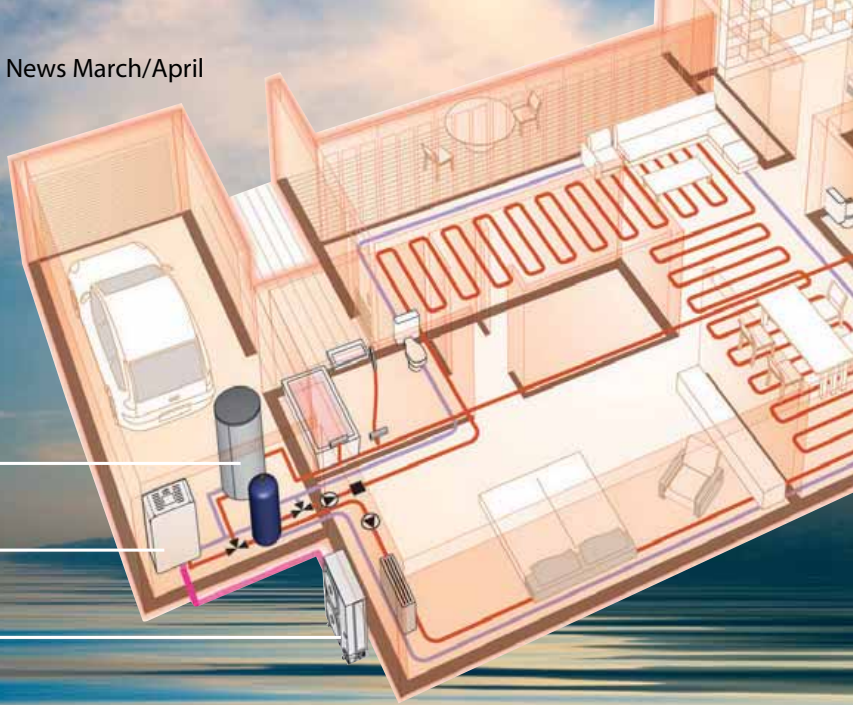
The new Mechanical Services Division will be managed by Jim Wheatley and will offer a full range of mechanical building services. These include heating, air conditioning and ventilation installations, along with steam, gases and process ventilation.

Contact: Jim Wheatley, McKeon Group.  
Tel: 01 – 840 2116.

# TOSHIBA

et al.: BS News March/April

## Leading Innovation >>>



Hot water cylinder

Hydro unit

Outdoor unit

TOSHIBA AIRCONDITIONING

Advancing the **eco**-evolution

# Air to water Heat Pump System



8 kW

11/14 kW

Outdoor unit



Hot water cylinder

Hydro unit



**Welcome Estía to your home!  
Air-to-water Heat Pump System**

- World-leading energy efficiency – COP of 4.66\*
- Comfortable heating and hot water supply
- Versatile installation and operation
- DC twin rotary compressor innovation
- DC inverter technology
- Ideal ecological and economical solution for your home or business

\* 11 kW model



## News and Products

## Hevac French class

Karl Carrick of Hevac recently took a party of seven commission and service engineers to visit the De Dietrich Training School in Mertzwiller, France. The objective was to enhance their boiler professional skills and upgrade their commission and service qualifications.

The group included Joe Raftery, Hevac; Mike Ward, Mike Ward Gas Services; Eoin Byrne, Byrneright Ltd; Christopher Finnin, Finnin Control Systems; Dave Heeney, TCS Technical Commission Service; John Crawley, Crawley Services; and Joe Ward, Ashwood Heating Services.

The course included detailed instruction on the C210/310/610 ECO commercial gas condensing boiler range and the Innovens Pro MCA 45-65-90-115 wall hung modulating condensing boilers. Training covered commission details on De Dietrich's new IniControl and iSystem digital controllers which will be rolled out



across the entire boiler range.

Photo shows Hevac group pictured outside the De Dietrich Training School in Mertzwiller, France.

## METAC Training open day

METAC Training held an open day at its purpose-built training facility in Mountrath Enterprise Park, Mountrath, County Laois recently to showcase the many courses in gas, oil and renewable energy it provides.

There was a whole series of presentations from the likes of Rónán Haughey, City & Guilds Development Manager, Damien Keenan OFTEC's Republic of Ireland Representative, and Willie Wilson of RGII. Among those presenting product displays were Kinviro, Mark Éire and Wilo. Celebrity guest speaker was Seán Gallagher.

The METAC facility was established in 2007 by Dominic Dunne, an installer by trade who saw a gap in the market for a training facility that would permit a high degree of live and simulated training by replicating the work environment. It is now an approved training centre by FÁS, OFTEC, City & Guilds and FETAC.

Since October 2010 it has expanded its programme to include certified business courses such as IATI Accounting Technician Year 1 and 2. All business courses take place in the evenings. Contact: Dominic Dunne, METAC. Tel: 057 – 875 6540; www.metac.ie

Photo shows Mark O'Sullivan from Wilo showing energy efficient circulating pumps to local installer Gabriel Latham.



## Surprise at Delap & Waller Demise

The voluntary liquidation of Delap & Waller's Republic of Ireland arm just before Easter took the entire industry by surprise. Established 101 years ago, it has been to the forefront ever since, not just as a market leader in its own right, but also as a developing ground for young engineers who, over the years, have gone on to establish successful firms of their own.

Delap & Waller had a broad canvas of private and public sector clients but, in recent years in particular, it was especially strong in the latter. Ironically – and contrary to what you would expect – this appears to have been the primary contributory factor in its downfall.

As we went to press a company spokesman told *bs news*: "Essentially, our difficulties arose because of very slow-paying public sector clients, and a reluctance on the part of our bank to support us in dealing with the subsequent cashflow problem this caused. We are owed considerable sums – which are well overdue – by a number of public sector clients but, despite our best efforts, the bank withdrew our facilities. The result was inevitable and, very reluctantly, we took the decision to go in to voluntary liquidation."

Nonetheless, it is important to emphasise that the voluntary liquidation affects only Delap & Waller Republic of Ireland. Its separate sister-companies – Delap & Waller Northern Ireland (established 1964) and Delap & Waller in the UK (established 1985) are both still trading as normal.

News and Products

## Harleston Group Acquires Heat Merchants and Tubs & Tiles

The trade and assets of Heat Merchants and Tubs and Tiles have been acquired from the High Court-appointed liquidator of BHT Group by Harleston Group, the parent company of Hevac Ltd, for an undisclosed sum.

Of the 36 Heat Merchants branches throughout Ireland, 32 were acquired, while 12 of the Tubs and Tiles branches were

acquired. Each branch will continue to trade as normal.

Seamus English, Managing Director of Hevac said: "The acquisition of these businesses is welcome for several reasons. In effect, it saves and recapitalises two well-positioned businesses which have been stressed for some time because of an onerous debt burden. It



Seamus English, Managing Director of Hevac.

also adds strong networks and well-regarded brands to the Harleston Group.

"Harleston Group is a long established company

and we understand these businesses and the markets in which they operate. We intend to strengthen and develop the businesses in the medium to long term. We look forward to working with management and staff to address the challenges and revitalise Heat Merchants and Tubs and Tiles."

Customers who have deposits with Heat Merchants and Tubs and Tiles (the acquired businesses) will have their deposits honoured by the new owners.

# Creating the perfect environment

With over 30 years experience manufacturing from our Carlow base Thermo-Air provides innovative solutions for our clients' projects. Our "bespoke as standard" equipment provides an energy-efficient, cost-effective result engineered to your requirements. With options that can include heating, cooling and heat recovery, as well as simple ventilation systems, Thermo Air will supply the answer.



Thermo Air also represents



Thermo Air Ireland Ltd, Strawhall, Athy Road, Co Carlow.



News and Products

## Tech appoints Barry Hennessy

Tech Refrigeration & Air Conditioning has appointed Barry Hennessy Group Account Manager to spearhead its latest strategic development phase.



Tech has experienced sustained growth and market penetration over the last 16 years and today the company – which provides air conditioning, refrigeration and catering equipment, complemented by its service, maintenance and installation – enjoys market-leading status across all market segments. Service excellence has been at the heart of this development process and it is now the cornerstone for the company's future plans.

Barry Hennessy has been involved in the sector for nearly 20 years and is widely known and respected by consultants, installers, government bodies and local authority specifiers. His experience, knowledge and technical expertise offers the perfect complement to the service-driven Tech Group philosophy.

## Refrigeration and F-Gas training

**C&G 2079 Cat I full course** – This is a 4-day course for F-Gas handling for service, maintenance and commissioning engineers at all levels. It includes theory and brazing training, revision and exam preparation

**How to get paid** – This is a one-day course on how to manage customer debt proactively, and what to do when you don't get paid.

**ISO 9001 Mentoring** – ISO9001 can mean higher customer satisfaction, higher tender success, lower wastage and higher profits. This is a tailored in-house mentoring course for Refrigeration Skillnet member companies.

Contact: Howard Neville, Refrigeration Skillnet.  
Tel: 01 – 885 5200; email: [info@refrigerationskillnet.ie](mailto:info@refrigerationskillnet.ie)

## Panasonic Pro Club

The Panasonic PRO Club is a new portal providing Panasonic's distributors, installers, engineers



and specifiers with technical data, software and support tools.

The website contains detailed information on Panasonic heating and cooling products and offers authorised users access to the latest news, product developments, training programs, technical data and installation manuals, as well as being able to download the most up to date software and installation guides.

One of the main aspects to the PRO Club is access to the latest software downloads, including the Aquarea and Etherea design software.

To register visit [www.panasonicproclub.com](http://www.panasonicproclub.com)

## G&J Engineering golf day

South County Golf Club, Brittas, County Dublin was the venue for this year's G&J Engineering annual golf outing. The weather was glorious and a total of 24 golfers (eight three balls) enjoyed a wonderful day of golf. Scoring was high, despite the relaxed nature of this event where enjoyment is always the order of the day.

Later that evening there were 40 guests for the meal and presentations with George Larkin Senior and George Hugh Larkin hosting and officiating.

As part of the proceedings a

special presentation of a watch was made to Jim Leahy to celebrate his 20 years service with G&J Engineering. Jim joined G&J Engineering in 1992 and has played a valued and integral part of the company's ongoing success.

Brendan Keaveny was the overall winner with Ken Lawlor in second place, John Murray third, Barry Conroy fourth and Seamus English fifth.

To mark its 20th year in business the company has revised and updated its website. Check it out at [www.gjengineering.com](http://www.gjengineering.com)



Overall winner Brendan Keaveny (centre) is pictured with George Larkin Senior and George Hugh Larkin.

## ISO 50001 – SEAI Conference

The SEAI's International Conference – Creating the Right Environment for ISO 50001 to Thrive – took place at the Mansion House, Dublin on Friday, 4 May 2012.

Influential speakers from the US, Europe, India and Australia presented papers on creating the right incentives, the most effective policies, and the best environment to help businesses around the world commit to, and benefit from, energy management systems. Keynote address was given by Rob Steele, ISO Secretary-General.

An added dimension to the conference was the forum whereby delegates and authors exchanged views on a variety of practical applications of EnMS. Delegate fee included teas and coffees, full lunch and networking at the close of the conference between 5pm and 7pm.

Full details from email: [events@seai.ie](mailto:events@seai.ie)

# Hitachi Heat Pumps

Engineering for tomorrow. And the tomorrow after that.

# Yutaki-M



Domestic Heating

### Adaptable

Can be retrofitted alongside an existing boiler or used stand-alone

### Renewable energy

EU recognition of heat pumps as a renewable energy source presents a major sales opportunity

### Compact height

Available from only 800mm high

### Easy to install

Preset engineer configurations make installation and commissioning simple

### Low running costs

Our heat pumps use less fossil fuels, saving up to 60% on running costs\* - which is good news for your customers

### Flexible solution

For traditional radiators, under floor heating and domestic hot water up to 60°C

### New builds

A screed drying function is ideal for new builds

# Introducing the Yutaki-M air source heat pump with 400% efficiency as standard

Cheaper to install than ground-source heat pumps, Yutaki-M converts 1kW consumption into an impressive 4kW output making it economical for heating and domestic hot water. Not to mention reducing CO<sub>2</sub> emissions by up to 40%\*.

|  |   |
|--|---|
|  | <p><b>Heating Manufacturer of the Year</b><br/>         "The judges felt Hitachi provided an excellent submission, a great product and the way forward."<br/> <i>Hitachi's Yutaki M Heat Pump</i></p> |
|--|---|

A space-saving, outside heat pump communicates with an intuitive, wireless remote control to adjust room temperatures efficiently. And in the spirit of keeping things simple, there's even a 'One-Touch' holiday button which your customers will love. And if all that's not enough, we're throwing in a five year warranty too.

