Talking Geothermal 'Coolth'
Over a Pint at Cliffs of Moher!
Bioheat Boiler and Combined Heat and Power (CHP) Deployment Programmes

Grant Support Available

Sustainable Energy Ireland has introduced two new grant schemes designed to increase the use of sustainable energy technology in commercial, public sector and industrial applications. These schemes are part of a multi-annual finance package of €65m for renewable energy aimed at reducing CO₂ emissions and the reliance on fossil fuels in Ireland.

The Bioheat Boiler Deployment Programme - provides grant funding for the installation of wood chip/pellet boilers by supporting up to 30% of eligible costs for qualifying boiler systems typically, rated between 60kW and 1,000kW that are fuelled by wood pellets and/or wood chip fuel.

The Combined Heat and Power (CHP) Deployment Programme - provides grant funding for the installation of small scale fossil fuel CHP systems and will ultimately include demonstration grants for larger scale bio energy CHP systems. Currently the programme is open to support grants for small scale (<50kWe and >1MWe) fossil fuel CHP systems up to 30% of eligible costs, and is restricted to CHP systems which conform to the EU Directive (2004/8/EC) definition of high efficiency CHP. The programme also provides support of up to 40% funding for feasibility studies, to assist investigation into the application of CHP across all size ranges and technologies.

For full details on the programmes and how to apply, please log on to www.sei.ie/grants or call 01 8082086 or email chpgrants@sei.ie or bioheat@sei.ie

Sustainable Energy Ireland promotes and assists the development of sustainable energy.
It's Going To Be A Cold Cold Christmas ... Without Wood Pellets!

A shortage of wood pellets with Ireland's only manufacturer putting a freeze on new orders until after Christmas has highlighted once again the ill-conceived energy policies we are pursuing in this country.

Balcas, the Fermanagh-based wood pellet manufacturer, says it has been caught off guard by the surge in demand. It produces something like 50,000 tonnes of pellets a year but has only two special trucks capable of delivering the fuel. The company claims that, had it been forewarned, it could have invested in extra trucks, and geared up for greater production.

The shortage in Ireland is compounded by the fact that there is a global shortage of wood pellets with most countries consuming all of their own output. So, suppliers cannot fill the void by importing from abroad.

Over the last 12 months bs news has repeatedly warned of the danger of grant-aiding new technologies without first putting the necessary support infrastructure in place. Providing grants of €4200 towards the average €5500 cost of a wood pellet boiler was bound to lead to a buying frenzy.

The only light now on the horizon is that the current shortage will deter consumers from installing wood pellet boilers in the short term. The prospect of no supplies — or increased costs because of the world shortage — could serve to dampen demand. Hopefully, that breathing space will allow for a re-appraisal of the current, ill-conceived, policy of putting the cart before the horse. There is still time to salvage the situation ... but only just.
**atp automatic balancing valves**

Advanced Technical Products, the specialist heating and pipeline products company, are now offering automatic balancing valves manufactured by FlowCon, the Denmark-based company with connection to Griswold Industries in the US.

Automatic balancing is widely accepted as the best option for LTHW and chilled water systems in Ireland with many projects now completed. The main benefits are:

- Fewer balancing valves;
- Quick and easy adjustment;
- Better efficiency;
- 100% safe from overflow;
- Independent of errors (i.e., no commissioning);
- Unproblematic re-adjustments;
- Flexibility if the system is changed after installation;
- Better indoor comfort;
- Lower cost installation and more economical operation.

Contact: David Daly, ATP. Tel: 01 - 885 3792; email: info@atpireland.com

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**wavin appoints horan**

Ruaidhri Horan has been appointed Product Manager at Wavin Ireland where he will have responsibility for the development of the company's underground products range within the civils, infrastructure and housing markets. He was formerly a marketing executive with Roadstone.

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**legrand both modern & traditional**

Legrand’s Synergy accessories are available in two distinct forms — Modern and Traditional — both of which are available in a choice of finishes that cater for "warm and cool" design themes. All Modern products feature hidden screws and slim, contoured plates while the Traditional products also boast new slim plates.

Legrand’s design innovations have also created a sophisticated and coordinated look across the entire Synergy range. A 3-light LED display, which is invisible on all white products until activated and is a subtle design feature on all decorative products, gives the Synergy range a signature that is instantly recognisable. Also included within Synergy are metalclad and rope edge ranges.

While style was high on the agenda during the development of Synergy, Legrand had to ensure that high standards of technical excellence and innovation were also maintained.

This is reflected in everything from the ease of installation, through to safety enhancements and a complete range of yoke carriers that support between 1 and 24 modules.

Contact: John Mockler, Legrand. Tel: 01 - 295 4465; www.legrand.ie

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https://arrow.tudublin.ie/bsn/vol45/iss10/1
No power?
The unique solution

ECO G 3 Way Gas Heat Pump
8HP to 48HP

Building on the success of the 2 pipe GHP Range, SANYO are proud to introduce the new 3 Way ECO G Gas Heat Pump, the only GHP VRF System to provide simultaneous heating and cooling.

Unlike traditional electric VRF systems, the ECO G range uses natural gas or lpg as the main source of power and only requires a single phase power supply to provide 56.0kW of cooling and 67.0kW of heating.

In Japan, the world’s largest market for VRF Gas Heat Pump systems account for 40% of the total market and SANYO, with 19 years of GHP experience are the clear market leaders.

- Simultaneous heating and cooling
- 56.0kW nominal cooling capacity
- Single phase power supply
- 100% cooling and heating capacity even at -20oC
- Maximum running current 5.4 amps
- 10 indoor model styles, 11 indoor model capacities

Whether choosing from the ECO G GHP range because of power problems or lower lifecycle costs, you’ll find it simple to apply, install and maintain.

SANYO - a good decision all round.
ireland's first iPOD-ready home
Smarthomes, Ireland's leading supplier of new home cabling, has unveiled new technology which allows owners of new homes to access up to six separate iPods, in stereo quality, in every room of the house.

Smarthomes is installing the first system of this kind in Ireland in the Paddocks, the second phase of the new town at Adamstown, launched recently by developers Maplewood.

Smarthomes Managing Director Sean Gallagher said: "You can insert up to six iPods into the control panel, and their full contents are accessible in stereo quality sound in every room of the house through a specially-designed key pad.

"Each keypad in the system recognises the unique features and special settings of each iPod plugged in. As a result, you can listen to your favourite album, a play-list, or a podcast in one room, while somebody else listens to their iPod in another," says Gallagher.

donegal apprentice wins plumbing award
Declan McGee from Falcarragh, Co Donegal, is this year's National Apprentice Plumber of the Year and winner of the Wavin Cup at the National Skills Competitions. Declan is employed with Tony Boyce, Kildarragh, Dunfanaghy and his win puts him in contention to represent Ireland at the World Skills Olympics in Shizuoka, Japan in November 2007.

The National Skills Competition is organised by the Dublin Institute of Technology, Bolton Street and the Department of Education and Science, while the Wavin Cup is presented by Wavin Ireland, Ireland's largest manufacturer and distributor of pvc pipe systems.

xpelair slimline look
Designed for domestic and small commercial bathrooms, shower rooms and toilets, Xpelair's new Slimline SL100 has an internal projection of only 10mm and is offered with a built-in overrun timer for rooms without windows. Humidistat models are available for heavy throughput applications while the Xpelair Slimline SL150 is designed for larger applications.

The Quick-fix-clip system means the fan can be secured to the wall duct without the need for wall fixings and careful enclosure detailing means that end users are protected from exposure to live terminals when the grille is subsequently removed for cleaning.

These single-speed axial fans are controlled by integral pull-cord, remote switch and can be wall, ceiling, window or duct mounted.

Contact: Michael Randall, Mech-Elec. Tel: 01 - 450 8822; email: michael@mech-elec.ie
FRESH AIR, COOLING and HEATING

The new low energy fan coil replacement

Swegon new comfort module PARASOL creates a superb indoor climate without fans, drainage and filters using condensate free cooling in one modular and versatile unit.

The new PARASOL comfort module is fitted with ADC® (Anti Draught Control). Swegon’s own unique comfort system for easy regulation of the distribution of air and avoids draughts by suitably directing the air flows.

