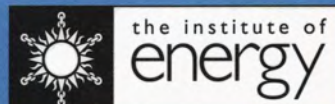


THE MAGAZINE OF THE INSTITUTE OF ENERGY

# energy



No. 310  
June 2003

# world



Hydrogen in Iceland

E-procurement for energy

Presidential review



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## Annual General Meeting

Notice is hereby given that the seventy-sixth Annual General Meeting of the Institute of Energy will be held at the Institute of Energy at 18 Devonshire Street, London at 12.45pm on Thursday 26 June 2003, to transact the following business:

1. To sign the minutes of the 75th AGM, held on 5 July 2002.
2. To receive the Annual Report and Accounts of the Institute of Energy for the year ended 31 December 2002, together with the report of the auditors.
3. To receive the Annual Report and Accounts of the Benevolent Fund of the Institute of Energy for the year ended 31 December 2002, together with the report of the auditors.
4. To re-elect Marfell Smith & Co., Chartered Accountants, and Steele, Robertson & Co. Chartered Accountants, to serve as auditors for the ensuing year and to agree that their remuneration be agreed by Council.
5. To announce the names of new members of Council.
6. Any other business (Council require 21 days notice in writing).

Dated this 24th day of April 2003.

By order of the Council.

J Ingham CEng FInstE

Secretary and Chief Executive

## journal

OF THE INSTITUTE OF ENERGY

June 2003

**N LALLEMANT, J DUGUÉ, R WEBER**  
Measurement techniques for studying oxy-natural gas flames

**J TOMECEK and W BIALIK**  
Influence of liquid fuel combustion conditions on pollutants emission

**LETTER TO THE EDITOR**  
Comments by **G R MATTOCKS** on 'Incineration of residual municipal solid waste for both energy recovery and environmentally sound waste disposal – a consideration of selected major non-economic determinants' and reply from **A PORTEOUS**

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THE MAGAZINE OF THE  
INSTITUTE OF ENERGY

# Contents



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## COVER

Shell's first hydrogen filling station – opened adjacent to a conventional filling station in eastern Reykjavik, Iceland in April. Initially, the station will supply three fuel cell buses which operate in the capital, but will eventually supply private hydrogen-fuelled vehicles expected to run on Iceland's streets in the near future. Hydrogen is produced by the electrolysis of water – that process is fuelled by electricity generated (as is all Iceland's power) from hydro-electric and geothermal sources.

Photo courtesy of Shell.



## Energy efficiency – the high-yield investment for the 21st century

**G**overnment confidence in the ability of energy efficiency techniques to deliver results is demonstrated by the expectation that 50% of the savings anticipated under the current Climate Change Programme will come from energy efficiency. The recent White Paper has correctly identified energy efficiency as our most cost-effective means for cutting carbon emissions, and achieving the other vital aims of energy policy – those of reliability, security and affordability. The White Paper requires a further 15-25 million tonnes of carbon to be saved by 2010-2020 – with 50% from energy efficiency.

To achieve this ambitious target we will all have to become far more energy efficient. Savings will have to come not only from the public sector, commerce and industry, but also from reduced energy use at home. By now, those of us working in energy efficiency are familiar with the established techniques and technologies that can deliver these savings. Improved insulation, variable speed drives, condensing boilers, high efficiency motors and many other methods are all proven and cost-effective means to improve efficiency. We know they produce results.

But these techniques have been available for five or ten years or more – what has changed now that will accelerate their uptake? How can we expect a widespread improvement in energy saving if nothing is new? Especially if energy efficiency can seem dull in relation to other high-profile methods of reducing carbon emissions – such as renewable and nuclear energy – which tend to enjoy more media and political coverage.

### A PROFITABLE INVESTMENT

Energy efficiency may not be the newest kid on the block, but it is a very safe and profitable investment. In the current economic climate, energy efficiency is cost-effective and financially secure. Most organisations can still cut 10-20% off their energy bills, often for very little expenditure, and most energy efficiency payback periods are two years or less.

For example, ICI introduced a five-year energy plan, targeting a 15% reduction. In only two years, the amount of energy used to produce each litre of paint had been reduced by 35% – more than double the target. Think how this compares with an investment in the stock market over the last two years – with the FTSE index still around 2000 points down on two years ago. What could be a more dynamic investment than one which improves bottom line by cutting energy costs by 35%?

Many of us are aware of the large dividends to be had from investment in energy efficiency. But we have to convert others and spread the message – to change the culture in our organisations and communities. Investment costs do not have to be high. Energy awareness training and motivation are key. For example, the Rover Group saved over £1 million in six months through a

straightforward energy efficiency awareness campaign costing only £7,000.

### WORKFORCE TRAINING

Our experience of training workforces in energy issues – and we are currently working with some of the best-known household names – shows that people, from the shop floor up, are very receptive. There is a tremendous enthusiasm to embrace the principles of energy efficiency and a ready understanding of its significance in the workplace – improving the bottom line and combating climate change. Almost without exception, we find people at every level are keen to participate in energy efficiency campaigns. Sometimes there is almost a sense of relief within an organisation that, finally, something is being done to prevent waste.

Provided the infrastructure is put in place, many of the best ideas for improvements come from within, for example through regular forums, workshops and bulletins.

So, given the right framework, organisations can make significant energy and cost savings. However, are the yields enough to attract the many, rather than the few, to invest?

### MORE INCENTIVES NEEDED

Several drivers for business, such as the Climate Change Levy and the Enhanced Capital Allowance scheme have been introduced recently, but it will take time for their effects to make a real impact and it is still too early to judge their success. The same applies to recent initiatives on the domestic front. It will take several years for the 2002 Building Regulations and schemes such as the Community Energy and Clear Skies programmes to significantly improve household energy efficiency.

In reality these measures only start the process. The White Paper itself proposes new building regulations and tougher standards for lighting, equipment and domestic appliances. While these will also help, I am certain that we will need more incentives, to make the yields from energy efficiency investments even more attractive. However there is already a compelling case for many organisations. Those in the vanguard will reap early and sustained dividends from early investment that will keep them ahead of Government initiatives and their competitors.

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**Colin McNaught, Future Energy Solutions**



## BAA to save energy with Action Energy

**Airport company** BAA plc has signed a major energy efficiency partnership agreement, to be delivered through Action Energy, a programme, with the Carbon Trust.

BAA owns seven UK airports, including the world's busiest international airport, Heathrow. BAA has set challenging objectives which address climate change, local air quality, noise, waste and surface access – the key issues identified by its local and national stakeholders.

The partnership between the Trust and BAA aims to reduce carbon dioxide emissions from BAA's UK

airports to 5% below 1990 levels by March 2010, which is equivalent to a 60% reduction per passenger. There have already been some significant achievements – at Heathrow, energy consumption has fallen by 16% over the past four years and a new satellite building at Stansted has been designed to produce less than half of the carbon dioxide emissions of its earlier counterparts.

The action overall plan includes a number of measures to help further achieve this target including the use of renewable energy and energy conservation measures, through investment in technology and

changing staff behaviour.