**Apparently you can please all the people all the time.**

\*compared to traditional boiler-led systems

To find out more call Hitachi on +353 1216 4406

Email [aircon.ireland@hitachi-eu.com](mailto:aircon.ireland@hitachi-eu.com) or visit [www.hitachiaircon.com](http://www.hitachiaircon.com)

Published by ARROW@TU Dublin, 2012

**HITACHI**  
Inspire the Next

# Toshiba expects continued growth in 2012

Following two consecutive years of growth, Toshiba Air Conditioning plans a series of major product launches and initiatives throughout the remainder of 2012 to further expand its range and build on success.

**Despite a lack-lustre** UK and Ireland market, Toshiba reports that sales of air conditioning equipment grew in both 2010 and 2011, assisted by the launch of the company's pioneering new SMMSi 2-pipe VRF system which is claimed to offer the industry's highest SEER's values.

This will be followed in the second quarter of this year with the introduction of the SHRMi 3-pipe VRF, adding further enhancements and a sophisticated new controls platform. Toshiba will also introduce important new additions to the popular Estia heat pump range.

David Dunn, Toshiba Commercial Director, said: "With energy costs rising and the pressing need to reduce carbon emissions, the focus has to be on delivering the best possible efficiency while maintaining high quality comfort conditions in buildings.

"The next leap forward for our industry will come from harnessing truly intelligent controls and integrating them seamlessly with high-performance air conditioning and heat pumps. This has been the focus of a lot of thought and development work at Toshiba, and we will be revealing the

fruits of this shortly."

Growth at Toshiba has been assisted by the strong performance of its distribution network, including GT Phelan in Ireland. In fact, Toshiba recently held its annual distributor conference in Dublin and availed of the opportunity to present GT Phelan with a commemorative plaque to mark its 30-year association with the brand.

Toshiba has also introduced a finance arrangement for end users keen to upgrade their R22 fixed speed equipment. Recognising that the banks are reluctant to provide credit, Toshiba has introduced a finance scheme allowing end-users to offset the complete cost of their new installation over seven years. The associated costs can include replacement ceilings and an allowance to remove the existing boiler if necessary. This scheme targets corporate end-users with a refurbishment budget of €100k and over.

On the technical support front, the company has introduced a rapid-response text-back service to supplement its industry-leading *cool line* service. This allows an engineer to speak to a Toshiba



*Derek, Kevin and Rodney Phelan pictured with the special commemorative plaque presented to them by Toshiba to mark 30 years of association.*

technical specialist any time of the day or night, to gain valuable on-the-spot support and advice.

Training is another key element of Toshiba's plans for 2012 and GT Phelan will expand the programme it currently provides to ensure more and more contractors receive hands-on training in installation, commissioning and servicing at its purpose-built training centre. GT Phelan has already begun to roll-out it's CIBSE-approved CPDs to consulting engineers and plans to expand this roll out during 2012.

Derek Phelan of GT Phelan told *bs news*: "Toshiba is a strong and respected name in the market with a well-deserved reputation for innovation, high performance and reliability. We have represented the brand in Ireland since 1982 and, by combining our strengths with those of Toshiba, we have carved out a significant market share.

"With exciting new products and extra services lined up for release throughout the course of 2012, we are looking forward to a third year of sustained growth."

Contact: Derek Phelan, GT Phelan. Tel: 01 – 286 4377; email: derek@gtphelan.ie; www.gtphelan.ie ■



*Toshiba executives and distributor representatives from the UK and Ireland pictured at the recent Toshiba annual dealer conference in Dublin.*

# Unitherm

## HEATING SYSTEMS LTD



**Underfloor Heating Systems**



**Commercial Underfloor Heating Systems**



**Alpha Gas Condensing Boilers with Gas Saver**



**Mitsubishi Air to Water Heat Pumps**



**Commercial and Domestic Energy Management Controls**



**High-efficiency Aluminium Radiators**



**Eco-Combi Multi-Energy Tanks**



**Solartherm Solar Panel Systems**



**Daikin Air to Water Heat Pumps**

# Lucky young couple say thank you Hitachi!

**F**ergus Daly, Area Sales Manager Ireland, Hitachi AC & Refrigeration, rounded off a very successful Self Build show in Belfast recently by presenting Benny Mone and his fiancé Leanne Mullan with a Yutaki heat pump as winners of the visitor open prize draw.

Benny and Leanne were opportune winners in that they have just commenced the conversion of a 200-year old barn into a 200 sq m home. The barn was formerly a drying house attached to the old Milford Mill in Armagh and, as Benny has worked as an architect and also has a building services degree, he is overseeing the entire project himself.

Benny had already decided on an eco-friendly, sustainable solution for the building services and planned underfloor heating on the ground and first floor. The Yutaki heat pump is tailor made for this and, as an added bonus, will also provide all the home's hot water requirements. In addition, it will integrate seamlessly with the solar panels planned for the roof.

"As luck would have it, the Yutaki heat pump is the perfect solution for what Benny and Leanne had planned", says Fergus Daly. "They are obviously committed to sustainability and renewables, and the Yutaki heat pump fits the bill perfectly. For every 1kW of electricity used to power the heat pump, it is capable of providing up to 4kW of energy in a well-insulated home – something that Benny and Leanne fully understand. They are now looking forward to reduced heating bills of up to 60%, and reduced CO2 emissions of 50%, compared to traditional boiler-led systems."



*Lucky Yutaki winners Benny Mone and Leanne Mullan, pictured on site with Fergus Daly (centre).*

At the time of writing work on the project had already commenced and Benny is now working very closely with local Hitachi dealer Enda Ruxton of Greentherm who will carry out the design, installation and commissioning of the project.

Yutaki heat pumps offer significant benefits over conventional boiler solutions, and other heat pump brands, for both the installer and the home owner. These include:

#### Installer benefits

- Simple and fast installation
- Inverter technology means heat output matches the heating load of the property
- High COPs
- Weather-compensation control
- World-renowned, highly-reliable Hitachi high pressure scroll compressor
- Outputs from 5kW to 24kW

- From 600mm compact height options
- Seamlessly integrates with other renewable technologies such as solar thermal
- 5-year warranty.

#### Home owner benefits

- Lower fuel bills
- Reduced carbon emissions
- Self-contained heating and hot water solution
- Suitable for new build and renovation projects (can even be used with an existing boiler)
- Up to four times more efficient than a traditional gas boiler
- Satisfies renewable energy planning requirements
- 5-year warranty.

Contact: Fergus Daly, Hitachi.  
Tel: 01 – 216 4406; email: [fergus.daly@hitachi-eu.com](mailto:fergus.daly@hitachi-eu.com)

# Leading the way in cutting edge heating solutions

## Baxi Ecogen™ Micro-CHP

Baxi has long pioneered innovative technology, from the first and only high efficiency back boiler unit to our newest offering, the Baxi Ecogen.

The only one of its kind commercially available in Ireland, this Micro-CHP boiler is set to revolutionise modern heating solutions. Designed to be a practical alternative to a standard domestic boiler, the basic principles for heat generation are the same as a regular heat only boiler.

The Baxi Ecogen unit uses a Free Piston Stirling Engine to generate 1kW of electricity per hour while providing up to 24kW of thermal output for space heating and hot water.

### Benefits of Micro-CHP

- Does not rely on building orientation or weather conditions to generate electricity
- Generates electricity at times of peak electrical demand in the home
- Maximises greener and cheaper on-site use, helping to alleviate fuel poverty
- Reduces reliance on grid electricity
- No planning permission required
- Reduces carbon emissions



The Baxi Ecogen was awarded the Best Environmentally Sustainable Product and the Best Overall Product awards at Ireland's Plan Expo Green Show



For more information on Baxi visit [www.potterton-myson.ie](http://www.potterton-myson.ie)  
or call 353 (01) 459 0870

Panasonic has made an exciting addition to its Aquarea range of air-to-water heat pumps with the launch of the high-temperature Aquarea HT series. Aquarea HT produces hot water at 65°C, making it ideal for use as a high efficiency retrofit replacement for gas boilers supplying radiators for heating.

## Panasonic launches Aquarea HT series

**P**anasonic's patented refrigeration cycle and flow control have been combined with a high efficiency inverter and heat exchange module to give outstanding energy performance – the coefficient of performance (COP) is 4.55 (9 kW model).

Vincent Mahony, Panasonic National Account Manager for Ireland says: "With energy efficiency key, ensuring we deliver performance-driven products which are also at the forefront of energy innovation is our aim. We have developed the Aquarea HT heat pump to answer the demand for a truly "green" heating system, which is much more flexible and cost-effective than a traditional fossil fuel boiler. The HT's ability to provide hot water up to 65°C makes it ideal for installation in both new and retrofit projects, including properties with old-style radiators. It is also an installer's dream as it is simple

to install and we provide extensive practical and software support."

The Aquarea HT offers outstanding performance, even at very low outside temperatures – it can produce hot water at 65°C even with outside temperatures of -15°C. The Aquarea HT is also very quiet in operation with no noise inside the house as there is no double-stage compression.

Panasonic has achieved excellent performance using only single stage compression by optimising the Aquarea HT for use with the environment-friendly refrigerant gas R407C. R407C works on much higher temperatures than R410A, which means the Aquarea HT can produce hot water at 65°C using only one stage of compression while still maintaining high system efficiency.

Aquarea HT also employs Panasonic's patented SCEB (Sub-Cooler plus Evaporator Bypass) cycle to achieve high heating capacity performance even at low ambient temperatures, meaning that no electric heater back-up is required, even at -15°C.

The Aquarea HT range is easy to install and is available with nominal heat outputs of 9kW and 12 kW, single or three phase, in both bi-bloc and mono-bloc versions. The bi-bloc model comprises

separate indoor and outdoor units, whereas the mono-bloc is perfect for houses where space is at a premium as the mono-bloc design effectively combines the outdoor and indoor units into one package. No separate indoor unit is needed and Panasonic's mono-bloc enclosure contains all components within a single unit.

Contact: Vincent Mahony,  
Panasonic Ireland.

Tel: 087 – 969 4221;

email: [vincent.mahony@](mailto:vincent.mahony@eu.panasonic.com)

[eu.panasonic.com](http://eu.panasonic.com) ■



# Let's save energy and money with the **Lowara** Hydrovar Variable Speed Controller

The HYDROVAR® Variable Speed Controller is great news for the planet as well as your pocket.

- Reduces the energy consumption of pumps by up to 70%.
- Can be retrofitted to most types of pump.
- Saves money and reduces carbon dioxide emissions.





# Heat pumps – using cooling technology for heating

At Ecobuild 2012 in February, which is now one of Europe's largest 'green' shows, the majority of visitors would have been astounded to learn that the UK and Ireland's three biggest air conditioning manufacturers were exhibiting side-by-side.

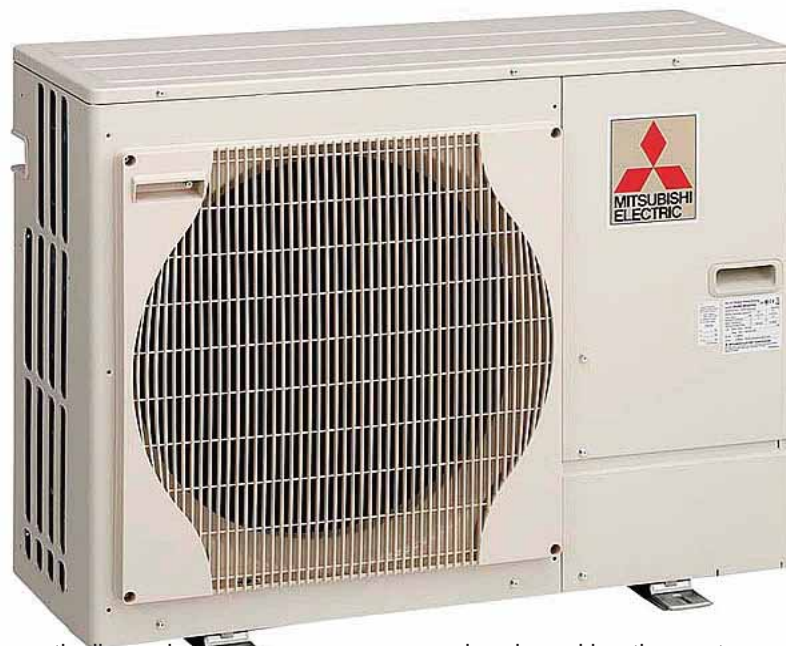
**Y**et Mitsubishi Electric, and other industry market leaders all held prominent positions with large corporate stands.

However, if you had said to those same visitors that we were talking about some of the biggest heat pump manufacturers, then they would have been unlikely to raise an eyebrow.

This not only says a lot about the lack of understanding and misconceptions around air conditioning, but also points to a major increase in the use of heat pumps throughout our built environment.

Heat pumps transfer heat from a range of natural sources – air, ground or water – and transform this into heat at usable temperatures.