A low energy, quiet and draught free alternative to the fan coil systems on the market today.

Visit our website and read more about PARASOL and other products for an excellent indoor climate.

Swegon manufactures products and system solutions to provide healthy indoor climates. Products are manufactured in three advanced factories in Sweden. Swegon is represented in Ireland by Crystal Air Ltd in the Leinster region and by Comfort Cooling Ltd in the Munster region.

www.swegon.co.uk
alpha gas saver optimises performance

The Alpha GasSaver unit from Alpha Therm Ireland is an innovative top box" developed by Zenex Technologies that simply plugs in to the boiler flue to optimise performance while also reducing CO₂ emissions.

By increasing boiler efficiency the GasSaver reduces average gas costs and global warming emissions from generating domestic hot water with a claimed annual saving of up to 50%. The unit is also claimed to be easy to install and maintain.

GasSaver is compatible with the Alpha SEDBUK Band A rated C50 storage combination boiler, CD24 and CD32 condensing boilers, and CD18, CD24 and CD30 system boilers.

Contact: Alpha Therm Ireland. Declan Kissane. Tel: 086 - 833 0062; Peter Lynskey. Tel: 086 833 0051.

northwood showcase the guinness storehouse

Northwood Technology showcased its 3rd Generation CCTV and access technology range of systems at the Guinness Storehouse recently. Architects, surveyors, engineers, facility managers and system installers took the opportunity to visit the event which ran throughout the day. Pictured are Padraig Cafferty, Chairman and Paul Hennessy, Managing Director, Northwood Technology, with guest speaker Gerry O’Carroll (centre).

Contact: Paul Hennessy, Northwood Technology. Tel: 01 - 860 1880.

mk cable management

In keeping with its status as one of the leading cable management businesses, MK Electric is set to revolutionise the sector with the launch of Prestige 3D – a system providing ground breaking innovations that deliver high quality, professional installations with greater ease and speed of fixing.

Packed with “me features” designed to benefit the contractor, the developer, the specifier and the stockist; Prestige 3D is an evolution from the highly-regarded Prestige Plus and Compact ranges and its launch promises to bring new dimensions of data transmission compliance, cost-effectiveness and fitter-friendliness to cable management contracts.

Contact: Eamon Conway, Novar Ireland. Tel: 01 - 429 6500; email:ireland.sales@novar.com
Pressed For Time? Joints in 3 Seconds!

- Unipipe (by Uponor) multi-layer pipe offers a proven alternative to steel, copper and plastics for mechanical services.
- Available in straight lengths (all sizes 12 to 110mm) and coils (to 32mm).
- Corrosion proof, faster, cleaner. No welding screwing or painting. Longer lasting and lower installed costs
- One pipe...no waste...offcuts from one application can be used elsewhere on the job
- From Sweden NIBE offer ground-source, Air-to-Water and exhaust air heat pumps. NIBE are Europe's largest producer of heat pumps.

www.unipipe.ie
Looking to the Future
Celebrating 10 years by

Core Air Conditioning Ltd

https://arrow.tudublin.ie/bsn/vol45/iss10/1
"In compiling the Core Air Conditioning portfolio we took a decision from the outset to only deal with market-leading, quality-driven manufacturers, hence the current line-up of Carrier, LG, Hiross-Liebert and Carrier Holland Heating. Down through the years we also engaged with a small number of other manufacturers but always with a view to getting the best combination across the entire product offering. The current portfolio compromises a complementary range of products which allows us cater for virtually every conceivable requirement. That said, we are always conscious of new and developing trends and, where necessary, will source other complementary ranges if the need arises in the future.

"The company philosophy is quite simple and straightforward. What we aim to do is devise a customised solution for each particular application that is cost-effective in both day-to-day operational terms and the overall life-cycle of the installation. We also regard it as part of our brief to devise solutions which take account of regulatory conformance requirements and overall best practice, especially in relation to environmental issues. Essentially, what we provide is a holistic solution.

"This also extends to after-sales service support. If the client has a problem we operate on the basis of a no-fault reaction ... the difficulty must be tackled and resolved immediately; there is plenty of time later to discuss the whys and wherefores of what caused the problem. Human nature dictates that things can, and do, go wrong. The key lies in being responsible and responsive -- we at Core pride ourselves in our willingness and ability to do just that.

"It is against this background — and no doubt because of it — that we are currently celebrating 10 very successful years in business. However, in doing so we are firmly focussed on the future and look forward to enjoying continued success with our existing, and hopefully some new, trading partners."
mark centrifugal fan coils
There are seven units with centrifugal fans and three design versions in the Mark advanced centrifugal fan coil range. Included are the FCV vertical cabinet; the FCO low or horizontal cabinet with frontal suction; and the FCI without cabinet unit for vertical/horizontal built-in versions.

The cabinets are manufactured from galvanised steel and painted beige. The finned heat exchanger is made of aluminium and copper pipes with air venting while the synthetic regenerative air filter is of the long-life variety.

The fan unit is noise-free and fitted with multi-speed controls while the electronic remote controls can be wall or cabinet mounted.

Contact: Mike O Donoghue, Mark Eire. Tel: 026 45334; email: sales@markeire.com

energy show becomes annual event
Sustainable Energy Ireland (SEI) has announced that the Energy Show — held on a biannual basis since 1996 — will take place on an annual basis from next year. The 2007 Energy Show will be held at the RDS Industries Hall, Dublin on the 25/26 April.

David Taylor, Chief Executive of SEI said: “The Energy Show was a tremendous success this year with record attendances over the two days and SEI has decided to make the show an annual event to meet this market demand.”

The Energy Show 2007 will follow the highly successful format of previous years with a two-day trade exhibition, coupled with a seminar programme, covering all aspects of energy efficiency and renewable energy.

toshiba ‘mini’ points scheme
Toshiba Air Conditioning has launched a new, high-value Reward Programme, open to all UK and Ireland air conditioning contractors. The industry has been mailed with Toshiba ‘Mini-packs’ and the top reward is a new Mini-Cooper.

The new programme is called the “Toshiba Mini-Extravaganza” and includes a very large selection of other “mini” rewards such as mini-breaks, mini driving and mini pampering experiences.

The scheme is based on sales of Toshiba’s new MINI-SMMS VRF, Digital Inverter and Super Digital inverter systems and will run for a limited period.

Toshiba has also published four new full colour brochures covering all its R410A product ranges, from large VRF systems through to its newest MINI-SMMS product. More than 150 pages carry dozens of product and installation photographs as well as explanations of the technology and detailed technical specifications.

Contact: Derek Phelan, GT Phelan. Tel: 01 - 286 4377; email: derek@gtphelan.ie
go!

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Wins Every Installation Race

SmartAct
Direct-Coupled Actuator
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Self-centering shaft adapter
• Enables real “plug and play”
• Adjusts automatically to any shaft – square or round
• Greater reliability due to less mechanical stress

Detachable wiring box
• Easy connection
• Saves additional junction box

Auxiliary switch kit (optional)
• Switch point, selectors and position indication
• Easy field installation – left or right access with detachable access cover

Mounting in any direction
• For easy, cost-effective installation

Function switch
• Changes rotation direction
• Selects control mode
• Service/off position ensures fast and easy service

Declutch button
• Easy manual adjustment
• Simplifies installation

Mechanical limits
• Single-hand positioning for desired rotation angle

Position indicator
(with auxiliary switch kit)
• Clearly shows actual stroke angle

Honeywell Control Systems Ltd - Honeywell House
Arlington Business Park - Bradwell, Berkshire RG12 1BB
Direct Dial: 0800 953 3533 (UK) 01753 867700 (rest of world)
Fax: 01753 867744
www.honeywellcontrol.co.uk
FOHN

Cabinet heater
CAPACITY: 30 KW – 1,000 KW

PRODUCT APPLICATION
Factories • Engineering Plants • Abattoirs • Cardboard Factories
Paper Factories • Workshops • Garages • Warehouses • Shops
Aeroplane Hangars • Showrooms • Hotels • Cash & Carry
Gymnasiums • Dressings Rooms • Exhibition Halls