Support and assistance from the Carbon Trust will comprise: provision of bi-annual reviews, implementation advice, guidance material and training programmes, benchmarking advice and support, advice on data monitoring, support for delivery of renewable demonstration projects and internal emissions trading scheme advice.

In addition, the Trust and BAA will work together to train 500 professional staff and 800 maintenance personnel about energy efficiency techniques and measures.

## Become an installer of small-scale renewables

**The Government** is encouraging installers of small-scale renewable energy systems to become registered under its £10 million 'Clear Skies' renewable energy grant scheme.

Launched earlier this year to encourage homeowners and community organisations to have their own renewable energy systems installed, the scheme offers homeowners grants of between £500 and £5000, and up to £100,000 for community organisations such as housing associations, charities, schools, local authorities and hospitals.

Grants will only be given where a registered installer is to be used. These individuals or organisations will be vetted, have previous installation work inspected, and work to a code of practice.

The technologies being promoted are solar thermal, wind turbines, micro hydro turbines, biomass and ground-sourced heat pumps. Operator of the scheme, the Building Research Establishment, suggests suitable community projects may include a solar street, where solar panels are fitted to every house in a street; or a small-scale hydropower plant providing electricity to a school.

**To apply for a grant or to become a registered installer, contact the Clear Skies helpline, tel: 08702 430930, [www.clear-skies.org](http://www.clear-skies.org)**

## Scrubbing sulphur from ship exhausts

**P&O and BP Marine** are to commence trials of a new technology that is expected to dramatically improve ship exhaust emissions, including a 95% reduction in sulphur and an 80% cut in the emission of particulates.

Two P&O ferries currently undergoing major refits will both enter service on the Dover-Calais route in early June. One of the vessels, *Pride of Kent*, will be fitted with 'EcoSilencers' to remove sulphur and other emissions from its funnel. Its sister ship, *Pride of Canterbury*, will provide the baseline for the trial, sailing the same route and using the same fuel but without the EcoSilencer. Provision has been made during *Pride of Canterbury's* re-fit to add the technology later, assuming the trial is successful.

The EcoSilencer brings

seawater into close contact with the ship's exhaust gases so as to transfer the oxides of sulphur from the gas to the water in a process known as scrubbing. Seawater is an ideal scrubbing agent, since it already contains a number of salts that act to neutralise SOx. As the end product of the process is sulphate, a natural component of seawater, the scrubbing process has a low impact environmentally, says BP. After scrubbing the seawater is filtered to remove particulates.

The EcoSilencer system, the first to be implemented on a small shipboard scale, removes other harmful gases and particulates as well as sulphur. BP Marine and P&O believe the trial will demonstrate the benefits

of shipboard solutions to improve the environmental performance of shipping. The move coincides with debate in the Environment Committee of the European Parliament on a draft EU directive that takes a different approach, requiring all ships to use fuel with low sulphur content.





## Embedded generators find a buyer for power

**Independent** 'consolidator' of embedded power generation, SmartestEnergy, has signed up four renewable generators, covering a range of different technologies, in the space of a few weeks. The company 'consolidates' the sometimes variable output of smaller 'embedded' generators, typically renewables or small-scale CHP, for sale into the wholesale electricity market.

PDM Group, the UK's largest processor of meat and poultry residues, initially approached SmartestEnergy last December to put together a contract for its 4 MW on-site

CHP plant at Hartshill, near Nuneaton, following the demise of TXU. The Group then asked the company to come up with a proposal for its 1.5 MW site at Widnes and an additional 6.5 MW combustion plant under development at Nuneaton.

SmartestEnergy is also purchasing the output from a 1.5 MW landfill gas generation project at Distington Landfill in Cumbria operated by Summerleaze RE-Generation and will shortly assume responsibility for the export from a further three Summerleaze sites with a combined capacity of

approximately 3 MW.

CLP Envirogas, which operates a number of landfill gas sites in the UK, has appointed SmartestEnergy to handle six sites in England totalling 8.6 MW and two in Scotland totalling 5MW, where

the company is taking just the renewable energy certificates (ROCs), also SmartestEnergy has secured its first contract with a wind farm, a 2 MW facility operated by Cumbria Wind Farms Ltd near Workington.

## Encouraging new entrants to the North Sea

**UK oil and gas** companies, working jointly with the DTI through the government-industry partnership PILOT, have agreed a new commercial and legal framework – a Master Deed – to speed up the transfer of North Sea assets and pave the way for new entrants.

The Deed creates a mechanism which will simplify the complex and time-consuming procedures currently involved in the sale and purchase of offshore assets in the UK Continental Shelf (UKCS). It also modifies and limits certain existing rights of pre-emption which effectively give the present co-owners of UKCS assets a right of first refusal on the disposal of any part of such asset.

The first major deal to benefit from the use of the new transfer arrangements will be the sale by BP of its Southern North Sea Bacton assets to Perenco.

Bruce Dingwall, Chief Executive of Venture Production plc and PILOT member, said "The offshore oil and gas industry has long recognised that the commercial and legal structure underpinning the UK licence

holding system is a barrier for entry to new companies and the effective working of market transfers. As the UKCS matures, it is becoming increasingly important to promote access to the remaining exploration and development opportunities. Implementation of the Master Deed will cut through red tape and speed up asset sales, reducing legal and administrative costs. It is a significant step forward and one which will help maximise the economic recovery of remaining UK reserves."

The scheme is administered by UKCS Administrator Ltd, a newly created subsidiary of the UK Offshore Operators Association.

- Meanwhile, in the North Sea, the DTI has sanctioned the development of TotalFinaElf Exploration UK's Nuggets N4 gas field in the Alwyn Area, 440 km north east of Aberdeen. Nuggets N4 will tie back to existing Nuggets N1-3, which began production in 2001. First production from Nuggets N4 is scheduled for the fourth quarter of this year.

**Photovoltaics (PV) pioneer Solar Century is working with outdoor advertising company the JCDecaux Group to install 300**



**solar-powered bus shelters across the city of Plymouth, in what is said to be the largest project of its kind in the world.**

The PV technology allows shelters to illuminate automatically at dusk, even on evenings following typically overcast UK days, as the shelters are able to convert very low levels of light into electricity. The technology incorporates the most advanced light emitting diodes (LEDs), "the light source of the future", according to Solar Century, rather than lamps. The system is more economical than traditional grid-connected lighting, and prevents disruption caused by the installation of traditional power cables.

Richard Willoughby at Plymouth City Council said "This project addresses both environmental and safety issues for public transport users in Plymouth." London's Mayor Ken Livingstone is also reported to be keen on the technology, as part of his strategy to improve aspects of public transport in the capital.



## Killingholme Power back in business

**Killingholme Power**, operator of the 650 MW Killingholme 'A' gas-fired power station located in North Lincolnshire, has become the first independent UK power generator to complete a financial restructuring agreement.

The plant, commissioned by National Power in 1994 and acquired by the US power developer NRG in March 2000, was 'deconsolidated' from NRG

Europe in January this year following a period of crisis for many generators caused by plummeting wholesale power prices. NRG decided to pull out of UK power generation at this time, selling the plant in a bank-supported management buy-out.