In recognition of this ability of heat pumps to obtain heat from the environment, the heating-only versions have been classed as a renewable technology and been given a definition to clarify their required performance within the European Renewable Energy Sources directive (RES).



Domestically, we have seen a

major increase in the use of air source heat pump systems, such as Mitsubishi Electric's popular Ecodan® range, to provide home heating and hot water. This is especially so in areas not connected to a gas grid – primarily because the economics over oil, LPG and direct electric make for such a strong argument.

Commercially, we already have VRF air conditioning systems (i.e. heat pumps) which can transfer heat energy around a building to offset heating and cooling requirements. Advances such as the introduction of inverter technology have also significantly improved performances over the past decade.

More recent developments include units which can transfer surplus heat from the air conditioning to meet a building's hot water requirement, and this is rapidly positioning heat pump-based air conditioning as a viable and credible alternative to traditional

carbon-based heating systems.

This expansion of heat pumps into the commercial hot water sector also looks set to grow as regulators and legislators look for ways to reduce overall carbon emissions.

In the UK for example, the Committee on Climate Change has published a Renewable Energy Review which states that heat pumps have the potential to meet up to 90% of non-residential space heating demand.

Many applications are now either looking to heat their radiator systems via the air conditioning, or simply doing away with the radiators entirely and heating the building and the water supply with a VRF system.

So, next time you wonder whether that old gas or oil boiler in your plant room can last another year, remember that your air conditioning could have an important role in helping meet your heating, as well as your cooling requirements.

Contact: Mitsubishi Electric.  
Tel: 01 – 419 8800;  
email: sales.info@meir.mee.com;



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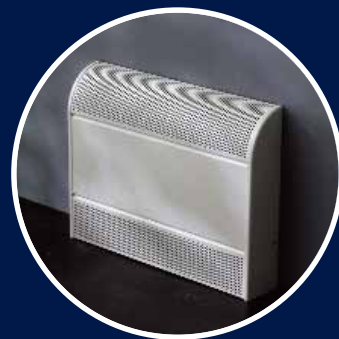
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*Professor Owen Lewis, Chief Executive Officer, SEAI with Mr Pat Rabbitte, Minister for Communications, Energy & Natural Resources and Derek Roddy, Director, Climote.*

## **Climote hub heralds new age of remote heating and hot water control**

**C**limote, the Irish clean-tech start-up that created a new control hub for people to manage their home heating and hot water remotely – and reduce energy bills – won three awards at the recent SEAI Energy Show. The awards are designed to recognise innovation and technical excellence, and the new Climote controller won the Overall Product of The Show Award, in addition to Best Innovative Product and Best Controls Product. It has also achieved SEAI accreditation for energy saving.

A spin-out of Smarthomes, Climote was set up by Derek Roddy and Eamon Conway in early 2011. It is fast gaining attention for its energy-monitoring technology, as it also made it to the finals of the Global Appy Awards, which were held in San Francisco early in March.

The Climote Hub has been four years in development and according to Roddy and Conway it can reduce home heating bills by up to 20%. Effectively, it allows people turn their smartphones into remote heating devices.

Apart from the app, Climote is equally at home with text commands to the unit. Logical, easy-to-remember commands give total control, and these can also be saved as templates to make adjusting the heating and hot water even easier still.

Perhaps the most comprehensive way to connect to, and interact with, the Climote Hub is via the web portal. Here the user can create schedules, copy and paste times and even monitor the heating usage to see where additional savings can be made.

Amazingly for such a sophisticated technology, it is simple to operate. Moreover, Climote-trained heating contractors and plumbers can replace traditional time clocks in a matter of 30 minutes – no extra wiring or connections are required.

The recommended retail price is also very competitive – €399 includes installation, VAT and the first year's home energy remote access package. That leaves the user with a wall-mounted Climote Hub giving total heating and hot water control via a laptop, smartphone or iPad.

Climote Hub's slick design, simplicity, flexibility and energy efficiency will appeal to homeowners, not just in Ireland, but across

the UK and Europe. In addition, its suitability for small offices and businesses, schools, churches, pubs, restaurants and sports clubs is also expected to drive significant demand, particularly when it gets full marketing support in advance of the 2012 heating season in Autumn.

Speaking at the Energy Show Eamon Conway, Climote Managing Director said: "Our market research clearly highlighted the fact that people are actively looking for hassle-free ways to make lifestyle cost-savings, especially with regard to energy bills related to home heating and hot water. With the Climote Hub we've given them a beautifully-designed, affordable and easy-to-use intuitive product that will do just that.

"This is also a very significant business opportunity for heating and plumbing contractors who are only too well aware of the problems and difficulties consumers have with existing time clocks. They can now resolve these problems by replacing their clients existing time clocks with an easy-to-use product, offering remote access, that will also help them reduce their energy bills. It's a win-win situation for everyone." For details of nationwide trade demonstration seminars contact [installer@climote.ie](mailto:installer@climote.ie).

Climote has already received interest from the major utilities, both in Ireland and the UK, with trials currently being carried out in both markets. Furthermore, as a product designed and developed in Ireland, Conway is excited about the contribution Climote can make to the perception of Ireland as a successful smart and cleantech economy, and in helping Ireland Inc deliver against EU energy reduction targets.

"We believe that there is a great opportunity for Ireland – and for Climote – to develop products which demonstrate all that is good about Ireland's smart and cleantech economies, and the fact that Climote has been fully designed and developed in Ireland is a very positive thing. Ireland Inc has an EU energy reduction target of about 800 million kwh per annum for the next 10 years and we believe that with the Climote Hub we provide the energy utilities with the best and most cost-effective opportunity to hit this target".

Contact: [info@climote.ie](mailto:info@climote.ie); [www.climote.com](http://www.climote.com) ■



## Give your business a boost.

climote is quite literally remote control for your central heating. It enables your customers to reset their home heating and switch on their hot water from anywhere they want, anytime they like. It also offers domestic and small business customers energy savings of up to 20%. Easy to install (only 30 minutes) climote provides excellent retrofit and upgrade opportunities and a highly attractive profit margin.

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# Award-winning Wilo Stratos GIGA delivers CO<sub>2</sub> and energy savings

*The Wilo-Stratos GIGA high-efficiency pump.*

The Wilo Stratos GIGA is the first pump from the company's new high-efficiency series designed for the upper performance range in heating, cold-water and cooling applications. It represents a truly innovative development as, for the first time ever, glanded pumps are driven by extremely power-saving EC motors, with the pump's hydraulics optimally adjusted to the motor technology.

**A**ccording to Wilo Ireland Sales Director Derek Elton, the pumps reach a particularly high total efficiency based on a motor efficiency of up to 94% at a nominal motor power of 4.5 kW. The motor's energy efficiency is based on the new high-efficiency drive concept – the High Efficiency Drive (HED) – specially developed by the company, and even outclasses the limit of the upcoming efficiency class IE4 (acc. to IEC TS 60034-31 Ed.1) that is set to be the highest optimum efficiency level.

In addition to an extremely compact and space-saving construction, the pumps also have a low total weight. Due to the interplay of the new hydraulics with a new highly-efficient drive concept (HED – High Efficiency Drive), it has particularly low power/energy consumption.

Thanks to Wilo's proven "red-button technology" and display, the pump guarantees a user-friendly operation. On the basis of optionally available IF-modules which can be integrated, different interfaces for Bus communication can be realised. External devices are therefore redundant.

"This is a pioneering advance in pump technology" says Derek Elton, "with massive saving in CO<sub>2</sub> and electricity costs possible when compared with

conventional uncontrolled pumps (based on the load profile "Blauer Engel"). The short pay-back period of less than two years also speaks in favour of installing the new high-efficiency series".

Wilo-Stratos GIGA was also awarded the "iF Product Design Award". This is a much sought-after design award because it acknowledges not just design quality, but also the degree of innovation, environmental compatibility and ergonomics.

## Features and benefits

- Innovative high-efficiency pump for maximum overall efficiency based on the new Wilo glanded design;
- Up to 70 % lower energy consumption compared to conventional, uncontrolled pumps;
- Up to 40 % lower energy consumption compared to conventional, controlled pumps;
- High-efficiency EC motor (degrees of efficiency above IE4 limit values according to IEC TS 60034-31 Ed.1);
- New hydraulics which are adapted to the EC motor technology;
- Integrated electronic power adjustment;
- Extremely compact and space-saving design;
- Simple operation due to tried-and-tested red-button technology and display;
- Convenient integration into the various building management systems via plug-in IF modules.

Contact: Wilo Ireland.  
Tel: 01 – 426 0000; 061 – 227 566;  
email: sales@wilo.ie; www.wilo.ie ■



While heating was at one time a traditional marketplace with clearly identified core elements, pioneering changes in technology, controls and design concepts has dramatically changed the business. Heating is no longer about stand-alone products but rather about fully-integrated, bespoke heating systems incorporating a myriad of inter-related constituent elements.

## *Unitherm – delivering bespoke heating solutions with installer partners*

**Hence the emergence** of dedicated specialists such as Unitherm Heating Systems whose principals – Declan Kissane and Peter Lynskey – have a wealth of experience, technical knowledge and design experience between them.

Unitherm delivers customised heating solutions for both domestic and commercial applications. It has a portfolio of market-leading brands that represent cutting-edge, engineering-led, technologies, and uses its heating expertise and design skills to combine them into the most appropriate solution for the particular project in hand.

The choice of solutions offered is extensive, with products and systems available to cater for all manner and size of application. Some of the leading names represented are Alpha Heating Innovation, Solartherm, Oventrop, Daikin, Sira Group, Mitsubishi Electric and Worcester Bosch. However, Unitherm is not exclusively limited to the use of these brands and, where the situation demands it, the most appropriate product available in the marketplace is sourced and integrated into the final solution.

Unitherm designs and delivers heating systems using combined heat sources such as air to water and geothermal heat pumps, gas/oil boilers, solid fuel stoves, solar panels and evacuated tubes. This can be achieved through its Eco-combi multi-energy tank which facilitates the use of up to three heat sources. The whole system can then be controlled using an advanced Merlin control and regulating unit which

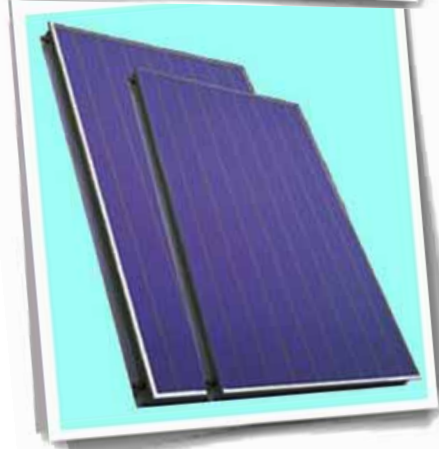
combines various open-loop and closed-loop control functions.

Unitherm initially focussed on underfloor heating for domestic and commercial installations but now offers fully-integrated solutions which include complete control packages. Every system is individually designed and supplied with full mechanical and electrical CAD drawings. Underpinning the quality of the Unitherm service is its ability to interface with, and support, both the electrical contractor and heating installer, right through to final commissioning.

Comprehensive support and close liaison with installers is a fundamental aspect of the Unitherm package. It runs regular training and education programmes which are not solely product-focussed, but also include advice and guidance on selecting the most appropriate solution, knowing what alternatives to look at, sizing, etc. It places great emphasis on final commissioning and insists on this being done according to exacting criteria.

Unitherm Heating Systems represents what is undoubtedly one of the strongest heating portfolios available in Ireland. When combined with the expertise and experience of its design team, and installed by one of its fully-trained installers, it makes for a formidable market force offering infinite heating solutions no matter what the application.

Contact: Unitherm Heating Systems.  
Dublin: Tel: 01 – 610 9153;  
Galway: Tel: 091 – 380 038 ■



# TECH

## Service excellence the driving philosophy

### Key Suppliers

- Hitachi
- Panasonic
- Daikin
- Mitsubishi Electric
- Carrier
- Arneg
- Studio
- Foster
- Hoshizaki
- True
- Fagor
- Meiko
- Counterline
- Merrychef
- Scotsman

### Recent Major Projects

- Mater Hospital
- Coca Cola
- Warner Chilcott
- Portlaoise Prison
- Arvato (Eastpoint)
- Hewlett-Packard
- St James Hospital
- NRA service stations
- Aer Lingus
- Blackrock Clinic
- Clarion Hotel
- Paddy Power Head Office
- Bord Gais
- Topaz Energy
- ESB

**W**hen Jim and Vincent Weldon established what is now the Tech Group of companies in 1996, it was a fledgling operation set up specifically to provide the optimal level of quality service to the air conditioning and refrigeration sector. The focus was never about growing the business for its own sake, but rather about honouring the “service” philosophy and striving for customer satisfaction at all times.