GS / GC / ROOF TOP

Unit air heater
CAPACITY: 20 KW – 95 KW

PRODUCT APPLICATION
Factories • Engineering Plants • Abattoirs • Cardboard Factories
Paper Factories • Workshops • Garages • Warehouses • Shops
Aeroplane Hangars • Showrooms • Hotels • Cash & Carry
Gymnasiums • Dressings Rooms • Exhibition Halls

TANNER / DOOR

Warm water

CAPACITY: 2.5 KW – 27 KW

PRODUCT APPLICATION
Factories • Engineering Plants • Abattoirs • Cardboard Factories
Paper Factories • Workshops • Garages • Warehouses • Shops
Aeroplane Hangars • Showrooms • Hotels • Cash & Carry
Gymnasiums • Dressings Rooms • Exhibition Halls

CLIFLO

Gas-fired make up air unit
CAPACITY: 65 KW – 1,200 KW (+)

PRODUCT APPLICATION
Engineering Plants • Spray Cabinets
Paper Factories • Garages • Exhibition Halls
Process Industry • Factories • Abattoirs • Cardboard Factories

RADIANT PLAQUE

Water radiant panels
CAPACITY: Project Related

PRODUCT APPLICATION
Offices • Factories • Abattoirs • Workshops • Garages • Warehouses • Shops • Showrooms/Hotel • Cash & Carry
Gymnasiums • Dressings Rooms • Exhibition Halls • Churches • Aeroplane Hangars

INFRA AQUA

Gas-fired black
CAPACITY: 65 KW – 1,200 KW (+)

PRODUCT APPLICATION
Factories • Engineering Plants • Abattoirs • Cardboard Factories
Paper Factories • Workshops • Garages • Warehouses • Shops
Aeroplane Hangars • Showrooms • Hotels • Cash & Carry
Gymnasiums • Dressings Rooms • Exhibition Halls

KLIMAT

Air handling units

INFRA MONO

Aquarium
desratification
INFRA LINE


tube radiant heating

CAPACITY: 13 KW - 100 KW

APPLICATION
- Abattoirs
- Workshops
- Garages
- Shops
- Cash & Carry
- Cargo Platform
- Grandstand

DRYFLO

Industrial burner installation

CAPACITY: 1 KW - 13,000 KW (+)

PRODUCT APPLICATION
- Process Industry

VENTILATION MDV

Roof fan

CAPACITY: 1,840 to 10,200 m³/h

PRODUCT APPLICATION
- Offices
- Process Industry
- Construction Halls
- Factories
- Engineering Plants
- Spray Cabinets
- Abattoirs
- Workshops
- Garages
- Warehouses
- Cash & Carry
- Aeroplane Hangars
- Showrooms
- Hotels
- Shops
- Gymnasiums
- Dressing Rooms

WALL MOUNTED HEATING

Gas fired wall and ceiling heaters

CAPACITY: 2.5 KW - 10 KW

PRODUCT APPLICATION
- Offices
- Domestic Rooms
- Creche
- Meeting Rooms
- Car Show Rooms
- Hotel Rooms
- Banks
- Shops

UNIT AIR HEATERS

CAPACITY: 8 KW - 115 KW

APPLICATION
- Abattoirs
- Workshops
- Garages
- Showrooms
- Shops
- Dressing Rooms
- Exhibition Halls

PRODUCT APPLICATION:
- Offices
- Factories
- Spray Cabinets
- Abattoirs
- Workshops
- Garages
- Warehouses
- Aeroplane Hangars
- Showrooms
- Hotels
- Shops
- Cash & Carry
- Gymnasiums
- Dressing Rooms
- Churches
- Pubs
- Bar
- Restaurants

FAN COIL

Wall and ceiling L.P.H.W. fan coil

CAPACITY:
- Heating: 3.6 KW to 16 KW
- Cooling: 1.5 KW to 6.9 KW

PRODUCT APPLICATION
- Offices
- Domestic Rooms
- Creche
- Meeting Rooms
- Car Show Rooms
- Hotel Rooms
- Banks
- Shops

CURTAINS

unit air heaters

CAPACITY: 4,000 - 8,000 - 14,000 m³/h

PRODUCT APPLICATION
- Workshops
- Garages
- Shops
- Cash & Carry
- Exhibition Halls
- Churches

BENDER

Hydraulic pipe bending machine

PIPE DIAMETERS:
- 3/8" to 4" (thick-wall)
- 10mm to 42mm (thin-wall)

CONTROL:
- Hand
- Electric
**bss turns up the heat**

BSS has introduced a new range of infrared heaters which is claimed to be quieter, cleaner and more efficient than the gas-fired range it replaces. All can be easily installed in previously unusable space by use of ceiling mounting.

BSS now offers BOSS brand BH double linear, HE U-tube and linear models suitable for harsh environments, as well as BH U-tubes, CRT Continuous, MB multi-burner and BH linear infrared heaters. Also available are NRG control panels which maximise fuel savings through self learning.

Contact: BSS (Ireland). Tel: 01 - 416 5100 (Dublin); 021 - 432 1588 (Cork).

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**baxi sedbuk band a-rated boilers**

Heat Merchants is now stocking the new SEDBUK Band A rated Baxi Duo-tec Combi HE, the Baxi Solo HE and the Baxi Megaflo System HE across its 40 branches.

As an added bonus, installers purchasing any two of these boilers between now and December 31 2006 can claim a DAB digital radio, offering a multitude of radio stations and crystal clear sound quality. Installers buying any three of the selected boilers will be rewarded with a Fuji A500 5:1 megapixel digital camera with a free 512mb memory card.

Reliability and ease of installation were central to the development of the new models. Prior to launching, Baxi carried out 76,000 hours of life-cycle testing, along with 40,000 hours of environmental testing on the electronic controls. In addition, the boilers were field trialled for close to two years.

Contact: Heat Merchants, Tel: 090 642 4000, for details of your nearest branch.

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**carrier residential and aquaforce literature**

Two new Carrier catalogues have been issued by Core Air Conditioning. One covers the Carrier range of residential air conditioning products and the second the latest large Carrier chiller, the 30XA Aquaforce. The Aquaforce range is the first to incorporate energy-efficient microchannel coil technology and has 20 models with capacities from 270kW to 1700 kW.

The full colour catalogues contain product descriptions and technical specifications and are available on request.

Contact: Austin McDermot, Core Air Conditioning. Tel: 01 - 409 8912; email: info@coreac.com

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**gea group acquires denco**

Building services manufacturer and contractor Denco has been sold to German engineering multi-national GEA Group for an undisclosed sum and will be integrated into GEA's Air Treatment Division.

"This is a very exciting development for everyone at Denco," said Managing Director Mark Shutler. "GEA is a massive global player with a strong engineering pedigree and a complementary range of products."
If It's Pressure You Want...
quinn radiators scores with arsenal deal

Quinn Radiators supplied Arsenal Football Club's new, state-of-the-art Emirates Stadium with over 480 hot water radiators. The radiators are placed throughout the stadium and, fittingly, the 13 radiators for the corporate area are painted in the home team's colours.

Quinn Radiators, formerly known as Barlo, is currently investing over €200 million to improve its manufacturing facilities, products, and services. Along with operations currently based in Ireland, the UK and Belgium, it is constructing a new state-of-the-art 1.2 million sq ft facility in Newport, Wales. When operational this plant will produce in excess of four million radiators a year and employ over 400 people.

Contact: Frank Donohoe, Quinn Radiators.
Tel: 01 - 231 0724; 086 - 257 6854;
email: frank.donohoe@quinn-radiators.com

handheld digital manometer

The Dwyer Series 475-FM Mark III handheld digital manometer is ideal for field calibration, monitoring or trouble-shooting HVAC systems, clean rooms or a wide range of low-pressure pneumatic systems.

It measures positive, negative or differential pressures of air and natural gases in ranges from 1 in wc (0.249 kPa) to 150 psid (10.34 bar). It is also approved and is intrinsically safe for hazardous locations, Class I Div 1, Group A, B, C, D, T4.

Its simple operation and easy-to-read digital display make it an indispensable test instrument for the plant engineer and HVAC technician.