Lower wholesale prices were a direct result of new wholesale electricity market, which replaced the electricity pool in spring of 2001. Both independent and utility generators were hit, but companies with transmission and distribution income streams were reported to be in a stronger position to ride-out low prices for generation.

Now, Killingholme Power is commencing implementation of a business plan agreed with the syndicate of 20 banks, which now owns the station. This has been achieved in a difficult business environment of

*Olive power – Spanish renewables company Becosa Energia Renovables has bought a condensing turbo alternator generating set from Peter Brotherhood Ltd to be installed at a waste-to-energy plant on the south east coast of the country and to be fired by olive waste. Electricity generated will be fed into Spain's national grid. The 8.5 MW set, designed and manufactured in Peterborough, comprises a multi-stage steam turbine, reduction gearbox, integral oil system and alternator and control systems. The set is to be delivered by the end of this year.*

*Brotherhood says its turbo sets have been incorporated into numerous waste-to-power plants around the world, to be fuelled with a range of by-products including bagasse (from sugar cane), tyres, municipal solid waste, clinical wastes and meat and bone meal.*



continuing low prices, but should provide a stable platform upon which Killingholme Power can "build a leading reputation in the UK

power generation market."

A number of other independents are said to be still in the process of negotiating similar refinancing deals.

## Norfolk gets a second wind turbine

**Green electricity** company Ecotricity is installing what will be the UK's tallest wind turbine at Swaffham in Norfolk, as part of its ambitious strategy to supply one million homes with its new green electricity tariff. Available to households throughout the country, the tariff won't cost customers more than conventional electricity, because Ecotricity says it will match local electricity supplier prices.

The new, 85 m high, 1.8 MW Enercon turbine at Swaffham is said to be the first turbine to be built in response to public demand, following the positive response to the first Ecotricity turbine built there in 1999.

Local residents were eager to see the building of a second turbine to provide more green power locally, driving the Council to back the project, says Ecotricity.

## Domestic consumers 'missing-out by not switching power supplier'

**Energy regulator** Ofgem has called on people to take a hard look at their electricity bills after a report by the National Audit Office (NAO) found that 60% of domestic customers are paying up to 22% more than they could be by not switching supplier.

Chief Executive Callum McCarthy said "The NAO confirms that businesses, schools and hospitals in England and Wales, which consume two-thirds of all electricity produced, have seen their electricity bills fall by a quarter

– or around £1.8 billion – since 1998. The new electricity wholesale market is a major reason for these savings."

Domestic customers can also benefit from the fall in wholesale prices by switching supplier and cutting their electricity bills by up to £50 per year, says Ofgem, adding that customers who have never switched have at least five better deals available.

"But, as the NAO report confirms, six out of 10 customers are still with their

incumbent supplier," says McCarthy. "This is why we are determined to encourage domestic customers to switch supplier and to ensure there are no barriers to prevent competition intensifying still further."

Ofgem has recently used its powers to propose a financial penalty of £200,000 on British Gas Trading after the company incorrectly objected to almost 5,000 customers switching to another gas or electricity supplier.



## Siemens acquires turbine businesses from Alstom

**The Siemens Power** Generation Group (PG) has acquired the industrial turbine business of Alstom SA, Paris, in two transactions: the small (up to 15 MW) gas turbine business; and the medium-sized (up to 50

MW) gas and (up to 100 MW) steam turbine businesses.

The combined total purchase price is 1.1 billion euros. PG's Industrial Applications Division now has a business volume of 2 billion

euros and 10,000 employees. Division headquarters will remain in Duisburg, Germany.

According to Alstom, the sale was part of its continuing programme of disposals to strengthen its financial base. The

businesses sold accounted for around 10% of the company's power sector revenues, with sales typically to specialist industrial customers, for example in the oil and gas industry.

The businesses are:

- the small gas turbines business (3–15 MW) based principally in the UK;
- the medium-sized gas turbines business (15–50 MW) based principally in Sweden; and
- the industrial steam turbines (up to about 100MW) business with manufacturing sites in Sweden, Germany and the Czech Republic, and global customer service operations.

Alstom had announced two major orders in the few days before the its sale. It is to supply a 650 MW power plant for an aluminium smelter in Bahrain; and a 300 MW circulating fluidised bed boiler to China.

## European greenhouse gas emissions are lower than 1990, but rising

**Greenhouse gas** emissions from the European Union have increased for the second consecutive year, moving the EU further away from meeting its Kyoto commitment to achieve a substantial emissions cut by the 2008-2012 period, according to the annual emissions inventory compiled by the European Environment Agency (EEA). Total EU emissions of the six greenhouse gases are estimated to have been 1.0% higher in 2001 (the latest year for which data have been gathered and analysed) than a year earlier.

The main reasons for the rise are thought to be a colder winter in most EU countries, higher emissions from transport and greater use of fossil fuels in electricity and heat production.

However, despite the increase from 2000, EU emissions in 2001 were 2.3% below their level in 1990. The EU is committed to reducing its emissions of the six gases to 8% below their 1990 level by 2008-2012 to comply with the Kyoto Protocol.

Updated annually as data is confirmed, the inventory represents best estimates available, but does not take

account of the impact of land use and forestry, because no internationally accepted methodologies exist yet, says the EEA.

EU emissions of carbon dioxide, by far the most important greenhouse gas and accounting for 82% of total EU greenhouse gas emissions, increased by 1.6% between 2000 and 2001, according to the EEA. They also stood 1.6% higher in 2001 than in 1990. However, recently revised figures show that the EU just held its 2000 carbon dioxide emissions at their 1990 level, as it had committed itself to do. Initial data had indicated that emissions in 2000 were 0.5% lower than in 1990.

Increased heating needs meant that carbon dioxide emissions from households and small businesses climbed 6.0% in 2001 from a year earlier, contributing substantially to the increase in overall greenhouse gas emissions. Germany, France and the UK saw the biggest rises in emissions from households and small businesses. Carbon dioxide emissions from electricity and heat production rose by 1.5% between 2000 and 2001, and those from transport by 1.3%.

The latest figures show that 10 of the 15 Member States are heading towards overshooting their agreed share of the EU greenhouse gas emissions target by a wide margin: Austria, Belgium, Denmark, Finland, Greece, Ireland, Italy, the Netherlands, Portugal and Spain, says the EEA.

Germany, the largest EU emitter, has achieved the deepest reduction among (apart from tiny Luxembourg), with an 18% cut since 1990. However, between 2000 and 2001 Germany's emissions rose by 1.2%.

**Dubai's proposed 'DIFC Gate' is to be the centrepiece of a 50 Ha development creating a whole new financial area in the Gulf city. Building services designer Roberts & Partners has proposed an infrastructure including 30,000 tonnes of district cooling and a new, 132 kV sub-station to provide the 80 MW of power required.**





## Shell's first hydrogen station opens in Iceland

**Shell Hydrogen** has opened the first Shell-branded hydrogen station at a Shell retail site anywhere in the world, in Reykjavik, Iceland.