Nonetheless, it is that concentrated service philosophy which provided the cornerstone for sustained growth and development over the last 16 years. Today the Tech Group of companies – which provides air conditioning, refrigeration and catering equipment, complemented by its service, maintenance and installation – enjoys market-leading status across all markets segments.

However, having arrived at this pinnacle of success, Tech Group is not resting on its laurels. This year marks the beginning of a new strategic development phase with the appointment of key personnel such as Group Account Manager Barry Hennessy.

Tech Group operates from a purpose-designed, 10,000 sq ft, office/workshop/warehouse facility in Dublin 15. From there it provides a quality service taking in sales, installation, after-sales service and planned maintenance solutions for a broad cross-section of industry.

With their different but complementary backgrounds – Vincent in service administration and business management, and Jim with 28 years trade experience, technical knowledge and skills – they have formed a successful working partnership that



*Jim Weldon and Vincent Weldon, Directors*



*Above: Mark Molloy, Operations Manager with Vincent Geraghty, Contracts Manager and Declan Seery, Service Manager.*

has led to the dynamic growth of the business.

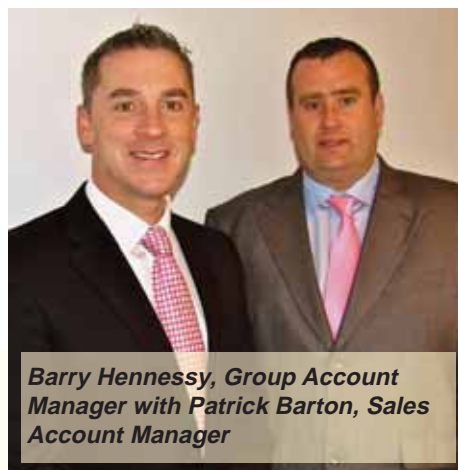
That said, they are the first to acknowledge the important contribution of the 70+ individuals employed in the Group, all of whom are fully qualified and undergo continuous training and up-skilling for their respective roles. Tech is also certified by F-Gas Registration and is an ISO-approved company in the sector for supply, service and installation.

**Sustained growth**

“Excellent response time, quality of workmanship, and delivery with a smile are the main reasons for the phenomenal growth experienced by the company over the last number of years”, says Jim. “That, coupled with the quality of the brands we represent and the quality of the solutions we deliver, sets us apart from our competitors. An added strength is that we conduct free survey visits so we can do a comprehensive equipment, application and environment audit before designing and installing the most appropriate, legislation-compliant, and cost-effective solution.

**Sales, installation and maintenance**

While most companies within the sector are primarily sales-driven with service seen in many cases as a “necessary evil”, Tech Group is the polar opposite. Growth and development over the years is down first and foremost to the quality of the service provided so the overall quality of sales, installation and maintenance are seen as very much integrated elements of the total package.



*Barry Hennessy, Group Account Manager with Patrick Barton, Sales Account Manager*

**Catering equipment**

Tech Catering Equipment – incorporating the renowned Masser Hammond company – is a dedicated division within the Tech Group. Under the stewardship of Director John Kinsella, the experienced team provides full site survey and subsequent system design, product supply and installation to the hotel, restaurant, bar, healthcare, industrial, retail and construction sectors.



*Left: John Kinsella, Director, Tech Catering Equipment with James Kenny, Area Sales Manager.*



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 t: +353 (0)1 820 8544 f: +353 (0)1 820 8547  
 e: [info@techrefrigeration.com](mailto:info@techrefrigeration.com) w: [www.techrefrigeration.com](http://www.techrefrigeration.com)



Following on from its 30th anniversary last year, Thermo Air is now looking to the future and the challenges that the company, and the industry as a whole, are facing. Not only are we in the midst of worldwide fiscal problems, but the HVACR sector is experiencing ongoing changes with equipment efficiency ratings, Fgas ODS regulations and the advancement in industry technologies. Moreover, this is all happening at a time when budgets are more limited than ever.

## *Thermo Air looking to the future*

**“This is nothing** new for Thermo Air as we have been here before” says Thermo Air’s Dave Clarke. “Since the early eighties we have seen trends come and go and have always embraced the challenges before us. Today, more than ever, we are strongly positioned to do so again.”

Recent key projects, which showcase Thermo Air’s abilities, include the upgrading of municipal swimming pools around the country in conjunction with a national geothermal heat pump supplier. These projects involved Thermo Air supplying new air handling units incorporating air to air heat recovery, air to water heat recovery, a Fabric-air sock system for draft-free air distribution, and a BMS control set up to manage the pool environment, all using 45°C water.

The specialist knowledge accrued over the years by the design and sales team within Thermo Air has also proven its worth on other heating and cooling projects where non-standard room conditions were requested. Maintaining 3°C or 38°C is no problem and indeed the



*Heat recovery LTHW pool unit.*

provision of specialist spray booth systems for the painting industry often goes above these temperatures, and are provided with the “bespoke as standard” ethic which Thermo Air works to.

From its Carlow base Thermo Air supplies nationally a wide range of heating equipment from stock. It holds a range of lphw and gas or oil equipment which can be dispatched overnight to any part of Ireland and this gives clients the ability to react to projects quickly, ensuring they are completed on time and as per specification.

In conjunction with its sister company Imofa, Thermo Air also has the ability to supply direct-driven and belt-driven fans, on a next day basis, to replace all major makes of older fans. This stock of equipment also allows Thermo Air to produce AHU systems in days rather than weeks.

The future may be uncertain but Thermo Air plans to be at the forefront of the design and supply of innovative, efficient HVACR equipment for another 30 years.

Contact: Dave Clarke, Thermo Air. Tel: 059 913 1646; sales@thermoair; www.thermoair.com ■



*Graiguelcullen swimming pool.*

# Energy efficiency the strong message across the BDR brands

**As part of the BDR Thermea Group – and despite the challenges of the economic downturn – Potterton Myson Ireland continues to introduce new product ranges that will meet the current drive for increased efficiency and the need for competitive offers across the sectors.**

Last year saw further development of PMI's commercial portfolio with additions including renewable offers, as well as new large and small water heaters. The company is now looking to explore projects where it can provide engineers and installers with solutions using this expansive portfolio. Highlights of the various ranges are as follows:

## Baxi

The award-winning Baxi Ecogen Micro CHP boiler has captured significant market share since first introduced to the Irish market. It is also the first domestic gas boiler showing significant savings on energy by using the Stirling engine technology in a domestic boiler to generate electricity. Then there is the Baxi HE BBU, the only condensing back-boiler in the market offering a solution to an existing back-boiler installation which is being upgraded to high efficiency.

## Potterton Domestic

This year will be another successful year for the Promax range of A-rated boilers as the market finally moves away from new-build to retrofit. It includes system, combi and slimline heat-only models and is still the boiler of choice for professional installers seeking the highest efficiency combined with ease of installation.

## Remeha

The Avanta range of domestic boilers is a flexible boiler offering covering outputs up to 39kW and also system, combi and heat-only options. Models are also fully convertible to LPG throughout the product mix. Warranty cover of up to five years is available.

## Commercial

New models of Neoflo Andrews Water heaters have been introduced, as well as a new Eurocondense Three range offering the smallest-footprint, large commercial boiler available in the market. During 2012 PMI will be the first commercial boiler company to offer a commercial combi, while it will continue to be at the forefront of developments with products such as the cast iron condensing oil boiler Logocondense Carboncondense with outputs up to 130kW. A new Ecoskid incorporating the Ecogen Micro CHP boiler is also available, offering the benefits of local electrical generation from operating heating. The first project using this technology was recently completed in a care facility for the HSE in Clonmel.

## Heatrae and Santon

Pioneering new stainless steel models have been added to PMI's comprehensive water heating range, including the Megaflo Eco (right) which won the *Best Energy Efficient Product Award* at the recent SEAI Energy Show. Models incorporate a unique internal expansion system which delivers maximum hot water in the most efficient way to the domestic and commercial sector.

There is also a new contract undersink water heater and cylinder called Pullin, along with new electric hot water and heating boilers from the Heatrae and Santon brands. These include the new Aquatap boiling and chilled water combination for canteens or up-market kitchen installations.

## Renewables

The Harman range of pellet and multifuel stoves combines well with other renewable products such as room heaters, while a new solar model will be introduced shortly to complete the mix for domestic and commercial applications. This year will also see developments in the air source heat pump range.

## Myson training

Throughout the remainder of the year PMI will increase its focus on installer training to help contractors understand the key factors that influence the running costs of systems. Key to this is the efficiency delivered by controls such as the Myson Zone Packs and Petite TRVs. These products have been especially designed and manufactured in Ireland for the Irish market. PMI will also relaunch the Myson Floortec underfloor range, in addition to a new fan convector product, as part of the drive to meet lower running temperature in heating systems.

As part of the continuous training programme there is a new installer loyalty programme called *works* and interested parties should contact PMI at [www.works2gether.ie](http://www.works2gether.ie), or email [admin@works2gether.ie](mailto:admin@works2gether.ie)

Contact: Potterton Myson Ireland. Tel: 01 – 459 0870; email: [post@potterton-myson.ie](mailto:post@potterton-myson.ie) ■



Hydrovar from Lowara, a Xylem brand company, is a pump or wall-mounted variable speed, microprocessor-based system controller, and was the world's first of its type to manage motor speed and match pump performance to a range of hot and cold water applications.

## Save energy and money with Hydrovar

**Due to the** unique modular design the Hydrovar unit can be mounted or retrofitted to any existing centrifugal pump which has a standard IEC motor. This is the long-awaited solution for high-level installations requiring fail-safe systems with a superior range of features. Its modularity also provides a cost-effective solution for low-level, reduced-feature demands.

Hydrovar needs no additional master control and enables virtually any configuration of pumps – up to eight master drives or a mix of master and slave drives. The units are available in powers from 1.1kW to 22 kW. Hydrovar does much more than just change the motor speed. It truly manages the pump performance to match a wide range of system conditions, allowing energy savings of up to 70%.

Hydrovar also eliminates the need for expensive additional master control panels and circuitry, system control valves and large pressure vessels.

### Typical applications

- Maintaining a constant pressure, as in water boosting or irrigation;
- Maintaining a constant flow, as in filter and water supply applications;
- Compensating for losses in a system (following a system curve), as in heating systems;
- Control of pump performance by temperature sensors;
- Emptying or filling tanks by level probes;
- Control of boiler feed water;
- Cascade control capability by combining different executions (master/basics) of the modular Hydrovar family.

### Energy savings

Energy saving is a critical issue for the heating and ventilating sector and Hydrovar has an added feature that allows the pump to follow a system curve. This means that the minimum system head is set, together with the maximum, and the pump then operates between these two points. This option has been specifically developed for use in the heating sector as it allows the user to save up to 70% on energy costs over a fixed-speed pump.

### Hydrovar booster sets

As Hydrovar allows up to eight units to be interfaced together, the user gets ultimate flexibility. The pumps have an automatic cyclic

changeover facility and, in the case of failure, the remaining pump(s) take up the duty. Hydrovar uses a 4A - 20A signal to regulate the motor speed in order to meet the system requirements. By controlling the pump in this way the user can make substantial savings in comparison to conventionally-controlled systems.

### Benefits

- Sizes available 1.1kw to 22 kW. Extension up to 315 kW by using the external Hydrovar Smart controller;
- Shuts off at zero demand;
- Easy to integrate into BMS systems (ModBus communication included as standard);
- Can be mounted directly on any standard IEC motors;
- Includes 2-line LCD display;
- Enclosure IP 55 protection;
- Up to eight Hydrovar pumps can be connected to one system;
- Available in three different levels (Master/Single/Basic);
- Two sensor inputs for implementing of two actual value signals within one system (min/max, difference), or for a second sensor for safety reasons (master inverter);
- Different types of sensors supported (4-20mA, 0-20mA, 0-10Vdc, 2-10Vdc);
- Energy savings up to 70%;
- Error log with time and date stamp;
- Extended manual control mode with different fixed-speed values selectable via external contact.

Contact: Terry Murray, Xylem Water Solutions Ireland.  
Tel: 01 – 452 4444; email: [terry.murray@xyleminc.com](mailto:terry.murray@xyleminc.com);  
[www.xylemwatersolutions.com/ie](http://www.xylemwatersolutions.com/ie) ■



BTU Golf News

# Broderick is new BTU Captain

**G**iven the long-standing contribution Vincent Broderick has made to the success of the BTU – both personally and with the support of Potterton Myson Ireland (PMI) – it is fitting that he has been made Captain for 2012. Among other things, PMI has always sponsored the BTU tee-shirts when competing in the Nationals and the expectation among members is that Vincent will produce something special for this year's competition.

**Outings**  
Outings for the year are as follows:  
**Friday, 12 April** – St Margaret's;  
**Friday 18 May** – Tulfarris;  
**7/8/9 June** – Nationals, Wychwood Park;  
**Thursday 14 June** – Newlands;  
**Friday 13 July** – Hermitage;  
**Friday 14 September** – Balbriggan;  
**Friday 19 October** – Delgany;  
**Friday 30 November** – Xmas outing. *Venue to be decided.*



Left: Tony Gillen, BTU President with Garvan Evans, Overall Winner, President's Day.