Contact: Bob Gilbert, Robert Gilbert or Noel Walsh, Manotherm.
Tel: 01 - 452 2355; email: info@manotherm.ie

reducing water wastage

With the water pressure to many premises much higher than necessary, wastage is inevitable. However, fitting a Honeywell pressure control valve on the supply provides an efficient means to reduce water pressure within the system and so reduce consumption.

Honeywell pressure control valves also minimise flow noise and protect installations from damage caused by excessive pressure. They feature an integral fine filter to protect the valve insert, a balanced seat design and drop-tight seal.

Contact: Honeywell Water Controls. Freephone 0800 7833 824;
Tel: 0044 1344 656 125; email: water.control@honeywell.com

mtd-solutions appoints pre

MTD-Solutions Ltd has appointed Pure Renewable Energy Ltd (PRE Ltd) of New Ross, Co Wexford, as sole agent for its range of energy recovery whole house ventilation systems to service the whole of the South East.

Pure Renewable Energy is an agent and supplier of heat pumps, underfloor heating, wood pellet boilers and stoves, solar panels and wind turbines. With the addition of the MTD energy recovery unit, PRE can now offer a complete Eco-Living solution.

In addition to the sale of product PRE — with associated company OMP — also offers complete installation packages.

Contact: Philip Smith, Pure Renewable Energy Ltd. Tel: 051 420777; email: mail@pre.ie
Access most areas without the need for a riser!

Guys, think of the time, hassle & money you’ll save. Check it out!

- UNBEATABLE 100mm HEIGHT ADJUSTMENT (No riser required for most jobs)
- ADVANCED TILT CAPABILITY
- ADVANCED FLOW CHARACTERISTICS
- WIDEST RANGE
- FULLY CONFORMS WITH ALL TECHNICAL REQUIREMENTS OF BUILDING REGULATIONS

Despite all these extra benefits, the MFP AJ still costs less than its nearest competitor – so next time you’re looking for the widest, most advanced range of AJs in the country, just ask for...

MFP ACCESS JUNCTION

MFP SALES LTD.
LUCAN, Co. DUBLIN, IRELAND.
Tel: 01 630 2500, Fax: 01 628 1119.
Website: www.mfp.ie Email: sales@mfp.ie
Dargan Road, Belfast BT3 9JU.
Tel: 028 9077 4793, Fax: 028 9077 4716.
UK Office, Tel/Fax: +44 (0)1323 412836.
Jobs Corner

Airconditioning Technical Support Engineer

An experienced refrigeration/air conditioning engineer is required, with at least three years post-apprenticeship experience, to join the Technical Support Team at Sanyo Airconditioners Ireland. The successful candidate will have electric VRF airconditioning experience and a proven track record in the service and repair of Japanese airconditioning equipment and systems.

A working knowledge of computers, good presentation and interpersonal skills, and a full driving licence is also a requirement.

Duties will include nationwide technical support and commissioning of electric powered 2-pipe and 3-pipe VRF airconditioning systems; telephone technical support for site engineers; and commissioning and service of gas engine heat pump VRF systems.

Full product training will be given to the successful candidate.

Contact: Tony Duffy, Technical Manager, Sanyo Airconditioners Ireland, 8 Riverwalk, National Digital Park, Citywest Business Campus, Co Dublin.

award for Cork's Lifetime Lab

Lifetime Lab, the environmental educational facility located in Cork City Council's old waterworks, has won a major international award for corporate social responsibility.

"Once more the city of Cork is proud to be recognised as Ireland's Eco-City", said Michael O'Brien, Project Manager, Cork City Council. "Lifetime Lab is a perfect example of our strong efforts to combine the preservation of Cork's architectural and industrial heritage with communicating the vision of a sustainable lifestyle to young and old alike."

The Department of Education and Science provides two teachers to the Lab to educate young pupils on the primary school science curriculum on the importance of energy conservation, waste management and water quality. Several interactive installations entertain the visitors while delivering information.

The four buildings were designed to the highest energy saving standards with approximately 80% of their energy requirement provided from renewable resources available on site.

Contact: Michael O'Brien, Project Manager, Cork City Council.
Tel: 021 - 492 4119.

sherlockhomes.ie — it's elementary!

WWW.SHERLOCKHOMES.IE a new property portal which lists new homes for sale throughout Ireland. Buyers can also find an estate agent, a builder, mortgage and insurance providers/brokers and solicitors on the site. Picture shows Dáithí O'Sé, TV celebrity, with Ciara Sherlock, founder, at the launch of the site.
Hevac's heating portfolio is characterised by optimum performance outputs, reduced harmful emissions and cutting-edge technology.

Appliances come from worldwide brand leaders whose objective is not merely to satisfy market demand but to provide leadership in the drive for energy-efficient, environment-friendly products.

Quality and innovation are evident across the entire range which provides a comprehensive choice of heating solutions to cater for virtually every conceivable application.

Whatever your need, talk to Hevac first ... you'll not be disappointed.
Energy Efficiency Delivers €28 Million Savings

Despite the harsh reality of rising energy costs, companies in Ireland are now making notable strides in embracing a more sustainable approach to how they use energy and are ultimately achieving cost savings and improving their competitiveness as a result. This was the message delivered by David Taylor, Chief Executive Officer of Sustainable Energy Ireland (SEI), who was speaking at the third annual Sustainable Energy Awards at the Berkeley Court Hotel, Dublin, earlier this month.

The Sustainable Energy Awards, now an all-island initiative, are organised by SEI and sponsored by ESB Customer Supply. The awards aim to recognise excellence in energy management. Thirteen awards in total were presented across seven categories including renewable energy, energy management, and energy awareness campaigns. This year participating companies (154 nominations) account for an annual energy expenditure in excess of €400 million and are achieving average energy savings of 7%, equating to €28 million per annum.

Organisations, regardless of size, can benefit from sustainable energy projects. Substantial savings are also possible from low-cost measures like energy-awareness campaigns. The quality and number of such entries received this year demonstrate that more companies are fully engaging their employees, and benefiting accordingly. Some of the nominated companies achieved savings in excess of 10% merely through educating employees about the benefits of sustainable energy and changing behaviour accordingly.

David Taylor, Chief Executive, SEI said: “The number and quality of entries from SME’s is particularly encouraging. Many companies, both large and small, now realise that energy efficiency is an important issue for businesses performance. Those companies involved in the Awards lead their field in sustainable energy and are reaping the benefits in competitiveness and contribution to the bottom line.”

Padraig McManus, Chief Executive, ESB, said: “ESB Customer Supply is delighted to be associated with the Sustainable Energy Awards 2006. Energy saving is the quickest, most efficient, and most economic means of reducing energy costs. We all have a part to play in our national obligation to reduce emission levels.”

Guest of honour at the awards, Minister for Communications, Marine and Natural Resources, Noel Dempsey said: “It is now a strategic priority to move our economy towards greater energy efficiency and a lower carbon and greenhouse gas emissions footprint. For business that means doing what Irish companies do well – facing down the competitive challenge and taking proactive steps to ensure success. I am delighted to see so many companies here tonight rising to meet this challenge.”

Minister for Communications, Marine and Natural Resources, Noel Dempsey with Dr Heather Thompson, Ballymena Borough Council, Energy Manager of the Year

This year’s awards saw a significant increase in the number of SME’s participating, emphasising how
The 2006 Sustainable Energy Awards winners are:

**Category A: Coordinated Energy Management Programme**
- Commercial Sector Winner — Jurys Doyle Hotel Group;
- Small Industry Sector Winner — Silver Hill Foods;
- Large Industrial Winner — Pfizer Ireland Pharmaceuticals Little Island.

**Category B: Electrical and/or thermal energy Project**
- Small Industry Winner — ABB Dundalk;
- Large Industry Winner — Carbery Group;
- Small Public Sector Winner — DIT Cathal Brugha St;
- Small Commercial Winner — Shamrock Foods.

**Category C: Renewable Energy Project**
- Musgrave Group

**Category D: Energy Awareness Campaign**
- Merck Sharp and Dohme

**Category E: Energy Service or Supply Company**
- Fingleton White and Company Ltd.

A special award was presented to Aughinish Aluminum for its outstanding contribution to the area of energy management.