The station is located next to an existing Shell station in Vesturlandsvegur in the east of the Icelandic capital. It will be used to refuel three DaimlerChrysler fuel cell buses that will be run on Reykjavik's streets on a commercial basis by Straeto bs, the local bus company. Private hydrogen vehicles are

expected to be driving on Iceland's streets in the future.

The hydrogen station uses equipment supplied by Norsk Hydro to produce hydrogen from water by electrolysis. And, as all of Iceland's electricity is generated from hydroelectric and geothermal sources, the hydrogen produced is the cleanest there is.

The Icelandic Government is promoting increased utilisation of renewable energy resources, including the



Reykjavik's new hydrogen filling station

production of hydrogen. Shell Hydrogen is a partner in Icelandic New Energy Ltd, a company established in 1999 to pursue this vision. The operation of the commercial hydrogen station will contribute to a European Union project to research the socio-economic and environmental implications of

changing of the energy base of modern society.

Later this year Shell Hydrogen intends to install a hydrogen dispenser at an existing Shell retail site in Washington DC and Showa Shell will open a hydrogen station in Tokyo, to be used by fleets of fuel cell vehicles run by various automotive companies.

## 'World's first' supercritical CFB boiler for Poland

**Foster Wheeler** Ltd's Finnish subsidiary, Foster Wheeler Energia Oy, has won a contract for the world's first supercritical circulating fluidized bed (CFB) boiler that will also be the world's largest CFB unit.

The announcement follows confirmation by Poland's Poludniowy Koncern Energetyczny (PKE) that its \$150 million order for a 460 MW boiler island for a power plant at Lagisza in southern Poland, placed at the end of last year, will feature supercritical CFB technology.

"The project marks a major step forward in the scale-up and development of CFB boiler technology, an area that we have pioneered for more than 20 years," said Timo Kauranen, president and CEO of Foster Wheeler Energia.

Built around 'once-through unit' supercritical technology, the plant will provide world-leading levels of efficiency and fuel usage, together with very low emissions, fully meeting the

requirements of the EU's new Large Combustion Plant (LCP) directive, says Foster Wheeler. The plant will use some 5% less fuel per GWh of electricity generated than conventional, drum-based, solid fuel-fired boilers, thanks to the use of supercritical technology.

"Achieving this improvement in a single step is a major achievement," continues Kauranen. "An equivalent increase in fuel efficiency has typically taken up to ten years of cumulative developmental work to achieve. By incorporating the supercritical steam process with Foster Wheeler's CFB technology, we will be offering PKE the very best in solid-fuel combustion. Our modular design approach will also enable us to offer even larger units of the same type in the future."

Foster Wheeler Energia Oy and its Polish subsidiary, Foster Wheeler Energia Polska Sp zoo, will execute the contract jointly.

## US upgrades – and enlarges – hydropower plants

**Many hydroelectric** power plants across the US are ageing and in need of refurbishment, and a growing number of hydropower plant owners are choosing to boost their facilities' power production while updating their equipment, according to the US Department of Energy's Office of Energy Efficiency and Renewable Energy.

This trend is evident at GE Hydro, a unit of GE Power Systems, which has announced several hydropower turbine refurbishment contracts. The company has won a \$47 million contract to refurbish seven turbines at the John H Kerr Powerhouse in Boydton, Virginia; the project will also

increase power production capacity by more than 70 MW, or 34%. The company has also won a \$7 million contract to upgrade two generators at the Jaybird Hydroelectric Powerhouse in northern California. This project will increase power production capacity from 154 to 170 MW.

Additionally, GE Hydro has entered into an agreement with southern California's Imperial Irrigation District (IID) to evaluate and upgrade that utility's hydropower facilities. The IID generates 84 MW of power from 14 hydropower units at seven sites along the All American Canal, which runs from Yuma, Arizona, to California's Imperial Valley.



# Buying energy through

*Achieving the lowest cost energy supply, particularly for multi-site operations, is far from straightforward and the intricacies involved tend to favour suppliers at the expense of purchasers. However, energy buyers now have a choice of the various procurement options on offer, which include outsourcing to a traditional energy consultant, or using specialist e-procurement services to buy their energy, writes Christopher Lydiard-Wilson.*

**T**he main advantages that e-procurement offers over more traditional methods are efficiency, ease of analysis and administration, and the resulting heightened competition amongst suppliers bidding to win the client. Additionally, the savings on procurement administration also go straight to the bottom line and recur, year-on-year.

## E-PROCUREMENT DEFINITIONS

E-procurement is the electronic management of the purchasing of goods and services over the internet. E-procurement is a general term for an amalgamation of sales and purchasing business models. It has many different applications providing a variety of functions, and it is important to clarify what these are.

The first of these is 'buy-side e-procurement'. This refers to one organisation using electronic systems to purchase goods, such as office stationary, from contracted suppliers also using e-procurement systems, and managing all processes relating to those purchases.

The second application is 'sell-side e-procurement'. This term is used to describe how one supplier or distributor sells to a number of buying organisations using electronic systems and e-commerce technology. Although this model is sometimes referred to as e-procurement, it is perhaps more correctly referred to as 'e-sales'.

The third application is 'e-marketplaces' and trading hubs. The marketplace model brings together many different buying and selling organisations in one trading community. E-marketplaces experienced a turbulent year in 2001. Many were proved to be inefficient, and only the strong players have survived the year intact.

Some companies may consider using an e-market provider, that operates auctions

for a variety of product categories, to purchase energy. However, these providers may not have the specialist market knowledge required to operate a complex energy auction, the success of which depends on accurate interpretation of complex tariffs and profiling of consumption data.

Finally, because it focuses on a single product area, the specialist e-auction has been the most successful model for achieving the most appropriate deals and best prices in recent years. This enables a buying organisation to bid for a particular commodity against other buying organisations.

The e-auction has been refined with arrival of reverse auctions. These are like an internet invitation to tender, where the buyer states the requirements using a specialist reverse auction portal and potential suppliers bid for the business. This method is becoming increasingly favoured by energy procurement professionals responsible for buying large volumes, often across a number of sites.

## ENERGY E-PROCUREMENT

The business case for e-procurement is compelling, as an e-procurement solution can offer immediate and substantial return on investment (ROI). This is because an e-procurement solution will automate the administration of procurement and therefore reduce the time and resource cost associated with the traditional buying process.

E-procurement's dynamic purchasing environment allows buyers to transact in real-time with a variety of electricity suppliers. It streamlines and automates the purchasing processes, distributes purchasing power to authorised users, standardises buying methods, controls overall spending and enables corporate purchasing to negotiate better deals through multiple e-tenders.

The cost savings can be impressive. One particular company, a food manufacturer, gained a 400% return on investment in the first year and saved £120,000 on its annual electricity bill.

In many medium to large organisations, the saved time and effort can equate to thousands of man-hours every year. This saved time enables highly trained procurement staff to concentrate on a more strategic approach to purchasing.