Dave Cranston and Gerry Tobin proving that you don't have to win prizes to enjoy BTU outings.



Right: Captain's Day – Overall Winner Bill Treacy with Dave Harris, then BTU Captain.



Left: Tulfarris – Conor Quigley, C&F Quadrant, sponsor with Kieron Ryan, Overall Winner and Dave Harris, then BTU Captain.

## New members welcome

Applications for membership of the BTU Golfing Society are now being considered. If you are involved in building services, then you are eligible to join. In return for an annual subscription, members get to play at subsidised rates at the regular outings, and get an opportunity to network with fellow-industry colleagues. New company and individual membership packages are on offer.

For details contact Dave Harris.  
Tel: 087 – 256 7985;  
email: dharris@harrisheating.ie

# Detailed MEP design part 1 – mechanical services

**This article will** focus on the specific details relating to building information modelling, the design of typical mechanical services, and how they are carried out in software programmes such as Revit MEP. Traditional design involves taking some of the information produced during the concept stage as was outlined in the previous article. This may be in the form of developing building systems around a naturally-ventilated scheme, or a more heavily serviced mechanical ventilation or air conditioning scheme. The various components must be sized, selected, assembled into systems, scheduled and specified to produce pricing documentation.

The move towards building information modelling means that engineers need to carry out specific tasks at a much earlier stage in the design process. This includes listing components that will be needed for the project such as air conditioning units, tanks, pumps, boilers, fans, valves, radiators, etc so that the component families for these items can be either sourced directly from vendors, BIM resource websites or created in-house.

The optimum scenario would obviously involve sourcing families from vendors but, at this stage in the evolution of BIM in Ireland, there are only a select number of vendors who have produced their products in a BIM format. In-house component families can be created based on manufacturers product data sheets and these will more than serve the required purpose as all relevant information relating to mechanical performance, electrical input and technical specification can be edited to suit specific requirements. See Figure 1.

One of the most onerous tasks, which inevitably becomes something of a work in progress in most cases, is the editing of 3D families to incorporate 2D symbols that are visible when 2D drawings are being produced. This is done in the form



Keith Mellon is a Mechanical Project Engineer with Ethos Engineering. He is a member of the CIBSE Ireland Committee, representative for the CIBSE Ireland Committee on the CITA BIM Group and part of the Ethos Engineering BIM Group. He is actively involved in both the design and sustainable aspects across a variety of projects including offices, schools, residential healthcare units, hospitals, hotels and archive facilities. Keith's expertise includes passive building design, energy management systems and renewable energy technologies. He holds an MSc in Energy Management, a BEng in Building Services and is also a DEC assessor.

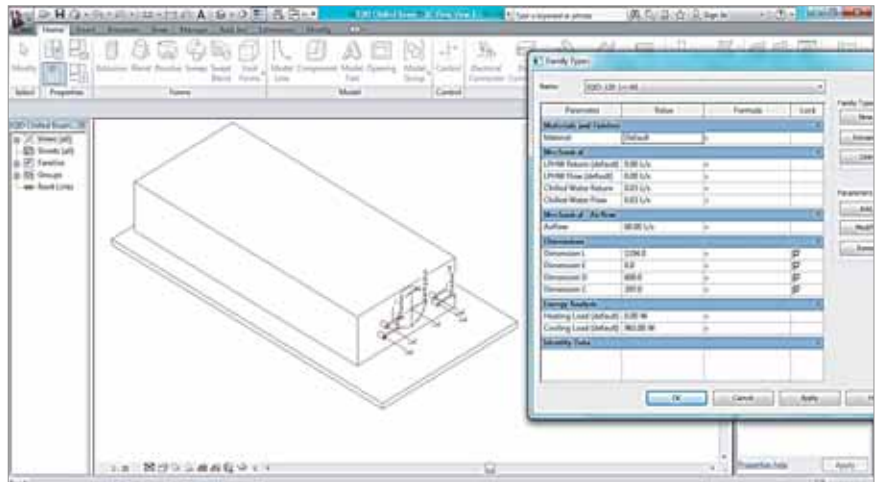


Figure 1: Typical chilled beam modelled in BIM format.

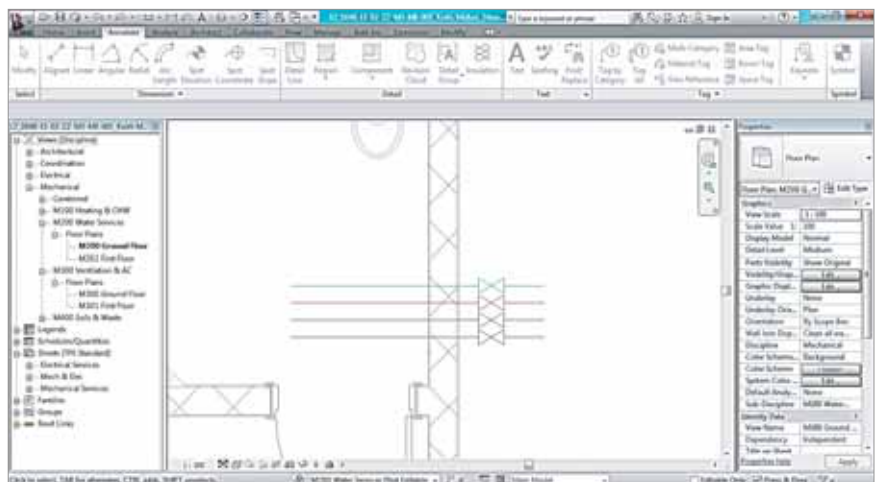


Figure 2: Typical coarse/medium detail of valve.

of drawing a 2D symbol, either directly or as an annotation symbol, into a 3D component and creating weak reference that is visible in a coarse or medium detail view on a 2D drawing sheet. The detailed 3D component view will only be visible with the view setting at fine detail

level. This ensures that the standard of 2D drawings produced from the 3D model is consistent with the quality and presentation of 2D drawings produced using software such as AutoCAD or similar 2D drawing software. See *Figures 2 and 3*.

Designing domestic water services and drainage systems in Revit MEP is facilitated through use of demand units or “fixture units” within sanitary fittings. WCs, wash-hand basins, showers, etc are typically created within the architectural model. Individual component families can be edited to include the drainage and water service connections. See *Figure 4*.

One of the issues that is not present within Revit MEP in its latest versions is a hot water return system. This is overcome through the duplication of pipework systems and modification of the calculation setting to none. This will effectively prevent the hot water return system from being overridden by either the cold water or hot water system and allow designers to specify the pipe sizes manually. This is not ideal but is a temporary solution while software designers develop a means of sizing hot water return systems automatically. See *Figure 5*.

The creation of pipework systems can either be done manually or through Revit MEP. Using Revit MEP, groups of appliances can be linked together to create local systems, or all appliances can be grouped together to create a whole building system. See *Figures 6 and 7*.

At this stage there are still inherent difficulties associated with using the automatic method of creating pipework systems. In order to efficiently ensure the system is designed as accurately as required, and that the actual layout of the pipework system will avoid clashes, the manual method of “drawing” pipework into the model along desired routes and connecting to the sanitary appliances and system components is preferable. Much of the same techniques used to develop the pipework models for domestic water services and drainage pipework systems can be applied to hydronic systems such as heating and chilled water.

Experience thus far has taught me that it is easier to develop the pipework system from start to finish, i.e. boiler to radiator, and then add piping components such as valves. The same is true for ductwork systems and this will minimise the number of times components such as

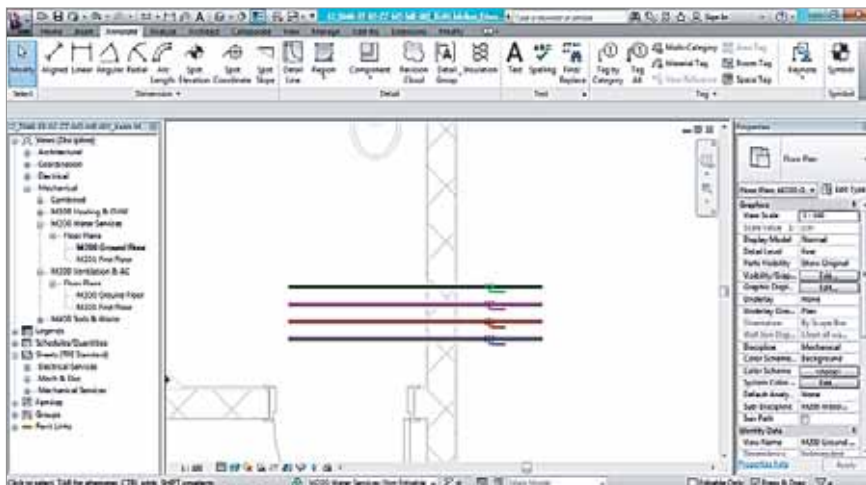


Figure 3: Typical fine detail valve.

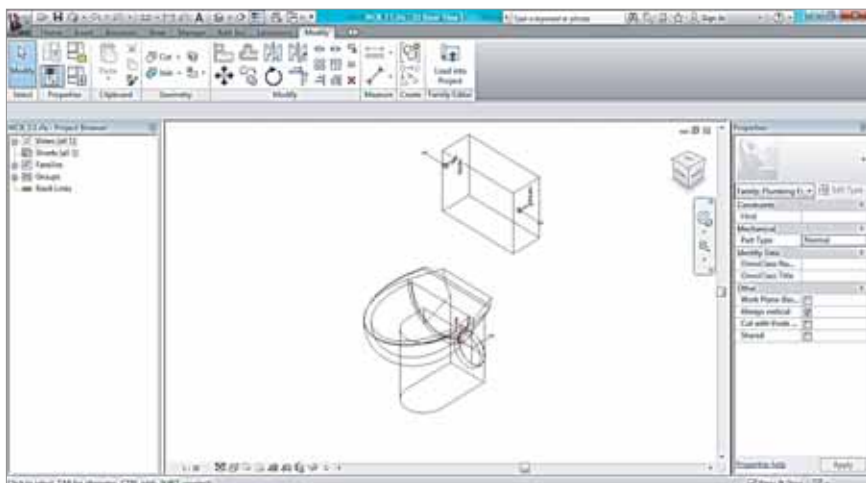


Figure 4: Typical WC family with plumbing connections.

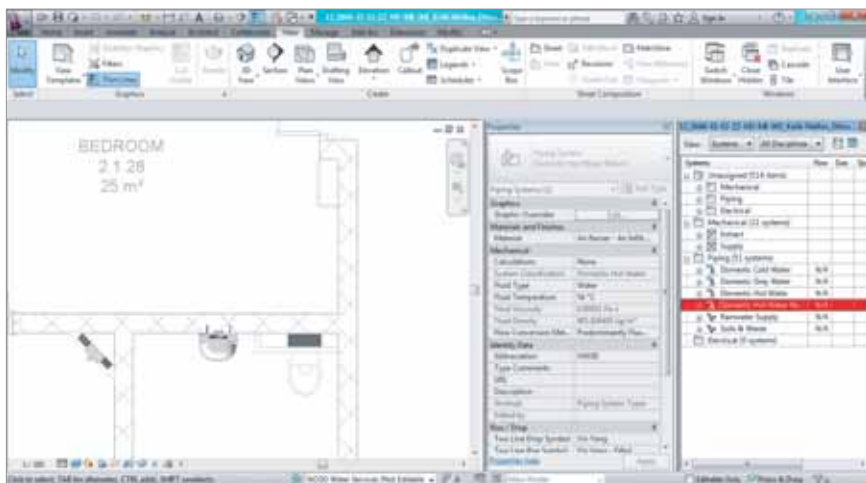


Figure 5: Modifying the pipe system calculation setting.

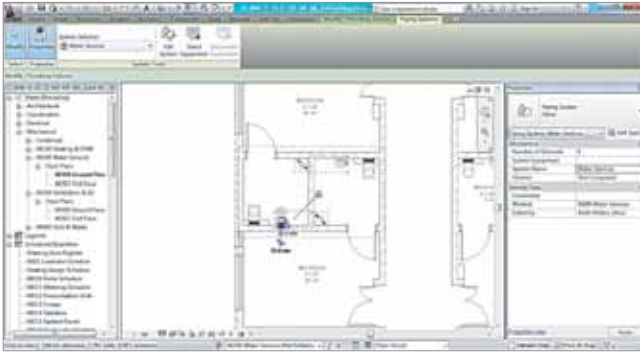


Figure 6: Creating a piping system group.



Figure 7: Automatically generating pipework layout.

valves, balancing dampers, fire dampers, etc are re-entered during the iterative process of identifying routes and risers.