**Category F: Excellence in Building Design or Specification**
- Kildare County Council

**Category G: Energy Manager of the Year**
- Dr Heather Thompson, Ballymena Borough Council

**Energy Achievement Award**
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CIBSE News

John Field has Field Day at Hermitage

A total of 29 teams took part in the recent CIBSE annual golf outing at Hermitage Golf Club. The course was not up to its usual high standards, with temporary tee boxes in play as the normal tee boxes had all been re-seeded. Nonetheless, all the teams enjoyed a good day’s golf.

The outing took the form of a stableford competition with the Chairman’s Prize being presented to the CIBSE member with the best individual score and the PJ Doyle Trophy going to the overall individual winner. The main event was a team event with the best two scores on each hole and all four scores on the 18th hole contributing to a team’s score.

The outing was a great success, thanks largely to sponsors Aervent, Mitsubishi Electric, Sanyo, Mercury Engineering, Coolair, GT Phelan, Ashbrook Eng, Flogas, Woodside Eng, Killarney Plastics, McGrattan & Kenny, McKeon Bros. Hevac, Grundfos, BSS, Core AC, McCool Controls and Wilo Engineering.

The overall individual winner of the PJ Doyle Trophy was John Field, playing off a handicap of 12, who recorded a terrific score of 45 points. The Chairman’s Prize was won by Gerard Keating, playing off a handicap of 14. Mark Eire won the team event.

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DIT / CIBSE Awards 2006

This year marked the fourth year of the DIT/CIBSE Student Awards and was the most successful to date. The event highlights the important relationship between the CIBSE, industry and DIT and serves to reinforce the development of Electrical Services Engineering. The number of students on the programme has increased from zero in 2001 to 350 this year with students and employers alike reaping the benefits.

In the first instance, the DIT programme was developed with the active involvement of industry and is therefore very relevant to its needs.

Graduates secure good employment while, at the same time, employers can avail of a pool of top-quality graduates to drive their companies forward in this very competitive climate.

Access and progression was the theme of this year's awards, recognising that over 50% of student numbers are qualified electricians who have progressed to this mainstream engineering programme. Progression, however, does not stop here and many of the graduates have expressed a strong interest in pursuing the MSc in Energy Management from DIT which is due to run shortly.

Those present at the Awards night included Professor Brian Norton, President of DIT; Professor John Swaffield, Heriot-Watt University, Vice President of CIBSE; Brian Geraghty, Chairman, CIBSE Roi Region; Jonathan David, Secretary of the Society of Light and Lighting, UK; and Jim Fogarty, Chairman of the Society of Light and Lighting, Ireland.

Front Row — Joseph Brennan with Brian Geraghty, CIBSE Chairman; Ronan Padden and Jonathan David. Back Row — Gerard Keating with Margaret Dolan, Vice-Chairman CIBSE and Professor John Swaffield.


Architectural solutions and modern air-conditioning technology constitute a key feature of the ISH/Aircontec trade fair which will take place in Frankfurt am Main from 6 to 10 March 2007. At the special exhibition "Klima­Forum", innovative solutions will be presented which combine trend-setting architectural ideas with the technologies of central air-conditioning," writes Dr Michael Sturm, ISH/Aircontec.

Some of the architectural requirements, in particular in public buildings, have changed significantly over the last few years. Opportunities for flexible uses of space, provision for unproblematic change of use, a focus on the building as a profitable asset, as well as the increasing requirements for energy efficiency and a reduction of operating costs, lie at the centre of interest for both investors and developers.

Added to this, the facade takes on increasingly important technical functions alongside its aesthetic role. Building services engineers and, in particular, the air-conditioning and ventilation sectors, have to respond to these developments with new concepts and solutions. Thus it is that air conditioning engineers must have an eye both to meeting the technical requirements of functionality and to providing architecturally-pleasing solutions.

In recent years cooling systems involving the room's surfaces have firmly established themselves as architectural solutions. They are extremely well suited to combining function and architecture in an aesthetically-pleasing way. These systems include cold ceilings, ceiling and wall convectors, suspended ceiling panels, as well as direct use of concrete core cooling.

Depending on the system and the way it is installed, these systems fulfil the thermodynamic functions of cooling, ventilating and heating. The ventilation system assumes responsibility for providing the filtered air from outside that is needed, and can enhance the overall cooling performance of the system by cooling the air in advance. If water is used as an energy transfer medium in the surface cooling system, then significant savings for energy transfer can be achieved as against air-based systems. These systems can be flexibly adapted to the different uses of buildings and so whole-surface, part-surface and individual-unit arrangements are all possible.

Whole-surface systems, such as certain cold ceiling types, enable a high degree of radiation and thus create the conditions for very comfortable temperatures. Part-surface systems, such as, for instance, the architecturally very attractive suspended ceiling panels, are remarkable for their relatively high-intensity cooling effect. The suspended ceiling panels can be mounted in very flexible ways taking mainly into consideration the areas of the
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building where people may need them. In relaxation areas or working environments, where higher levels of cooling performance are to be achieved, then individual-unit systems, such as ceiling-mounted cooling convectors, come into their own.

Various systems using the room’s surfaces for cooling purposes have been modified further so as to be able to take on non-thermodynamic functions. So there are some very attractive ceiling elements available on the market which integrate sprinkler installations, smoke alarms, loudspeakers and lighting, along with the cooling and ventilation. Because of their aesthetic design possibilities, these systems are destined to become trend-setters in the world of interior design of the future.

The most varied surface-based room cooling systems are used in many imposing public buildings in Germany. The flexibility of possible applications is apparent, for example, in the building of ‘Kreditanstalt für Wiederaufbau’ (KfW) bank in Berlin. Depending on need and the particular application, there are radiant ceiling panels or ceiling-mounted cooling convectors in the offices and conference rooms here. Since, in this building, both types of system assume both a heating and a cooling function, the architect had a high degree of freedom in the design.

In the architecturally-impressive building of the firm Hugo Boss in Düsseldorf, a 1,250 sq m whole-surface cool ceiling ensures comfortable temperatures. Where necessary, cold beams assist the cooling process.

The use of renewable energies will certainly play a greater role in air-conditioning and ventilation technology in the future. The integration of surface-based room cooling represents a solution for the use of these efficient forms of energy which points the way forward for the future. An example of this is offered by the combined apartment and commercial premises of the housing association (Wohnungsgenossenschaft) in Duisburg. Underfloor heating is installed in the apartments while heating and cooling in the offices is achieved by a seamless ceiling system. The energy is provided from a geothermal source with 16 absorber piles, a system which is proving to be very positive with regard to energy efficiency, the preservation of resources and the protection of the environment.

Contact: Dr Michael Sturm, ISH/Airconotec.
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Thermally speaking, refrigeration machines rob Peter to pay Paul. If the machine is used just as a chiller, the proceeds of the robbery are thrown away. If it is used as a heat pump, the proceeds are kept. If the machine is reversible, the robbery can go one way or the other. The last item to note is that the heat rejected (the swag) is equal to the heat taken in plus the energy expended in making it happen.

So, why isn’t cooling equipment used to provide heat? In some instances it is, but there are a number of obstacles which inhibit wider use of this resource. To name just a few:

— Refrigeration heat is available only while the chiller runs;
— Refrigeration heat is limited to the amount of useful cooling done;
— Refrigeration heat is available only at temperatures too low to service LPHW loads;
— Refrigeration heat is most plentiful in hot weather when there is least need for it.

The result is the situation as we know it ... boilers make heat and chillers make cold.

In our era of declining fuel supplies and incipient climate change, it has become mandatory to challenge the accepted wisdom in the search for better solutions. The factors...
Geothermal CHC is a purposeful combination of a refrigeration machine and a geothermal reservoir controlled as a unit by a dedicated management system which allows the system to provide simultaneous and independently variable outputs of heating and cooling. A patent and other IP measures have been put in place to protect the innovative aspects of the system.

Inhibiting wider use of refrigeration heat can be boiled down to two — the low temperature of thermodynamic heat and the time/quantity mismatch between the demand for heat and the availability of heat. The temperature constraint has been greatly reduced by developments in heat transfer equipment and by the growing availability of chillers with increased condensing temperature capabilities. The time/quantity mismatch has been removed by the advent of Geothermal Combined Heating and Cooling (GCHC).