## SUCCESSFUL AUCTION STRATEGIES

An e-auction can only be successful if it is guided by intelligent procurement management systems, combined with the collation of accurate data for the energy suppliers. Over 3700 bids in the last six years have taught us that five areas are essential to delivering successful e-tenders: data management, supplier liaison, personal relationships, legal aspects and specialist market expertise.

- **Data management** – successful reverse auctions need thorough preparation. The host company needs to collate and clean all of the energy user's half-hourly metered data so the supplier can quote on 100% accurate data, without needing to factor in 'risk margins'. This leads to lower unit cost prices being quoted.
- **Supplier liaison** – this includes helping energy suppliers understand customer requirements such as process efficiency gains, lower channel costs, and making it easy for suppliers to quote competitively through providing access to high quality consumption data.
- **Personal relationships** – for complex commodities such as electricity, customer and supplier contact needs to be evident at all stages of the procurement process. It is essential to combine a blend of process and manual intervention in e-procurement systems. This must be backed by technical consultancy to ensure smooth implementation of the new business process.
- **Legal aspects** – complete clarity in e-auctions is important, and everyone should be aware of their obligations and



# e-procurement

by Christopher Lydiard-Wilson, CEO,  
EnergyQuote

position. A legally-binding contractual position indemnifies the customer and supplier and encourages greater commitment to the system by suppliers and peace of mind for the customer. A legal contract should clearly define roles, responsibilities, obligations and rights, should set out the term of the contract and act as means of securing commitment to the exercise between the vendor, host and supplier.

- **Market expertise** – a specialist should be able to demonstrate knowledge of the energy markets including a successful track record, strong relationships with suppliers and an understanding of market movements. They should also be able to advise on issues critical to procurement, such as the impacts of new energy legislation, as well as being able to advise customers on what to do when their electricity supplier is going through a merger, or even facing bankruptcy.

In addition, energy supply and management is also becoming a major issue for pan-European organisations. Deregulation of

electricity and other utilities, environmental pressures and unprecedented activity in the energy supply market have created a climate of change. For those with a significant level of power consumption the cost of energy is a critical factor. UK companies should be asking which of their sites across Europe are eligible to negotiate electricity contracts with suppliers, and whether to place business with one supplier or with many.

By 2005, all industrial and commercial businesses will be able to negotiate their electricity contract on their site(s). The monetary savings to be gained by changing electricity supplier in Europe can amount to very large sums for a large energy user.

The advantages of pan-European electricity purchasing include significant cost savings, of between 5 and 18%, that can be achieved by promoting competition between a number of local and neighbouring country suppliers.

EnergyQuote offers the only specialist, electronic trading platform that can simultaneously procure electricity in up to 11

European countries. The company has already successfully transacted 15 million euros worth of electricity contracts in Europe through its website in the last six months.

## THE FUTURE

As an era of cost-cutting and short-term, quick-win strategies comes to an end, other factors will begin to work their way up the list of energy procurement priorities. Companies will demand a greater integration of e-procurement systems into their own supply chains, forming part of overall, managed procurement strategies to save costs.

As well as refining and integrating e-procurement systems, there will be a need to create better data channels to feed these e-procurement systems. As market intelligence and focus becomes more critical, a greater number of companies will turn to energy market specialists that can not only cut costs but advise on price fluctuations, trends and energy saving strategies.

**Contact EnergyQuote via the website at: [www.energyquote.co.uk](http://www.energyquote.co.uk)**

## E-procurement case studies

### VOSPER THORNYCROFT

Vosper Thornycroft is a leading defence and civil contractor focusing on technical and related support services, shipbuilding and marine products. Indeed VT provides a comprehensive package of services, support training and logistics for all three UK armed services. Together, these activities employ 7,500 people in a global network covering the UK, Europe, United States and the Middle East.

Paul McLean, manager of non-product purchasing at Vosper Thornycroft's main shipbuilding site in Southampton explained his experiences of the EnergyQuote system "We thought that, because we were obtaining electricity for our two biggest sites direct from a generator, that there would be little extra supplier margin left to erode. We were wrong. Running the portfolio through the system saved us 22% on the large sites' existing one year

contracts, and more than 27% on the non half hourly metered sites, which was above and beyond the best offer we obtained, even after factoring in EnergyQuote's administration costs. The other key reason for outsourcing the non half hourly metered business was to avoid time consuming and bureaucratic registration issues needing to be dealt with in house."

### THE DESIGN MUSEUM

The Design Museum is the world's leading museum of industrial design, fashion and architecture. Based on London's South Bank, the museum runs regular exhibitions that capture the excitement and ingenuity of design's evolution through the 20th and 21st centuries, from early post-modernism through to web and digital design. The museum opened in its current location in 1989.

Moirá Kerrane, Front of House and Operations Manager explains,

"EnergyQuote has definitely eased the administrative burden associated with contract negotiations. Each year we simply sign an SIS sheet, authorising EnergyQuote to trade our site. Once the consumption data has been verified and uploaded onto the site, the bidding commences. All bids are automatically ranked, so we can monitor via the internet which supplier has put in the most competitive bid."

Anna Bownes, Head of Finance and Operations at the museum, was impressed by the results achieved in that time. "Before we employed EnergyQuote to negotiate our electricity, we were spending £63,000 a year on electricity. Over the five year period those costs have been reduced to just over £40,000. Even taking into account the recent reductions in retail electricity prices, the results achieved by EnergyQuote have far exceeded our expectations".



# Improving energy efficiency – step change required

by Steve Hodgson

**The rate of improvements to energy efficiency need to double, says the Government's Energy White Paper. But how? And what are the immediate prospects? Steve Hodgson went to an ESTA seminar to find out.**

**E**nergy efficiency is back at the heart of Government policy and aspirations for the future. The recently-published Energy White Paper really does place an awful lot of reliance on further, accelerated progress being made on energy efficiency across homes, businesses and the public sector.

The White Paper says that Britain has to cut emissions of carbon by 15 to 25 million tonnes by 2020, on the way to much larger cuts by 2050. Of this, 8–12 million tonnes are to come from improvements to energy efficiency, split equally between the domestic sector; and industry, commerce and the public sector. Cuts in carbon from transport – and we know there is enormous scope here – is projected to contribute just 2–4 million tonnes by 2020; renewables 3–5 and emissions trading 2–4 (see *Energy World* April 2003).

So, in the immediate future, energy efficiency is going to deliver a lot. But how, exactly? The White Paper lists a series of measures with the potential to deliver a cut of 5 million tonnes of carbon by 2010:

- for households: raising boiler efficiencies and installing 5 million condensing boilers, insulating 4.5 million cavity walls, installing 100 million energy saving lamps, improving the efficiency of domestic appliances, improved heating controls and more CHP and community heating; and
- for business and the public sector: the Climate Change Levy and associated climate change agreements, and the UK's voluntary emissions trading scheme.