The design calculation software within Revit MEP for performing heating and cooling load calculations is more developed than that for the water service systems. Revit MEP can carry out steady-state heating and cooling load calculations based on user-specified building design conditions, either based

on building or space type. The ability to interlink the building design conditions for individual spaces within the model allows design checks to be carried out more efficiently and also ensures that the environmental performance criteria required are satisfied. Several variables can be selected from a list of predetermined options to create a schedule. See Figure 8.

Schedules such as these can be

manipulated to sort by level, space name, space number, system, etc with automatically-calculated subtotals. This offers improved efficiency in developing the overall design and can create a more robust design filing system. Updates and progress revisions of the building design can be revised and will automatically revise once schedules such as this have been created.

Once the design has been completed, the ability to automatically schedule components within the MEP model saves time in manually counting, selecting and scheduling these components. Any number of components can be scheduled by reference, level, model, output and input properties, costs or material. This greatly enhances the ability to accurately quantify the tender design and reduces the cost risk for contractors who are able to use this design format. See Figure 9.

The evolution of building services design engineering tools is happening apace and we are starting to see the fruits that have been in use in the industrial and maritime sectors for many years. While the benefits to engineers and ultimately clients are obvious, there is considerable time required to set up company standards, family libraries and project templates, and to discover the various nuances of using the software.

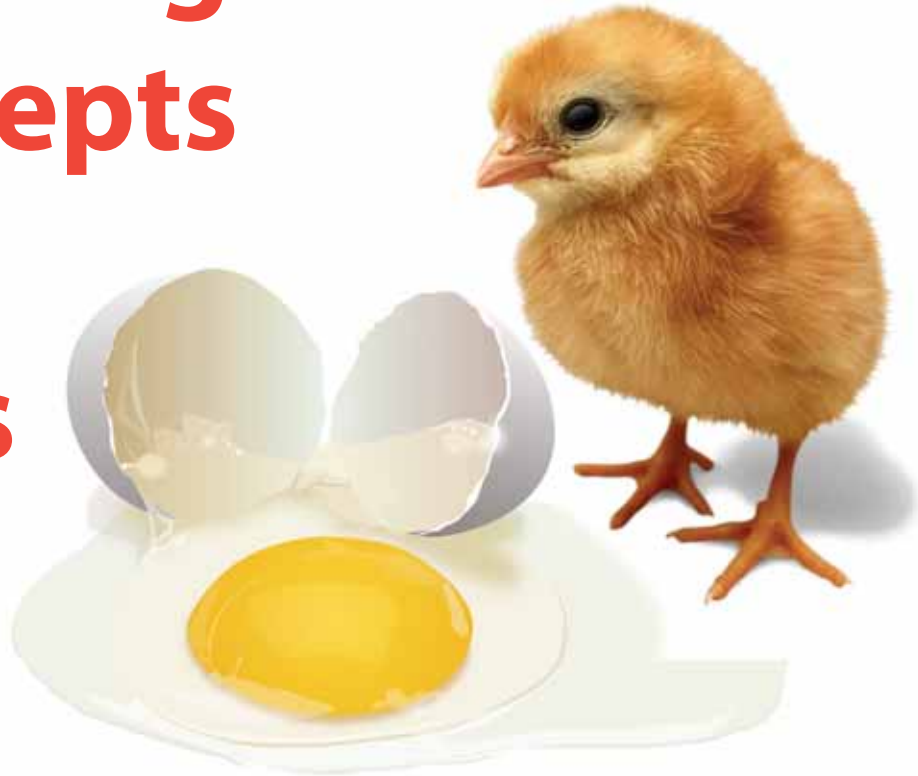
While this is initially a steep learning curve, the fastest way to learn is to get training from a certified training provider and look to identify pilot projects as well as personnel who will use the software. This is fundamentally a design engineering tool and the mistake of believing this is simply a CAD drawing tool should be avoided. ■

| Level                   | Name       | Area  | Volume | Number of Units | Heating Capacity | System Design | System Usage | Calculated | Estimated |
|-------------------------|------------|-------|--------|-----------------|------------------|---------------|--------------|------------|-----------|
| 00 Ground Floor         | MECH100001 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 01 First Floor          | MECH100002 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 02 Second Floor         | MECH100003 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 03 Third Floor          | MECH100004 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 04 Fourth Floor         | MECH100005 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 05 Fifth Floor          | MECH100006 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 06 Sixth Floor          | MECH100007 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 07 Seventh Floor        | MECH100008 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 08 Eighth Floor         | MECH100009 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 09 Ninth Floor          | MECH100010 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 10 Tenth Floor          | MECH100011 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 11 Eleventh Floor       | MECH100012 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 12 Twelfth Floor        | MECH100013 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 13 Thirteenth Floor     | MECH100014 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 14 Fourteenth Floor     | MECH100015 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 15 Fifteenth Floor      | MECH100016 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 16 Sixteenth Floor      | MECH100017 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 17 Seventeenth Floor    | MECH100018 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 18 Eighteenth Floor     | MECH100019 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 19 Nineteenth Floor     | MECH100020 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 20 Twentieth Floor      | MECH100021 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 21 Twenty-first Floor   | MECH100022 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 22 Twenty-second Floor  | MECH100023 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 23 Twenty-third Floor   | MECH100024 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 24 Twenty-fourth Floor  | MECH100025 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 25 Twenty-fifth Floor   | MECH100026 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 26 Twenty-sixth Floor   | MECH100027 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 27 Twenty-seventh Floor | MECH100028 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 28 Twenty-eighth Floor  | MECH100029 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 29 Twenty-ninth Floor   | MECH100030 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 30 Thirtieth Floor      | MECH100031 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 31 Thirty-first Floor   | MECH100032 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 32 Thirty-second Floor  | MECH100033 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 33 Thirty-third Floor   | MECH100034 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 34 Thirty-fourth Floor  | MECH100035 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 35 Thirty-fifth Floor   | MECH100036 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 36 Thirty-sixth Floor   | MECH100037 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 37 Thirty-seventh Floor | MECH100038 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 38 Thirty-eighth Floor  | MECH100039 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 39 Thirty-ninth Floor   | MECH100040 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 40 Fortieth Floor       | MECH100041 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 41 Forty-first Floor    | MECH100042 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 42 Forty-second Floor   | MECH100043 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 43 Forty-third Floor    | MECH100044 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 44 Forty-fourth Floor   | MECH100045 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 45 Forty-fifth Floor    | MECH100046 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 46 Forty-sixth Floor    | MECH100047 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 47 Forty-seventh Floor  | MECH100048 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 48 Forty-eighth Floor   | MECH100049 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 49 Forty-ninth Floor    | MECH100050 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 50 Fiftieth Floor       | MECH100051 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |

Figure 8: Typical space heating design schedule.

| Level                   | Name       | Area  | Volume | Number of Units | Heating Capacity | System Design | System Usage | Calculated | Estimated |
|-------------------------|------------|-------|--------|-----------------|------------------|---------------|--------------|------------|-----------|
| 00 Ground Floor         | MECH100001 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 01 First Floor          | MECH100002 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 02 Second Floor         | MECH100003 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 03 Third Floor          | MECH100004 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
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| 08 Eighth Floor         | MECH100009 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 09 Ninth Floor          | MECH100010 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 10 Tenth Floor          | MECH100011 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 11 Eleventh Floor       | MECH100012 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 12 Twelfth Floor        | MECH100013 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 13 Thirteenth Floor     | MECH100014 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 14 Fourteenth Floor     | MECH100015 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
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| 25 Twenty-fifth Floor   | MECH100026 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
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| 27 Twenty-seventh Floor | MECH100028 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 28 Twenty-eighth Floor  | MECH100029 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 29 Twenty-ninth Floor   | MECH100030 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 30 Thirtieth Floor      | MECH100031 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
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| 42 Forty-second Floor   | MECH100043 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 43 Forty-third Floor    | MECH100044 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 44 Forty-fourth Floor   | MECH100045 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 45 Forty-fifth Floor    | MECH100046 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 46 Forty-sixth Floor    | MECH100047 | 10.00 | 10.00  | 1               | 1.00             | 1.00          | 1.00         | 1.00       | 1.00      |
| 47 Forty-seventh Floor  | MECH100048 | 10.00 | 10.00  |                 |                  |               |              |            |           |

# Hatching Creative Concepts and Ideas



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## Energy Show Product of Show Awards

# Innovation very much evident in winning products

Entry levels for this year's Energy Show Product of the Show Awards once again demonstrated a strong commitment on the part of all industry sectors to invest in innovative new technologies and concepts. With 88 entries across the seven different categories, the challenge facing the judging panel was quite significant. Nonetheless, over an exhausting process taking in two days, they eventually made their final selections. The result of their deliberations are detailed here.

## Best Heating Product

**Winner: Versatile** for the Zehnder Carboline Radiant Heating/Cooling Panel

**Highly-Commended: Versatile** for the Zehnder Nova Neo high-performance radiator

## Best Building Fabric Product

**Winner: Ecological Building Systems** for the Proclima Intelligent Airtight System

**Commended: Camfil Farr** for the Low-energy Hi-flo XLT Bag Filter

## Best Lighting Product

**Winner: Philips Electronics Ireland** for the Philips Master LED DimTone range

**Highly-Commended: Fibreled** for the Istanbul Bridgespot

**Commended: Patina Lighting** for the for the ASR iLED luminaire

## Best Controls Product

**Winner: Climote** for the Climote Home Heating Hub

**Highly-Commended: Hager** for the for the Hager EVN dimmer

## Best Renewables Product

**Winner: Kingspan Renewables** for the Varisol HP modular solar thermal

**Highly-Commended: Heat Pumps Ireland** for the Danfoss DHP-AQ air/water heat pump

**Commended: QRS Renewables** for the for the Pico Solar Lamp

## Best Innovative Product

**Winner: Climote** for the Climote Home Heating Hub

**Highly-Commended: Aurora Lighting** for the i9 Integrated Lighting Range

**Highly-Commended: Versatile** for the Zehnder Carboline radiant heating/cooling panel

## Overall Product of Show Award

**Winner: Climote** for the Climote Home Heating Hub

*Below: Overall Winner – Brian Motherway, Chief Operations Officer, SEAI with Derek Roddy and Eamon Conway, Directors, Climote; and Derek Mowlds, Chairman, Energy Show Product of the Show Awards judging panel. Climote also got Winner, Best Innovative Product and Winner, Best Controls Product.*

# the energy show 2012



**Winner Best Heating Product – Brian Motherway with Andrew Treacy, Versatile and David McAuley, judge. Versatile also got a Highly Commended in this category for another product and a Highly Commended in Best Innovative Product.**

**Highly Commended Best Renewables – Brian Motherway, with Dermot McElroy, Heat Pumps Ireland and David McAuley, judge.**

**Commended Best Renewables – Brian Motherway with Robert Hegarty, QRS Renewables and Brian Scannell, judge.**



**Winner Best Renewables – Brian Motherway with Michael Comerford and Andrea Fordham, Kingspan Renewables and Gerard Keating, judge.**



**Commended Best Building Fabric – Brian Motherway with Don Donovan, Camfil Farr and Gerard Keating, judge.**



**Winner Best Building Fabric – Brian Motherway with Niall Crosson, Ecological Building Systems and Brian Scannell, judge.**



**Highly Commended Best Controls Product – Brian Motherway with Tom Weafer and Tilo Kruger, Hager and Gerard Keating, judge.**

## Judging Panel

**Derek Mowlds** Chairman, Chartered Institution of Building Services Engineers (CIBSE) and Senior Project Manager, PM Group. He is also a Committee Member of the Irish Green Building Council.

**Jim Gannon** Chair of Engineers Ireland Energy and Environment Division, Associate with RPS Group and External Examiner to the Masters in Renewable Energy Systems at Dundalk IT.

**Stephen Holmes** Facilities Manager with Johnson & Johnson Vision Care.

**Brian O'Mahony** Ocean Energy Development Unit Programme Manager with SEAI. He manages the R&D and prototype development fund for ocean energy companies.

**David McAuley** R&D Programme Manager with SEAI, National Contact Point for EU FP7 Energy Research Program.

**Brian Scannell** Project Director with Senergy Consultants and winner of the Sustainable Energy Awards 2010 Energy Manager of the Year.

**Gerard Keating** (C.Eng., MIEI, FCIBSE, MIHEEM. DIP. Proj. Management) has over 20 years experience in construction and is a Director of Homan O'Brien where he is responsible for the Healthcare Division. He is a Fellow of CIBSE and is also a past Chairman of the Institution.

CIBSE News

# LEDs – lively debate at Engineers Ireland

The recent lecture titled, *LEDs: a universal panacea to achieving good lighting with energy efficiency?* proved extremely successful with over 80 people in attendance at Engineers Ireland in Dublin 4. This lighting CPD event



At the recent LED lecture at Engineers Ireland were Greg Hanna, Engineers Ireland with Kevin Kelly, SLL Vice President; Paddy Craven, Institute of Lighting Professionals; and Dermot Dungan, Engineers Ireland.

was jointly organised by CIBSE Ireland, Society of Light and Lighting (SLL), Engineers Ireland, Institute of Lighting Professionals and the Institute of Engineering and Technology.