The imbalance or mismatch between the heating and cooling loads is corrected by a targeted deployment of the geothermal reservoir, allowing it to act as a balancing load. Once this is achieved, both loads can be served by the one thermodynamic unit...you can call it a chiller, a heat pump or both. The distinction disappears.

The unequalled efficiency of the system is derived from two core attributes — unitary plant and intelligent control. Unitary plant means that both outputs are generated from the same machine so that destructive and inefficient clashes between two machines are impossible. Intelligent control is used to ensure maximum operating efficiency in all load situations. For example, the controller will allow direct geothermal coupling to provide cooling without any mechanical refrigeration whenever conditions permit. Intelligent control also calls in allowable measures to minimise thermodynamic lift and thereby machine power input under all operating conditions.

The benefits of GCHC applications speak very clearly for themselves and include:

- Outstanding energy efficiency;
- Minimal carbon footprint (reducible to zero if the motive energy is green);
- Virtually invisible and inaudible thermal plant.

These results have been best documented at the UCC Lewis Glucksman Gallery where the 190 kW GCHC system is now into its third year of service. The performance of this multiple award winning system is summarised in the August 2005 issue of the CIBSE Building Services Journal. Savings on energy outgoings of more than 70% relative to the same building fitted with conventional HVAC equipment have been confirmed from BMS data.

Other GCHC applications include:

- FEXCO Head Office Building, 310kW, Summer 2005;
- Musgrave Group Office, 160kW, Spring 2006;
- Cliffs of Moher Visitor Centre, 160kW, (End 2006)
- Killorglin Town Centre, 160kW, (End 2006)
A number of additional projects ranging from 60kW to more than 1,000kW are under active consideration.

**How can promising candidates for GCHC be identified?**

The most pertinent attributes are:
- Need for both heating and cooling at the site;
- High annual duty factor for the thermal plant;
- Significant overlap between heating and cooling demands;
- Aesthetic or sanitary requirements which render external heat rejection equipment undesirable.

These attributes are becoming progressively more commonplace in new buildings. The push toward higher standards of insulation and air-tightness makes mechanical ventilation and heat recovery more common. The proliferation of IT equipment in offices has resulted in substantial cooling loads, in many cases larger than the heating loads. Building types which could easily be candidates for GCHC would include:

- Hotels, especially those incorporating extensive conference suites;
- Prestige office buildings and IT centres;
- Leisure complexes, particularly those with water sports facilities;
- Hospitals;
- Museums, art galleries and similar establishments;
- Shopping centres.

Hardware is available from several suppliers to implement GCHC systems for thermal duties from 100kW up to more than 10MW. The real challenge will be to identify and design geothermal couplings to match the plantroom equipment.

Finding answers may well require disciplines as varied as hydrogeology, petroleum reservoir modelling, and long term thermal simulation to predict reservoir behaviour. However, one thing is certain ... geothermal technology has a significant part to play in the campaign to use our resources as wisely and as prudently as we can.

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Focus on Energy
Active Solar Systems (Bulletin No. 4)

This is the final bulletin in my series on Active Solar Systems. In this module I will try to summarise the remaining items needed for a good quality (mechanical) installation.

Solar Pipework
High temp silver (9%) solder and compression fittings are recommended for use in solar primary piping. The reason for this stringent specification is that the stagnation temperature of the fluid (the temperature reached in the event of pump failure) will exceed 120°C on a sunny day and apparently can go as high as 170°C at the panel connections under test conditions. Soft solder is generally considered unsuitable because of this and Qualpex must never be used. Solar pipework is subject to significant expansion and stresses on fittings and, on the continent, fittings and equipment are often purchased from solar specialists because of this. Generally 3/4" piping is sufficient for the majority of domestic and small commercial systems.

The normal maximum design temp for solar circuits is generally assumed to be 110°C (with the pump running). The highest temperature I have witnessed in my own system is 90°C and this was when the DHW cylinder had reached temperature. High temperature Armaflex or equal is generally used as other foam materials will eventually melt away.

Piping and panels are charged with a mixture of water and 30% propylene glycol antifreeze to approximately 2 bar. Propylene glycol is non-toxic and safe to dispose of down drains etc. Most panel suppliers will supply a large bottle of this with each order. Ethylene glycol must never be used as it is toxic and corrosive.

It is vital to install an automatic air vent at the highest point of any system. In my installation the installer ensured that the piping leaving the top of the solar panel rose as it entered into the roof and here the AAV is installed. There is just enough room for access and replacement. After a couple of weeks, once all the dissolved air had disappeared, the AAV outlet was closed.

Anti-scale Valve
Good practice dictates that an anti-scale mixing valve is fitted to the outlet of solar DHW cylinders. The reason for this is that the temperatures achieved on many occasions within the cylinder can far exceed 60°C and it is sensible to limit this to the usual maximum. The valve used is a self-acting 3-port mixing type device. This mixes the DHW with the Cold Water Down Service (CWDS) to control leaving-water temperature.

My installer used a 3/4" Comap device (presumably low pressure type) and it has worked very well. To ensure that there was no loss of head to the shower we raised the cold water storage tank in the attic by 1m at the same time.

Pipe detail on the roof
Focus on Energy
Active Solar Systems (Bulletin No. 4)

Preventing loss of heat
In solar systems it is advisable to fit an anti-siphon loop on the boiler primary to prevent hot water in the cylinder inadvertently heating up the boiler. It is also good practice to arrange the DHW piping, vent pipes and cold feed etc, to reduce natural convection that can occur. Laying of water and vent pipes in the hot press also helps reduce thermal losses.

Check the DHW cylinder for loss in temperature (most noticeable at the lower end of the cylinder) during the night. A 1° or 2°C degree heat loss may be unavoidable but if more than this occurs it is worth investigating where the heat is going. These conservation measures are designed to try and keep stored DHW water as hot as possible for as long as possible.

If losses can be reduced to low values then the benefit is that clients will get through the occasional couple of wet days using water stored from previous good weather. This is especially possible when one considers that the water in the cylinder may start off at a temperature of, for example, 75°C and so there is a huge reserve of energy there that can last a long time if it is managed correctly.

Conclusion
Since my installation was completed in 2003 it has proved to be extremely reliable, predictable and efficient in its operation. I am still pleasantly surprised by this. The cost of the installation — including the new DHW cylinder — was €4100 and financially I am getting a far greater rate of return on my investment than if I had left this same amount of money on deposit with the bank.

Also, with the imminent Building Energy Labelling Directive (should I ever choose to sell my home) I will obtain a significantly better energy rating label, because of the solar, and this I am confident would help an estate agent achieve a better price in the end.

Contrary to popular belief, Ireland’s climate is considered to be very well suited to this type of technology. For homeowners and businesses that use hot water, active solar is the most accessible and cost-effective type of renewable energy available and, because of this, I feel sure it is destined for significant growth worldwide.

Twin coil cylinder

November 2006

Published by ARROW @TU Dublin, 2006
Approximately 350 representatives of Ireland's architectural and construction fraternity gathered in the Four Seasons Hotel in Dublin earlier this month for the presentation of the OPUS Architecture & Construction Awards 2006. The OPUS Awards, which began seven years ago, are now firmly established as Ireland's premier awards scheme and formally acknowledge the symbiotic relationship between architecture and construction.

Payback service to good contemporary design is easy but supporting good architecture and quality construction in a more real sense involves an empathy with the processes involved and an ability on the part of the client, architect and contractor to bring quality buildings to reality. This is the reason why the award scheme has site visits to short-listed buildings. It is also the reason why there are architects, contactors and an engineer on the panel of assessors.

Some 151 entries were submitted this year and the assessor's spent two days compiling and refining the initial short-list before embarking on a seven-day schedule visiting the selected projects. This level of scrutiny is unique to the OPUS Awards process.

During their visits the assessor's look for the essential meat and marrow of each project. They look at the difficulty of the particular problem to be solved, the architectural quality of the proposed solution, and how well the built quality has been executed.

There was a vast variety of work submitted, from house extensions to city-scale projects. Small was not always beautiful. Big was not always lavish. In fact, the larger projects were the most contested award categories with some of the most intriguing and interesting work.