Longer-term, to 2020, the larger cuts required will come from:

- for households: even more insulation, including solid wall insulation, further improvements to building standards, heating systems, lighting (for example greater use of light emitting diodes) and appliances. Plus developments which combine energy efficiency with measures such as micro-CHP and

domestic-scale renewables; and

- for business and the public sector: more of those measures working towards 2010 targets, and tighter emission caps under what by then will be an EU emissions trading scheme.

So far so good. But this is asking a lot. As the White Paper says "Savings of this magnitude would need roughly a doubling of the rate of energy efficiency improvement seen in the last 30 years."

The measures listed are all familiar, and some have been in place for varying lengths of time. So how, exactly, is this raising of the game to be achieved? How are progress rates to be doubled? This, of course, is where the language of the White Paper becomes less precise and the picture less clear "To deliver these savings we need a mixture of measures ... different policy instruments: emissions trading, the energy efficiency commitment, tax incentives, a greater emphasis on energy services, building and product regulations, advice and information – will be designed to reinforce each other."

Much of the clarification is to come later; some in a fuller implementation plan due to be published within a year. The Government then intends to formally report progress towards objectives annually thereafter.

So that's where we are headed to, but what about the present – what are the prospects for energy efficiency today? One way of answering this question is to attend one of a series of seminars being held by the Energy Systems Trade Association (ESTA).

## CAUTIOUS POSITIVITY

I went to Haydock Park racecourse, Lancashire, in April for the first seminar, where the mood was one of cautious positivity. The overall message was that – yes, fuel prices are still too low, really, to be of use as a motivator towards energy efficiency; and yes, there was precious little

in the way of concrete help in the Energy White Paper for the industry. But, times are changing, with electricity prices in particular about to start rising again, and the promise of helpful measures to follow publication of the White Paper.

Future Energy Solutions' Colin McNaught (also our *Viewpoint* editor this issue – see page 2), suggested that the sheer weight and diversity of support measures now in place can cross-fertilise each other to produce results. For example, a local industrial plant may have been producing significant volumes of waste heat for years, but it has never been economic to do anything with it. A nearby housing estate needs to meet upgraded building regulations. Now, the Government programme which supports the development of district energy schemes could make the difference by facilitating the installation of heating mains to connect the two problem areas – solving both.

Elsewhere, Bill Gysin of Elcomponent made a convincing case for 'eM&T': monitoring and targeting of energy use enhanced with the use of modern, intelligent meters and sophisticated analysis software. Far from being about 'spider-filled cupboards' any more, eM&T now is an incredibly powerful tool for monitoring and controlling energy use.

Mark Abbey from Powergen confirmed that the days of steadily falling electricity prices are over (see also opposite). Generation plant mothballing, higher entry costs for new generators, and the introduction of the Climate Change Levy had already started the trend and very soon energy managers and buyers will be haggling, not over unit prices, but over how much help suppliers are able to provide towards reducing energy use.

ESTA's Martin Fry CEng FInstE summed-up – telling the tale of his own, frustrating but ultimately successful, efforts to install photovoltaic panels onto his roof and sell power back to his supplier. Martin again suggested that the world is changing – witness the establishment by Barclays of a financing package for small-scale renewables projects.



# Reducing costs in the face of rising prices

by Colin Warne, Sales and Marketing Director for Major Customers, London Electricity Group

*The Government's Energy White Paper outlines ambitious targets for reductions in carbon dioxide emissions, with targets set for 2010, 2020 and 2050. There are two ways in which the Government can do this. The first is through encouraging generation from renewable sources and the second is through encouraging energy efficiency to reduce total consumption. With renewable energy being more expensive, energy prices look set to rise after several years of decline. Here, Colin Warne gives advice to businesses on what action can be taken now to offset the future rise in electricity prices.*

**E**lectricity prices have fallen in real terms to a historically low level. However, this now looks set to change due to a number of factors. First, in April 2002, the Renewables Obligation was introduced. This mandates electricity suppliers to sell a defined (and annually increasing) percentage of renewable electricity, or pay a penalty. Given that there is not enough renewable energy to go around, this inevitably means penalty payments, the costs of which can only be met through higher prices to consumers.

Second, the Government has set out its intention to make a new European emissions trading scheme, set to come into force in 2005, a central plank of its future emissions reduction policy. This will increase costs for generators, leading to yet more price increases for energy users.

Third, the Government has stated that it expects more than half of the savings in emissions – around 10 million tonnes of carbon (MtC) per annum by 2010 – to come from energy efficiency. This suggests that tax may be used more as an incentive to encourage businesses to implement energy efficiency schemes. There is also an additional financial and administrative burden with the White Paper's request that businesses' environmental performance and level of greenhouse gas emissions is reported.

The Government estimates that these measures may add 10–25% to industrial

electricity prices. Businesses must therefore begin taking action to reduce their energy consumption now, as it is clear that the unit cost of energy is set to steadily rise and savings cannot be made overnight.

## ENERGY EFFICIENCY

As stated in the White Paper, "The cheapest, cleanest and safest way of addressing our energy policy objectives is to use less energy. The financial benefits of doing so are clear. Better-insulated buildings and more efficient workplaces cut energy bills for businesses." Yet many organisations regard energy as an uncontrollable overhead – an inevitable cost. This is false. Energy can be scaled to reflect levels of business activity and much can be done to control and manage energy, both in buildings and processes.

The most environmentally-friendly and lowest-cost unit of electricity is the one not consumed. By knowing how much energy is used and where, why and how this consumption occurs, wastage can often be eliminated. However, getting hold of meaningful data is an obstacle faced by many. Only when an organisation has the ability to accurately report how much energy is used, and what factors affect usage, can it take action to eliminate and improve efficiencies. Businesses should measure their consumption and then set about improving it on a continuous basis.

Fortunately, the data does exist; the key lies in knowing where to get it. Yet effective energy monitoring is far from simple and many factors have to be considered. These include the level of detail, the quality of the data, the format and presentation of the data and the variable factors that affect consumption.

There are products on the market, such as London Electricity's 'Energy Performance Reporting Solution', that not only aggregate data on energy consumption, but also make sense of it. Solutions such as this can show an absolute change in actual consumption, link consumption to a wide range of variables and help measure the effectiveness of any energy

efficiency initiative. Moreover, such products can be used across a range of sites, large or small, or implemented at a single site.

Providers of these solutions will have a dedicated team of advisers at hand to help guide users through energy reports and recommend what can be done to achieve further savings. The data gleaned not only flags-up problem areas and inefficiencies, but can also be used to quantify and prove the benefits of any energy efficiency initiatives to both internal and external audiences.

## A COMPLETE SOLUTION

Many organisations perceive a lack of resources as an obstacle to improving energy performance. To overcome this, London Electricity now offers energy users a packaged solution, 'Performance Partnerships', that bundles together competitively priced electricity supply with energy management and building services maintenance. By combining all of these elements into a three-year deal, energy costs for that period will remain fixed at a level guaranteed to be lower than current costs. This is clearly beneficial with the expected increase in costs over the coming years.