The two principal speakers – Iain McCrae and

Mike Simpson – delivered enlightening papers regarding the appropriate applications and potential benefits/pitfalls of LED technology in lighting.

Thereafter, a stimulating debate evolved with Iain, Mike and members of the audience exchanging interesting, and sometimes contentious, views.

Right: Main speakers Iain McCrae, President Elect SLL and Mike Simpson, Past President of CIBSE, SLL & ILP pictured with Derek Mowlds, Chairman CIBSE and Stephen Donohue, DIT.



## Sustainable intelligent buildings

Professor Clements-Croomes' lecture on intelligent buildings went far beyond expectations and provoked an interesting and passionate debate among those in attendance, which included Professor Owen Lewis, CEO of SEAI.

The wide range of topics included whole building approaches, sensor technologies, people and their environment, bio-mimicry and sustainability.



Professor Clements-Croomes

# SDAR\* Awards highlight value of evidence-based case studies

**Sponsor: John Sisk & Son**

Thursday 29 March witnessed the third annual SDAR\* Awards final, organised and hosted by the School of Electrical Engineering Systems in Kevin Street DIT. This is one of two major CIBSE Ireland applied research events intended to disseminate best practice in innovation and evaluation. As usual it was sponsored by John Sisk & Son and



Dr Kevin Kelly, Head of Department Electrical Services Engineering, School of Electrical Engineering Systems, DIT.

supported by *bs news*. The second CIBSE applied research event is the Irish Lighter/Young Lighter competitions and news of this event is detailed on Page 22 of this issue.

Both events are growing in popularity each year. This is evident from the quantity of papers submitted, and also the quality of the papers. Industry now seems to realise that research is not just people in white coats in a laboratory but is applied real-world evaluation of new technologies and innovations in case studies. The four finalists' papers were all real world industry-based research papers. Presentations were very well received by both the audience and the panel of expert judges. The papers presented were:

**Dermot Lyons, GSH**  
Establishing Current Energy Management Practices in Irish Manufacturing SMEs



The finalists – Stephen Timlin, BDP with Dermot Lyons, GSH; Edel Donnelly, BDP; and James McConnologue, RTE.

**Edel Donnelly, BDP**

Comparison of Ice-bank Actual Results vs Simulated Predicted Results in Carroll Refurbishment Project DKIT

**Stephen Timlin, BDP**

Improved Automation Routines for Automatic Heating Load Detection in Buildings

**James McConnologue, RTE Radio Telefís Éireann**

Retrofit Energy Strategy for the Television Centre's Chilled Water System.

The SDAR\* Awards promotes collaboration between industry and academic institutions. At a pivotal time in the economy when companies require savings in all areas of expenditure to maintain trading, it is heartening to see such energy reduction potential offered from these critical evaluations. The idea is to move from ideologically-based ideas and innovations to proven value and energy reduction for clients.

The role of CIBSE is to facilitate this process and disseminate the findings. Credit also to staff in the School of Electrical Engineering in DIT, particularly Michael McDonald, for their organisation and collaboration in this work.

The well deserved winner this year was James McConnologue, from RTE, who presented a paper investigating the energy performance of a building's chilled water system (CHWS), primarily focusing on the system's direct electrical energy consumption. The successful retrofit of the CHWS delivered an impressive cost saving of about €100,000 within the first year. This was achieved with a minimal capital investment of €3,400 for the purchase of a MODBUS interface. This paper will be available to view through the CIBSE Ireland website shortly and will also be published as part of the next SDAR\* Journal. This will be issued in late summer or Autumn 2012.

The judging panel consisted of Michael McNerney, Energy MCS and CIBSE; Kevin Gaughan, Chair of the MSc in Energy Management DIT; Kevin O'Rourke, SEAL; Justin Keane, Sisk and Brian Geraghty, BGA and CIBSE. ■



CIBSE Chairman Derek Mowlds pictured with SDAR Awards judges Kevin O'Rourke, Brian Geraghty, Justin Keane, Michael McNerney and Kevin Gaughan. On the right is Sean Dowd, CIBSE Vice-Chairman.

## DIT Bolton St Student Awards

The DIT Building Services Student Awards were presented at a ceremony in Bolton St recently with a capacity attendance including lecturers, students and members of their families. The event was sponsored by Hevac and supported by CIBSE Ireland. Seamus English and David Doherty were the Hevac representatives present.



Back row: David Doherty, CIBSE and Hevac with Seamus English, Hevac, Brian West CIBSE and UCD, and Derek Mowlds, Chairman CIBSE. Middle row: Mark Foley, Paul Cleary and Carlos Gonzalez, all DIT students with Gary Tormey, Delap & Waller. Front row: DIT students Christina McHugh, Cathal McDermot and Shane Toolan.

A full lecture theatre heard presentations by all six finalists across the Level 7 and Level 8 final programmes (final year). In the interval when the judges were doing their final assessments, the attendees heard some useful industry news from Darragh Canning of Axis Engineering. The winners were then awarded a cash prize and medal, with a special award going to the highest scoring student in 2011.

The awards were presented as follows:

**Level 7**

- Winner: Paul Cleary – Legionella;
- Runner up: Shane Toolan – Heat Recovery for Commercial Buildings;
- Runner up: Cathal McDermot – Rainwater Harvesting For Domestic Use In Ireland.

**Level 8**

- Winner: Carlos Gonzalez – Fire Simulation Software;
- Runner up: Christina McHugh – Natural Lighting;
- Runner up: Mark Foley – CHP.

**Albert Byrne Memorial**

Gary Tormey, Delap & Waller.

RACGS

## RACGS tees off at Bunclody

RACGS held its first outing of the year in Bunclody golf club recently and not surprisingly attracted a large turnout. The course was in great condition and the day was sponsored by Hitachi Europe Ireland. Fergus Daly was on hand to present a lovely array of prizes.

Fergus also took the opportunity to present Matt Butler (pictured below) – winner of last year’s RACGS Golfer of the Year, sponsored by Hitachi – with his award.



Fergus Daly with Matt Noonan and Stephen Mulvaney.



Fergus Daly with Kevin Roden and Stephen Mulvaney.

## Results

Bunclody results were as follows:

**Overall winner:**

Vincent Barrett, H12, 38pts.

**Class 1:**

First: Nicky Norris, H11, 35pts;

Second: John Ryan, H12, 34pts;

Third: Mick Clancy, H13, 30pts.

**Class 2:**

First: Jack Elstead, H15, 34pts;

Second: Martin O'Connor, H16, 33pts;

Third: Roland Bradley, H17, 33pts.

**Front 9:**

Matt Noonan, 16pts.

**Back 9:**

Kevin Roden, 16pts.

**Visitors:**

First: PJ Brennan, H5, 31pts;

Second: Conor Clancy, H11, 33pts.

The next outing will take place in Dundrum House, County Tipperary, on 18 May 2012.



Above: Fergus Daly, Hitachi with overall winner Vincent Barrett and RACGS Captain Stephen Mulvaney.



Right: Fergus Daly with Stephen Mulvaney and Liam Hocht.

# Plumbing TIPS



## *Good, better, best ...*

Good, better, best ... never let it rest, until your good is better and your better is your best!



**by Paul Clancy,  
Managing Director,  
Potterton Myson Ireland.**



**This quote is** attributed to the US basketball player Tim Duncan, one of the top 10 greatest basket ball players in the US. I really like this quote – it paints a clear picture of Tim’s need to strive for continuous improvement ... to be the best. Can we relate this ethos to our business life? I think we can.

Let me use the following simple example where the same product is offered in three different formats, with the price for each level rising above that of the previous level.

The manager of a farm market that sells fresh apples places some of the apples available for sale in a large container through which the customers have to sort to choose the apples they wish to purchase. These apples would be priced at the “good” price.

Another lot of apples could also be placed in a container from which customers can gather, but these apples would have been pre-sorted to remove less desirable apples, such as those with soft spots. These would be priced at the “better” price.

The “best” apples – those priced higher than the rest – may have been pre-sorted, just as the “better” apples, but have also been pre-packaged for customer convenience.

As demonstrated in this example, the

“better” and “best” levels require more attention by the farm market staff but, if priced appropriately, may be worth the extra effort.

This example may be simplistic but it does highlight the fact that, if you add value you can expect to charge more, and that the customer will generally recognise this and pay for this added value.

So, let’s apply this principle to heating and plumbing contracting. Is your business in the good, better or best category? I suggest that if you are “as good as” you add little that differentiates you from your competitors. Why should a customer choose you above another?

Are you in the “better” category? Then you are moving in the right direction, you have reduced the number of potential competitors and made a niche for yourself. This is not a bad place to be but, can you do better?

If you are in the “best” category you have separated yourself from the crowd and your customers will recognise you as the best. Now you have a much greater chance of securing that all-important order.

To help you focus on this principle, ask yourself how your customers view the service you provide – do they see you as good, better or best? ■

Daikin's Ireland office has reinforced further its support for DIT in particular, and refrigeration students in general, by presenting the Institute with its innovative Zeas system which was specifically designed for low and medium temperature refrigeration applications.

## *DIT Refrigeration Department says 'thank you' Daikin*

**D**aikin presented the new system to DIT so that students could get first-hand experience of working with innovative technologies that are setting the benchmark for future industry development. The Daikin Zeas system is a direct alternative to the traditional refrigeration "pack" system and is available in a range of capacities and styles which can be modularised to provide the optimum system capacity.

Each of the 16 students on the course installed an evaporator which is fed from the Daikin Zeas system. In addition, the project involved the installation of the main pipe work which helped them develop problem-solving and teamwork skills.

Every student worked individually on his own evaporator, and also as part of a team assigned specific duties for the common components of the installation. This involved the fitting of the unit-strut supports, fabricating evaporator pipe work, installing common pipe work and refnets, leak testing, strength testing, and commissioning.

Concern for the environment has led to



Lecturer Tony O'Brien overseeing work on the installation.



To mark the occasion and formally acknowledge the support provided by Daikin to DIT, the Refrigeration Department presented the company with a framed certificate of appreciation. Pictured at the presentation John Valentine and Liam Kirwan, Daikin, and John Murphy and John Smartt, DIT.

increased demand by the refrigeration industry and food retailers for energy efficiency and environmentally friendly solutions. The growing popularity of neighbourhood corner shops and convenience stores has also made noise and size constraints an important factor.

To meet this demand, Daikin developed the Zeas range for deep freezing and medium temperature applications – compact refrigeration condensing units that offer high performance, low operating costs, low sound emissions and reliability. A single system can supply optimum cooling to multiple refrigeration units, each receiving just the amount of cooling capacity it needs. Inverter control of the scroll compressor maintains high efficiency, even in partial load conditions, resulting in decreased CO<sub>2</sub> emissions, reduced operating costs and highly efficient and reliable performance in a wide range of applications.

A new economiser function allows increased cooling capacity, and hence efficiency, without increasing system size.

Zeas also introduces the use of R410A refrigerant in refrigeration applications. This is currently the best compromise available for the environment, energy efficiency and equipment cost.

Zeas provides adaptable cooling capacity for multiple evaporators or variable refrigeration loads in ambient temperatures from -15°C to 43°C, with evaporating temperatures from -45°C to +10°C. A range of models in single, double or triple compressor systems (from 5 to 20 HP) is available for freezing and cooling applications. Low sound levels, including "night mode" operation, a compact footprint and easy installation make Zeas ideal for a range of applications including convenience stores and supermarkets, petrol station forecourts, cold and freezer rooms, and food processing.

Reliability is further increased by the use of advanced scroll compressor technology and high-quality components. To assure operational safety, each unit is tested in the factory. ■

# Submissions invited for CIBSE Ireland Lighter Awards

**S**ubmissions for both the CIBSE Ireland Irish Lighter and Irish Young Lighter Awards – organised by DIT and supported by ILP (formerly ILE), SLL and *bs news* – are now being sought with preliminary 200/300-word extracts required by **15 June 2012**.

The awards are open to all building services professionals, with SLL and ILP members particularly encouraged to participate. Projects must be located in Ireland. Submissions can also be made which are based on lighting research.

Best abstracts will be selected by a distinguished international panel of assessors and a shortlist of entrants will be invited to submit full papers/presentations by 17 August 2012. Final presentations will take place on 11 October 2012 in DIT, Kevin Street. The competition is organised through the School of Electrical

Engineering Systems. The overall winners of the Irish Lighter and the Irish Young Lighter will each receive a cheque for €1000, with €500 going to the runner-up recipients in both competitions. There are ILP, SLL and CIBSE Ireland prizes and cheques also.