However, there were also little jewels of buildings exquisitely designed and constructed on difficult sites that would confound less skilled architects and contractors. The best buildings displayed insight as well as intellect, and sensitivity as well as toughness in achieving their goals.

The number of awards and commendations made on the night was not restricted by arbitrary numbers or award headings, but rather by the intrinsic quality of the submitted schemes. For this reason there were Commended, Highly Commended and Full Awards presented. The OPUS Award itself is a specially designed bronze sculpture of significant value, with one each being made to the architect and contractor involved in the winning schemes.

Ciaran O'Connor, Chairman of the OPUS Panel of Assessors, summed up the OPUS concept thus: "Goethe, the German philosopher, described architecture as frozen music; to become music, sound must be chosen and arranged so it is with architecture. It is only through the composition of space and the selection of materials brought together in light, that architecture is created. Architecture is both an art and a science, and the science of construction is a vital part of the orchestra that helps create our physical environment. Our mutual task is to create environments that help make human beings human."
The Steelyard, Dublin


City Quarters, Lapps Quay, Cork — Garret Buckley, Expo Exhibitions with Michael O'Sullivan, architect; Roger Dunwoody, OPUS Assessor; Sean Carag, contractor, and Paul McDonnell, Bank of Ireland Corporate Banking.

The Steelyard, Foley Street, Dublin 1 — Garret Buckley, Expo Exhibitions with Colman Walsh, contractor; Roger Dunwoody, OPUS Assessor; Jason Walker, architect, and Paul McDonnell, Bank of Ireland Corporate Banking.

Nurses Education building, WIT, Waterford — Garret Buckley, Expo Exhibitions with Marie O'Sullivan, architect; Roger Dunwoody, OPUS Assessor; Chris Sheard, contractor, and Paul McDonnell, Bank of Ireland Corporate Banking.

The Marine Institute, Galway — Garret Buckley, Expo Exhibitions with Edcel Collins, architect; Roger Dunwoody, OPUS Assessor; Patrice O'Sé, contractor, and Paul McDonnell, Bank of Ireland Corporate Banking.
Sustainable Design in Building Services – Applications in Ireland

Clontarf Castle, Dublin 3, Thursday, 22nd March 2007
Registration: 8.00 am - 8.45 am Conference: 8.45 am - 5.30 pm

SYNOPSIS OF CONFERENCE


The aim of this event is to raise awareness of the issues of sustainability amongst those directly or indirectly involved in the design and construction of buildings and to ensure there is a good understanding within the industry in Ireland of the changes taking place, both within the professions and legislatively. Representatives from a broad range of groups, such as building services engineers, architects, construction companies, property developers, local authorities, financial institutions etc. will attend on the day and presentations will be given by a number of high profile experts in this field.

PROPOSED TOPICS

- Renewable Energy Systems
- Green Buildings Case Studies and Costings
- New technologies
- Integrated Sustainable Design
- EPBD Presentation by SEI
- Sustainable Communities and Urban Development
- Passive Design – Building Services
- Holistic Design – Architecture
- OPW – Data From Real Buildings and Policy Direction
- Department of Education New Policies for Schools
- Software Guidance on Assessment of Alternative Energy Solutions
INNOVATIVE PRESENTERS

CIBSE is looking for speakers interested in making presentations at the forthcoming conference.

Contact: Mr. Kevin Kelly, Conference Coordinator
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Artificial Lighting and Our Arcadian Rhythms?

It should come as no surprise that our mood is influenced by the presence or absence of daylight. Daylight is diffused sunlight typically experienced on an overcast day or from a north sky; it is not to be confused with sunshine which is direct sunlight as experienced on a clear day.

Seasonal Affective Disorder (SAD) is a well-known phenomenon which affects people who are deprived of daylight. The effects of SAD include depression and lack of energy. It is well documented that populations living closer to the north and south poles experience an increased incidence of SAD during the long winter period when there is a dramatic reduction in the hours of daylight.

Do people who live and work in an artificially-illuminated environment also suffer from a lack of natural daylight? Does this have an adverse effect on their general health and productivity? These are the questions posed and discussed here by Kevin O'Connell of DIT Kevin St subsequent to Paul Stephenson's CIBSE lecture on "Virtual Daylighting Design".

Medical research has established that our biological clock (circadian system) is regulated by exposure to daylight. Circadian rhythms occur naturally in the human body cycling over a 24-hour period. These affect body temperature, alertness and secretion of hormones such as melatonin and cortisol that regulate sleep patterns and stress levels respectively.

Research by Brainard and Bernecker in 1995 established that our circadian clock is synchronised by light transmitted through the eye. In 2003, Boyce discovered that light at 505nm (i.e. blue light) was four times more effective at suppressing melatonin than light at 555nm (i.e. green light).

It follows that our sleep patterns and our ability to work productively are directly related to daylight exposure. A study of daylight will tell us that it is constantly changing, both in colour composition and intensity, over the course of a normal day. This gives rise to two important questions:—

— How does artificial light, particularly fluorescent lighting, compare to daylight in its spectral composition?
— How does artificial light affect our circadian clock?

The answer is not very well on both counts.

Comparison of artificial light to daylight

In order to improve lamp efficacy, i.e. the number of lumens per watt, the energy output of normal fluorescent lamps is concentrated in the central region of the visible spectrum (555nm). The human eye is most efficient in this range. The blue end of the visible spectrum has been neglected because energy output here is considered to be wasted due to low lumen output. Thus the spectral composition of fluorescent light is quite different to that of daylight.

Normal Circadian Rhythm

The diagram shows a healthy circadian rhythm. Cortisol levels are associated with alertness and melatonin levels with restfulness. In the absence of daylight, this pattern...
Artificial Lighting and Our Arcadian Rhythms?

will be distorted given that the blue light plays a major role in suppressing melatonin.

**Circadian Rhythm**

Conclusion

Our circadian clock is triggered by the blue light ... hence the light from normal fluorescent lamps will not increase the cortisol or suppress the melatonin levels as effectively as natural daylight.

Solution

Clearvision's solution to this problem is to use Dynamic Lighting which mimics the variations of natural daylight. Luminaires contain both "cool" lamps (5,500K) and "warm" lamps (3,000 K), both of which are automatically dimmable. In the morning the cool lamp has maximum output and the warm lamp minimum output. This balance gradually reverses so that the warm lamp output is maximum at mid-day. Early afternoon sees the cool lamp again dominant and gradually changing to warm in the late afternoon. Early evening sees a short period of cool light, inducing people to maximum alertness for the journey home.

This is another example of engineering in practice, first understanding the environment in which we live and then controlling it to produce a healthy and productive workplace. It illustrates that a healthy, productive, lighting environment cannot be defined by "lux levels" alone. This innovative approach to lighting design is now widely recognised as providing benefits that up to recently could only be experienced without being fully understood. Recent research has provided a scientific basis underpinning this experience.

Paul Stephenson's recent lecture was part of the series of technical evening lectures run under the auspices of the Society of Light and Lighting (SLL) and the CIBSE. Approximately 80 people attended, comprising students from the college and people working in industry. Jim Fogarty, Chairperson of SLL, introduced the speaker and was MC on the evening. Continuing Professional Development (CPD) certificates were awarded to those attending.

Dynamic Lighting

Additional information

Clearvision: John Hughes, Astrotek Ireland (Irish agent for Clearvision who helped organise the lecture). Visit www.virtualdaylight.com; email: mailjohnhughes@astrotek.ie

Phillips Lighting: Visit www.phillipslighting.com
RECI Millionth Completion Certificate Confirms Success of Industry Self-Regulation

Noel Dempsey TD, Minister for Communications, Marine & Natural Resources, presented the one millionth ETCI/RECI Completion Certificate to happy householders Damien and Anna Granahan in Dublin recently. The presentation took place on the CIF stand at Plan Expo in the RDS, and was followed by a lunch which was attended by 80 industry figureheads.

The Register of Electrical Contractors of Ireland (RECI) was established by the electrical contracting industry in 1992 in order to improve the safety of electrical installations by regulation of electrical contractors. Essential to its success was the agreement between the ESB Networks and RECI that electrical supply would only be made available to new installations after a valid Electro Technical Council of Ireland (ETCI) completion certificate — signed by a registered contractor — was submitted to ESB Networks.