With a package such as this, which focuses on delivering cost and environmental performance improvements through reducing energy consumption over the medium term, businesses can concentrate on their core business while the burden of implementing a full energy management programme is passed over to a third party. Moreover, this can help customers fulfil any green targets to reduce energy consumption and carbon emissions.

For too long energy management has been a 'Cinderella' issue for businesses focussing on other major costs, such as staff and rent. However, energy is set to become a major cost, unless steps are taken to begin using it efficiently. This will ultimately help control and reduce overheads, and will provide a strong PR message to environmentally conscious stakeholders.

**Contact London Electricity via the website: [www.lebusiness.co.uk](http://www.lebusiness.co.uk)**



# Community Action for Energy

by Janine Michael, Centre for Sustainable Energy

*With the long-awaited publication of the Energy White Paper earlier this year, the UK has a brand new energy policy which brings together ambitious (and sometimes conflicting) aims of cutting carbon dioxide emissions, maintaining reliable energy supplies, promoting competitive energy markets and ensuring every home is adequately and affordably heated.*

*Innovation, new technologies, clever markets where we can trade in carbon, and improved standards and regulations are all cited as potential solutions. But if we are to reduce our consumption on a significant scale we need to think more simply, and appeal to, and change the attitudes and behaviour of, ordinary people.*

Janine Michael reports.

*"Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has."*

**Margaret Mead, anthropologist and writer**

**B**asic, tried and tested energy efficiency measures are acknowledged by Government as the cheapest and safest way to contribute all of the policy aims of the White Paper and have played an essential part over the last 30 years in helping to contain our energy use. Despite this relative success, the UK is still using far

more energy than its needs and there is huge scope to ramp up our effectiveness in getting the energy efficiency message across.

Public consultation prior to the publication of the White Paper gave a very clear message that people care about the environment and that they do want to play their part in tackling climate change. It also confirmed that many still do not understand what they can personally do to help. Clearly the energy efficiency message and associated national campaigns are not reaching out far enough. This is where community action has a real role to play and why the new

'Community Action for Energy' (CAfE) programme is building momentum.

## COMMUNITY ACTION FOR ENERGY

CAfE is a new national programme to bring energy professionals together with community groups and activists that are interested in helping to deliver local energy projects and spread the energy efficiency word. It was originally developed by the Energy Efficiency Partnership for Homes and is now a mainstream programme managed by the Energy Saving Trust.

The aim is to unite and strengthen existing networks of community energy practitioners (that is groups and individuals that have been running local energy efficiency and renewable energy schemes for a number of years), but also to help motivate and encourage new project developments and support members to get funding for them.

In its first year, CAfE has built up a membership of over 900 individuals, collectively representing some of the most exciting and inspiring projects happening in the UK – from local regeneration projects founded on energy improvements to housing stock, and multi-million pound community wind turbine initiatives, to county-wide solar-powered car competitions for school children and energy-themed bingo for senior citizen groups.

It also aims to reach out and interest a broader range of groups and individuals on energy issues than have previously been engaged by mainstream national programmes. Members include local Age Concern groups, Housing Associations, tenant groups, volunteer bureaux, Friends of the Earth/green groups, community action networks, Citizen Advice Bureaux, Development Trusts, rural bodies, parish councils and recycling groups.

## WHY COMMUNITY ACTION?

Those of us professionals who have been nobly championing the energy efficiency message for years will readily acknowledge that one recommendation from a relative, neighbour or trusted local community representative can achieve far more than

## Getting the most from energy

**The Electricity Association (EA)** Fuel Poverty Task Force has revised and re-issued its highly acclaimed 'Getting the Most from Energy Guide', a handbook for advice workers regarding energy efficiency, payment advice services and partnership initiatives in the fight against fuel poverty. First published in 2001, the Guide has been widely distributed amongst local authorities, care groups, charities and advice agencies, and aims to provide a central resource of information on good practice and the various schemes and services on offer.

"The Government's fuel poverty strategy has recognised that the causes of fuel poverty are primarily low income and poor housing. These are not things for which the energy sector is responsible and it is Government programmes of employment creation, income support and housing improvement that will ultimately tackle fuel poverty," said Dr Tony Jackson, Chairman of the Fuel Poverty Task Force.

"There are things however that we in the energy sector can do to make life easier for people on low incomes. The Government has applauded the work undertaken so far and in particular the schemes and initiatives introduced by gas and electricity companies. But we have to accept that several types of assistance may be relevant depending on the customer's needs and this is where our Guide is so useful."

"By bringing together information on all the different schemes, contacts and services available in this sector we hope we will enable people to bring help quickly and efficiently to those who need it."

**Copies of the guide will be circulated to a wide audience of advice workers in local government, voluntary groups and housing agencies. Additional copies are available on request from EA, tel: 020 7963 5708 or can be downloaded from the EA website: [www.electricity.org.uk](http://www.electricity.org.uk)**



## – reaching the parts that other programmes can't

multiple adverts, leaflets and exhortations from a stranger or national bureaucrat. Indeed, most of the schemes that have been successful in changing people's attitudes and behaviour have been those which have actively involved community groups and local people. Local people usually know how to relate energy issues to the things that will really interest their communities and also the best routes to take to reach local people.

In Cornwall, Community Energy Plus has managed to install insulation measures in over 40% (more than 600) homes in Pendeen village and Pengegon estate in under six months. Their energy efficiency grant referral scheme has relied significantly on personal recommendations from over 50 separate community organisations, voluntary groups and local activists, including a stream of referrals from the local fish and chip shop

Gratifyingly, when approached, many local groups and individuals are pleased to have been recognised and welcome the opportunity to assist with schemes. They are motivated by a variety of factors.

Some community representatives have a remit that provides a natural fit with energy efficiency objectives ....

*"This is an extremely beneficial and effective service. I feel that my clients' quality of life and more comfortable environment is much appreciated."*

Merton social worker, Coldbusters Health Referral Network, London

Others become involved for personal reasons ....

*"I joined the Older Persons Energy Network because it was a way to make use of my specialist knowledge."*

Community energy volunteer Ray Burgin, who is a science graduate and retired technical manager for a lighting company, North Somerset

Many are simply interested in doing something for their local community ....

*"This is more than generating power. It's about giving back to the village its self esteem, generating jobs and skills and community spirit as well."*

Nancy Kindred, Chair of Poolsbrook Heating Development, Chesterfield

### LEARNING LESSONS

Perhaps one of the reasons that major energy efficiency programmes have remained largely nationally driven is that the benefits of community-based schemes are not easy to measure and quantify. This is something that the CAfE programme is attempting to address by supporting and evaluating a number of new local schemes.

Community-based projects are also not as easy to manage centrally as, for example, mass marketing campaigns, and they require community development skills. They are hard work, require real contact with people and it takes time to build relationships and trust within local communities, which can sometimes prove costly. Perhaps this is why a programme like CAfE has not been developed before.

However, experience proves that they are often the most rewarding projects to be involved in, can reach corners of society more effectively than mainstream campaigns and may deliver results more quickly than blinkered reliance on new technologies and national regulation alone.