## Irish Lighter

For the Irish Lighter Award, entries are encouraged from experienced lighting designers, or engineers who can present a paper about a finished project.

There may be post-occupancy evaluation evidence that is analysed critically and provides insight for the professional lighting community; there may be an innovative and/or sustainable design that is at the industry cutting-edge; or it may be something worth publishing that will be of interest, and benefit, to the professional community.

## Irish Young Lighter

The Irish Young Lighter competition began in DIT in 2003 when the first students on the programme in Electrical Services Engineering graduated. Ken Winters was the inaugural overall winner and he then went on to represent Ireland at the international Young Lighter in London in 2004, where he won the Best Presentation.

In the intervening years many others have followed in Ken's footsteps and proudly represented Ireland at this annual event. The winner of the Irish Young Lighter competition automatically qualifies for the SLL international Young Lighter competition held in London each year.

## Who to contact

Stephen Donohoe

email: [stephen.donohoe@dit.ie](mailto:stephen.donohoe@dit.ie) ■

Supported by :





# ANNUAL CIBSE CONFERENCE



As is now customary, *bs news* invites an overseas visitor to give an honest appraisal, warts and all, of the annual CIBSE Ireland Region Conference. This year Andy Ford, CEng, President of CIBSE and Technical Director, Mott MacDonald, is the guest reviewer.

## Satisfaction in a job well done

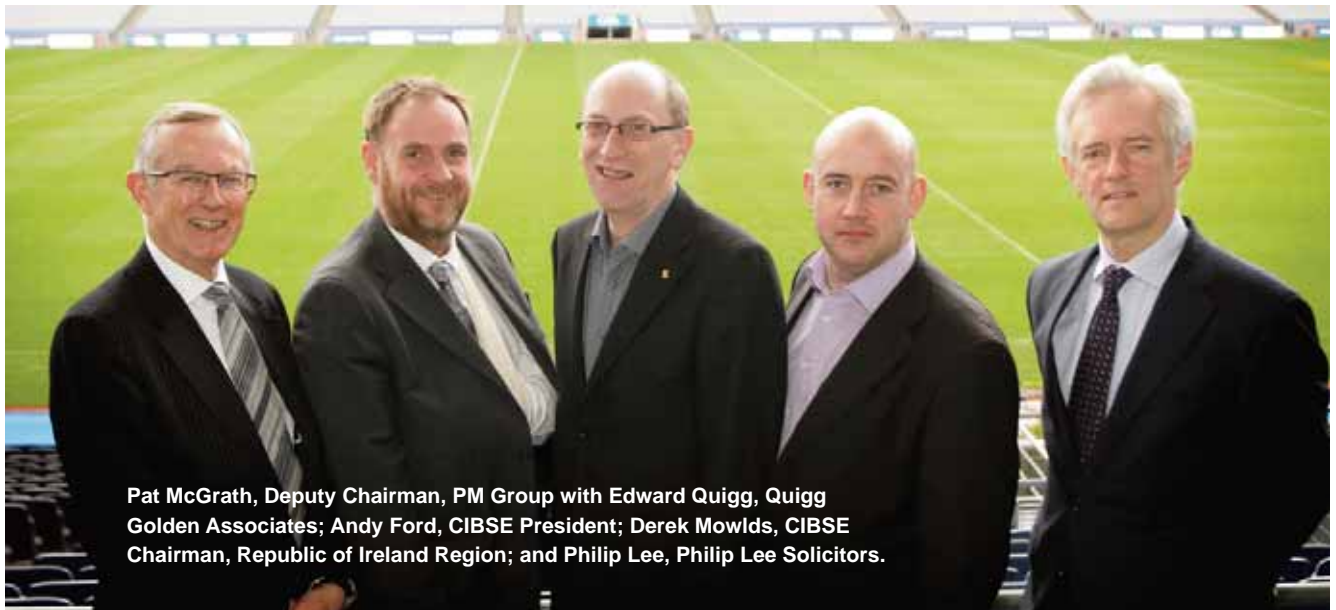
It was a real pleasure to be invited to attend the 2012 CIBSE Ireland Annual Conference in Dublin recently. The initial invitation came from CIBSE Ireland Chairman Derek Mowlds following his presentation of details of the previous 2011 conference to CIBSE Council in London last year.

The audience at the time were excited by the energy and leadership being shown by the Ireland region in getting its act together, at scale, in the technical arena as well as the social. I was keen to see what CIBSE could learn and to do what I could to help coordinate all the effort from the regions on delivery of technical symposia, particularly having previously attended a similar conference held by Hong Kong region.

My theme this year has been about CIBSE engineers stepping up to the mark and showing leadership. As an

institution, we must empower all our members and encourage the executive to actively support initiative wherever it is shown. It is important to understand the unique position CIBSE now holds in the transformation of our industry to enable delivery of a true low-carbon future built environment in a resource-constrained world.

This conference in Dublin hit home on all counts. Well organised, publicised and supported, it presented a broad yet appropriate view of the issues facing the industry and region. I enjoyed the presentations and the way the entire supply chain was addressed, beginning sensibly with the client and procurement issues, through to the delivery of “buildings that work” by utilising the understanding delivered by POE (post-occupancy evaluation).



Pat McGrath, Deputy Chairman, PM Group with Edward Quigg, Quigg Golden Associates; Andy Ford, CIBSE President; Derek Mowlds, CIBSE Chairman, Republic of Ireland Region; and Philip Lee, Philip Lee Solicitors.

The presentations were wide-ranging, looking at the role of renewable energy embedded into future buildings, both new and existing. The conference covered the way that builders will need to be able to reliably deliver thermally-effective built fabric and how we can help them to understand this. It was heartening to see that Passivhaus standards had already been successfully delivered in Ireland and the lessons learned are actively being disseminated through an education programme.

All areas of delivery were covered and the paper on the future of LED lighting made me again realise that one of the strengths of CIBSE is its societies and, in particular in this case, the Society of Light and Lighting, and how we can all learn from each other.

The presentations on BIM showed us a glimpse of the not-far-distant future and how dramatic some of the changes will be to the way we work. BIM is already an area CIBSE is showing leadership in with Rob Manning, last year's President, leading the Institution's response to the UK government demand that all public buildings use BIM. He is currently playing an active role sorting out agreement on delivery between all the institutions in the CIC (Construction Industry Council).



**Sean Clancy, Commissioning Manager, UCD with Dr Kevin Kelly, DIT and Dr Robert Cohen, Technical Director, Camco.**

I was also particularly struck by the Mott MacDonald presentation on how far some other sectors have already progressed, and how much we could learn from them in our path to full "5 D BIM". I have to say that personally, as a simple engineer, I have always thought that there were only four dimensions in the universe but clearly quantity surveyors feel we need more!

I have great memories of my brief trip, in particular the welcome from Engineers Ireland and the kind efforts of Derek and a friendly taxi driver to show me some of the sights of Dublin.

It's not too hard to pin down what I will take away with me from my attendance at, and participation in, the CIBSE Ireland Annual Conference. Dublin is a great place to visit and has physically transformed in the 30 years since my last trip. However, the friendly welcome to a stranger that I remember



**Paddy Craven, Craven Lighting with Maurice Falvey, Mosart; Greg Traynor, JN & G Traynor & Partners; and Sean Dowd, Vice-Chairman, CIBSE Republic of Ireland Region.**

is still there. It must be inherent in the Irish character.

It's impossible to be unaware of the huge challenges that Irish society faces in the wake of the financial crisis and how all-absorbing it is in peoples' minds wherever you go. But what I saw in the engineers I met bodes well for the future – a strong bonding and steely determination to succeed, whatever the odds.

Two presentations in particular inspired me to believe Irish engineers have it in them to get through the crisis with their heads held high. One by Derek Mowlds' boss told of the evolution of PM group. It showed how entrepreneurship and engineering combine well and are a widely-sought resource world wide. If you have them the world wants them, and will pay for them.

Finally, at the other end of the scale, one particular slide sticks in my mind. It was presented by Greg Traynor, who had personally transformed his own house in a most thorough and professional manner (while living in it) into a genuine low-energy home. His final slide read – *Payback period? Do you want that in decades or centuries* – and caused a big laugh from the audience. Yet, what I saw in the man was something else. I think true payback had already been achieved ... satisfaction in a difficult job well done. He had earned a reward and his peers agreed and applauded him. ■



**Dr Alan Hore, Construction IT Alliance and DIT with Keith Mellon, Ethos Engineering and Richard Shennan, Global BIM Director, Mott MacDonald.**

# back issues

## Dumpleton joins Walkair

**Carl Dumpleton has** been appointed Sales & Engineering Manager at Walkair Ltd with specific responsibility to develop Walkair's long association with Panasonic Heating and Cooling Systems. Walkair is Panasonic's main distributor



*Adrian Cooke, Managing Director, Walkair with Vincent Mahony, National Account Manager, Panasonic Heating and Cooling Systems, Carl Dumpleton, Sales & Engineering Manager, Walkair and Marc Diaz, Panasonic UK & Ireland Manager.*

and has acted in that capacity since the company was established in 1996.

Carl has extensive experience across the entire building services sector and his appointment complements, and will further strengthen, the high level of support already provided directly by Panasonic Heating and Cooling Systems to contractors and installers throughout the country.

## Xylem 'Xylect' Mobile app

**Apps, apps and** more apps!

Xylem's Xylect product-selection tool is now available as a mobile application, accessible for free download from the iTunes App Store®.



Xylect Mobile' provides customers with quick and easy access to detailed product information from Xylem's Flygt and Lowara brands from any location by simply using a smartphone.

Specifically, users can now search by application or product type; input required flow and pump head specifications; and identify all available spare parts.

## IVIA Market Survey

The Irish Ventilation Industry Association (IVIA) recently conducted a market survey among members to determine the size of the various market segments which fall within the sector.

Approximately 80% of the industry participants completed the survey and, as we went to press, the results were being circulated.

Subsequent to the survey findings being collated, an IVIA delegation met with representatives from the Building Standards Section of the Department of the Environment, Heritage & Local Government (DEHLG) to convey to them the survey findings.

IVIA is also working very closely with the DEHLG to ensure that forthcoming Installation Commissioning Certificate will mirror and reinforce the key issues in relation to ventilation regulation compliance.

As with the vast bulk of industry representative bodies, this is all voluntary so well done all concerned. See [www.ivia.ie](http://www.ivia.ie) for more information

## Flynn back with Core AC

**Jonathan Flynn has** been appointed service engineer with Core Air Conditioning.

Jonathan is a highly-qualified refrigeration



engineer with many years experience in the business. He joins Core to further strengthen the service team and will be remembered by many clients as he previously worked for the company.

## Congratulations Jim

**Congratulations to Jim Leahy** of G&J Engineering who received a special presentation recently to mark 20 years of service with the company.



# Panasonic ideas for life

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high efficiency

AQUAREA  
HIGH CONNECTIVITY  
FOR WELL-INSULATED  
HOMES

**100%**  
capacity at -15°C

AQUAREA T-CAP  
FOR HOUSES  
LOCATED IN COLD AREAS

output water  
**65°C**

HIGH TEMP HEAT PUMP  
FOR HOUSES WITH  
HIGH TEMPERATURE  
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Panasonic offers the largest line-up of heat pumps available on the market today, to meet all your customers' requirements.

Three different line-ups, from 6kW to 16kW, on Mono-bloc and Bi-bloc, single-phase and three-phase:

- a high connectivity heat pump, with efficiency of 4.74!
- a high capacity heat pump, which keeps the same nominal capacity, even at -15°C, ideal for insulated homes in extremely cold regions
- a high temperature heat pump which provides water at +65°C, ideal for existing installations with high temperature radiators

Panasonic – delivering the best efficiency and reliability for your customers.

**4.74 COP**  
high efficiency  
AQUAREA  
HIGH CONNECTIVITY

**100%**  
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output water  
**65°C**  
HIGH TEMP  
HEAT PUMP



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energysaving highconnectivity

# Supporting a **green** future in more ways than one.



## Mitsubishi Electric Ireland

Climate change, fuel security and fuel affordability are major challenges confronting Ireland. As the biggest consumers of energy, buildings must be part of the solution. To make this happen, people in all areas of the sector – from construction through to renovation – need to change the way they think and work together.

At Mitsubishi Electric Living Environmental Systems, we've evolved and our areas of expertise go way beyond air conditioning alone. Today, along with advanced air conditioning systems that recover heat, we also specialise in dedicated commercial and domestic space, water heating, and heat recovery ventilation – all with associated monitoring, controlling and reporting – and photovoltaic systems for power generation.

Mitsubishi Electric Ireland are working with our customers in Ireland to help build a greener future and get Ireland back on the path to success and prosperity.

## Mitsubishi Electric Ireland.

Supporting a **green** future  
in more ways than one

[www.mitsubishielectric.ie](http://www.mitsubishielectric.ie)