This certificate confirms that the installation has been constructed and tested in accordance with the current issue of the National Rules for Electrical Installations and has been found to be satisfactory.

This certification system will be further improved when the Energy (Miscellaneous Provisions) Bill — which is currently at the report stage in the Oireachtais — comes into force in 2007. The Bill confirms that a completion certificate must be issued for all new installations, in addition to certain other electrical works which will also be designated. RECI/ETCI completion certificates are published by the ETCI and supplied to RECI and each certificate has a unique number. The certificates are only issued to registered contractors who are in good standing.

A copy of the certificate is submitted to ESB Networks, who then provide electrical supply to the installation. The electrical contractor then energises the building and carries out the post connection tests. When he has signed the certificate, he must give the original to the owner of the premises as a confirmation that the installation has been fully tested and certified.

The certification system will be further improved in 2007. The registered contractor will send the copy certificate to RECI rather than to ESB Networks and RECI will give instructions for connection of supply if it is satisfied that the completion certificate is valid. This will enable RECI to have greater control over the certification process and safety of electrical installations. There is also an electronic completion certificate system whereby the contractor can complete and submit a completion certificate to ESB Networks on his own computer.

In 2004 the Government instructed the Commission for Energy Regulation (CER) to act as supervisor of the existing two regulatory bodies. The CER issued a criteria document which set out the obligations of the regulatory bodies. Statutory backing will be given to the CER and the criteria document by the provisions of the Energy (Miscellaneous Provisions Bill) which is at the report stage in the Oireachtais. The Bill confirms that a completion certificate must be issued for all new installations. In addition, certain electrical works will be designated. A person may not carry out electrical works which are designated unless that person is a registered contractor. This Bill will determine a number of obligations which the CER, regulatory bodies and electrical contractors must undertake and will also set down high-level policies related to the regulation of the industry to be reflected in the criteria document.
RECI welcomes this legislation which will put the regulation of the electrical contracting industry on a firmer footing.

When addressing the gathering in the RDS recently, Minister Dempsey said: "I am pleased to be speaking to you today at this landmark event for RECI. I wish to formally thank your Chairman, Thomas Heffernan, for his kind invitation to mark this occasion. The issue of RECI's one-millionth completion certificate is a remarkable milestone. It is an achievement of which all members of RECI can feel justifiably proud.

The completion certificate, published by the Electro Technical Council of Ireland, is recognised by the general public as a guarantee of quality. These certificates provide an assurance that particular electrical works have been carried out to the highest standards. They also demonstrate to the ESB that it is safe to supply electricity to a particular installation. This ensures public safety and also serves to isolate rogue contractors. Further welcome improvements to the certification system will come on-line in 2007, expanding on RECI's current role with regard to the safety of electrical installations.

Recognition of the need for self-regulation of the industry by its various members has led to RECI evolving, since its foundation in 1992, into the formidable representative organisation which it is today. It now provides a wide range of services to both its members and the public. These include:

- Quality proofing standards of work;
- Inspection of work done by non-members;
- Training;
- Complaints investigation.

"As Minister with responsibility for Communications, I also note with approval RECI's 'on-line' facility for completion certificates, which is particularly commendable and forward looking.

"Looking ahead, RECI members will be aware, the Government is currently taking steps to provide for enhanced regulation of both the electrical and gas industries. The Energy (Miscellaneous Provisions) Bill 2006, currently being advanced through the Oireachtas, will provide a firmer legal foundation to the regulation of the electrical contracting industry with regard to safety matters.

"The Commission for Energy Regulation will play a pivotal role in the implementation of the provisions of this Bill, and will be given a variety of new responsibilities, including:

- A strong regime of inspection;
- The power to designate certain classes of electrical as being solely the province of registered electrical contractors.

"The Bill also includes significant statutory penalties for those who falsely describe themselves as registered electrical contractors, or contravene other safety provisions. The day of the 'rogue' contractor operating outside the system, purporting to be fully qualified and taking advantage of unsuspecting people, is over. It comes as no surprise that these new safety laws have garnered the support of everyone inside and outside the industry.

"I wish to acknowledge the ongoing commitment, support and input which RECI has provided in developing this new policy and to say a special word of thanks to the CER, and especially its Safety Manager Eamonn Murtagh, who has been a driving force. I look forward to RECI's continuing success, backed up by concrete statutory measures and continued Government support.

"In conclusion, may I say that my Department will continue to work closely with the CER, RECI and other industry representative bodies to put in place the new measures as quickly as possible once they receive the endorsement of the Oireachtas.

"Congratulations and well done."
Plumb Lines
heard it on the grapevine ...

WHAT'S GOOD FOR THE GOOSE

With the European Parliament finally approving legislation making it easier for services providers — including plumbers, electricians and architects — to set up businesses throughout the EU, the opportunities are presenting Irish firms with should be viewed in the context of the competition it can generate on the home front. If it is easier for us to set up abroad then the same obviously applies to others wishing to set up here.

Our very own Charlie McCreevy, the EU Internal Markets Commissioner, is responsible for the current legislation, having previously disowned the earlier draft as not having a "snowball's chance in hell" of being adopted.

The legislation approved earlier this month is now expected to be rubber-stamped in December with a view to being enforced from 2010 onwards. After that date procedures for setting up a business throughout the EU will be simplified with administrative obstacles and disguised protectionist measures removed.

THE FUTURE? ... DARK ENERGY

The celebrate the New Scientist's half century of continuous publication, 40 scientists were invited to make their predictions for the coming 50 years. They range from the bizarre to the not so bizarre but, what caught my attention was the one relating to energy. Apparently, we will find "evidence for dark energy, a phenomenon inexplicable within today's physics, although it is thought to be related to the origin of the universe". I could have predicted that. Moreover, we will understand the Big Bang, survive a major disaster with natural evolution starting all over again and — wait for it — find an inexhaustible form of green energy. I wonder, does that explain the "dark energy" of the other prediction?

WE NEED AN ENERGY OMBUDSMAN

Given the massive increase in both gas and electricity prices, one can but wonder at the role of Energy Regulator Tom Reeves, or indeed the point of his role. On his appointment the nation was led to believe that here, finally, we had a champion for energy consumers, someone who would regulate the industry and ultimately ensure that there was competition in the marketplace.

However, what we have ended up with is the highest gas and electricity charges in the EU, two principal energy suppliers who dominate the market, and a Regulator who seems to agree to virtually everything they ask of him. The Energy Regulator is certainly regulating the energy supply market but, the problem is that he is doing so in favour of monopoly supplier interests, not the consumer. What we need is an Energy Ombudsman.

SIKOURA SCOOPS SHOW AWARDS

Paul Sikoura, Managing Director of Dunstar Ltd, recently accepted a plethora of awards for one of his products — including the supreme Overall Product of the Show Award — at Plan Expo 2006. The particular product in question was the Solteria Geothermal CHC System which was devised and manufactured by Dunstar. It also won the Best Renewable Technology Product/System category and the Best Innovation Category.

TEN YEARS YOUNG & STILL GROWING

Congratulations to Austin McDermot and the team at Core Air Conditioning who this month celebrate 10 years in business. Good also to see Austin making a speedy recovery from his recent accident. A few months ago we profiled Austin's Other Side Of which included mountain-biking, endurance biking and motorcycling. Yes, you've guessed it ... he came of the bike with some serious consequences. However, it was not the motorbike, nor was it a mountain bike as he careered down a mountainside ... it was in the hearth of Cabinteely Village near his home as he was out for a gentle cycle!

ENVIRONMENT HIT'S PRICE OF PLATINUM

Platinum is the latest victim of environmental legislation. With about 50% of the world's platinum supply used in auto-catalysts to help eliminate the harmful emissions from car engines, stricter environmental legislation has seen a massive increase in demand for the metal with a corresponding increase in prices.

The electronics industry will also be hit by the price rise as it accounts for something like 20% of world production.

Finally, if you plan a to buy your nearest and dearest a special trinket for Christmas be wary ... the remaining 30% of world platinum production is used by the jewellery industry!
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