CAfE has published a good practice Energy Efficiency Guide for Community Projects and a series of 20 case studies (see box) illustrating successful local schemes, set up a database of community energy projects, run two national training roadshows for energy professionals and community activists, and funded five new pilot projects. The first ever national conference of the network took place in Bristol with more than 150 members attending to share ideas and lessons they had learned from running schemes.

CAfE has just completed its first pilot year with funding from the Energy Efficiency Partnership for Homes and is now being

developed and supported by the Energy Saving Trust. The Centre for Sustainable Energy is the Managing Agent for the programme.

**For more information visit the website: [www.est.co.uk/cafe](http://www.est.co.uk/cafe), email: [cafe@cse.org.uk](mailto:cafe@cse.org.uk), or call the CAfE team on tel: 0117 929 9950.**



Some of the 150 grassroots activists attending CAfE's first conference, held in Bristol in February

## CAfE Case Studies

There are now 20 case studies (each four page A4 format) in the CAfE set. They provide a quick and easy source of ideas and useful information for community-based projects.

- 1: Energy Efficiency Calendar Competition
  - 2: Poolsbrook District Heating Project
  - 3: Energy Resources for Tenants
  - 4: Energy Efficiency and Minority Communities
  - 5: Older Persons Energy Network
  - 6: Borders Energy Action Project
  - 7: Village Energy Days
  - 8: Dyfi Valley Community Renewable Energy Project
  - 9: Beacon Community Regeneration Project
  - 10: Community Energy Project, Buckland and Stoke
  - 11: Working Herts Energy Efficiency Training Scheme
  - 12: Coldbusters Health Referral Network
  - 13: Hampshire Solar Car Challenge
  - 14: Peterborough Rural Energy Efficiency Project
  - 15: Beechmount Energy and Environment Project
  - 16: Power Factory
  - 17: Saving Shadwell's Energy
  - 18: Cornwall Home Health Project
  - 19: Energy Efficiency Bingo
  - 20: Baywind Renewable Energy Cooperative
- All are available electronically through the CAfE website. Alternatively, to order your free set contact the CAfE office on tel: 0117 929 9950.**



## Kill-A-Watt campaign wins award for Superdrug

Its 'Kill-A-Watt' utility awareness campaign 2001/2002 has won the Energy Information Centre's (EIC) Project Of The Year Award for health and beauty retailer Superdrug.

The energy saving campaign was designed to encourage all of the 12,000

Superdrug employees to be responsible for energy management/efficiency and to raise awareness of good environmental practices, throughout all of its stores, head office and distribution centres. By the end of the campaign, Superdrug saw a reduction of its

utility bills (gas, water, electricity) by £100,000 on year.

Each store was given a realistic utility reduction target based on assets such as: store size, number of employees, geographical location, opening times, the type and rating of its HVAC equipment and the number of service areas.

Stores teams were kept up-to-date with their store's performance every two months, and each given useful housekeeping tips and advice on how to reduce their utility bills. As a reward for their dedication, the top performing 35 stores were awarded cash prizes.

## CHP power sales help BT win City energy award

Successful communication of its energy conservation policies saw the BT Group pick up the Corporation of London's 'Liveable City Award for Energy Management' at a ceremony at Mansion House in the City. The awards, now in their second year, are given by the Corporation to City organisations demonstrating best practice in sustainable business.

Having been an early adopter of green business practices, BT's continued investment in energy efficiency is still paying dividends. During 2002, a £1.2 million investment saw the group's total energy consumption fall by 5.8%, with heating energy use down by 13%. Individual initiatives, like the installation of liquid pressure amplification pumps (LPA) in refrigeration systems, saw reductions of 32%.

With considered design and build at new office sites, increased home working opportunities aimed at cutting employees' travel-associated carbon dioxide emissions, ongoing in-house training programmes and the implementation of a 'cradle to grave' principle of whole-of-life costing, BT has successfully reduced energy waste across all areas of its business.

Paul Kennedy of the Corporation of London and head of the category judging panel, said "BT has made tremendous strides in reducing its energy use and has a remarkable record for reducing carbon dioxide emissions. The group demonstrates model environmental reporting, and the incorporation of energy and environmental concerns with broader corporate and social responsibility issues shows a healthy and mature approach to the concerns of sustainable development. BT's efforts in controlling environmental impacts and encouraging sustainable patterns of behaviour amongst its staff make the

company a model of best practice that other firms should follow."

Mike Hughes, BT Head of Environment commented "BT has one of the largest computer-based monitoring and targeting systems in the UK, and this is used to continuously monitor energy consumption throughout our operations. From 1991 to 1996 we reduced energy consumption by over 13% and between 1997 and 2001 a further 9.2% reduction was achieved. A substantial contribution was made by the change to refrigerant-free cooling systems for exchange equipment."

"However, sustaining such large reductions in consumption is becoming increasingly difficult and so we are now looking to reduce our carbon dioxide emissions by changing the type of energy purchased. In July 2002, BT secured the UK's largest contract for the supply of 1.6 TWh of electricity from CHP plants. The new CHP-generated energy produces 40%

less carbon dioxide than conventional power stations, and represents around 75% of BT's energy use. This is in addition to purchasing 4.6% (93 GWh) of BT's total electricity consumption in the UK from renewable sources."

BT buys a large proportion of the electricity generated and exported to the grid by CHP plants operated by Innogy Cogen and located at industrial sites around the country, while Innogy itself is BT's overall power supplier. The CHP deal works well for both parties – Innogy needs a high load factor customer with predictable demand patterns to take its CHP output, and BT's Senior Energy Manager Angus Berry is "not complaining" about the price.

## Pubs join energy-saving agreement

From hotels to pubs .... the Hotel and Catering International Management Association (HCIMA) has extended its voluntary energy efficiency agreement – named Hospitable Climates – with the Government from hotels to the pub and licensed retail sector.

The HCIMA joined forces with the British Institute of Innkeeping and the British Beer and Pub Association in the process.

Supported by Action Energy and launched in 2000, Hospitable Climates delivers free energy efficiency advice to 2600 participating hospitality operations around the country. Cumulative energy

savings are estimated to have reached and exceeded £12 million since then.

Now extended to pubs, the agreement will benefit the entire pub estate owned by Scottish & Newcastle Retail, which was signed-up at the launch earlier this year. Landlord of the Ivy House at Chalfont: St Giles, Anthony Mears, also signed-up his pub at the launch, expecting that help delivered by the scheme would address energy bills which account for 15% of his operating costs. A recent site energy audit suggested that an investment of some £2600 in energy saving measures would reduce the current energy bill by 30%, or £2100 per year.



# Summarised Report and Accounts 2002

## Presidential review

John Blackhall CEng FInstE

**A**s the Institute of Energy's President I am pleased to bring you the Annual Report and Accounts for 2002. Firstly, may I say, it was with a sense of pride and privilege that I commenced my Presidential year in July, as the InstE celebrated its 75th birthday. Now, as I near the end of probably the shortest 12 months of my life, I am greatly encouraged by what I have seen and been part of, and by the people with whom I have been privileged to work.

The Institute of Energy at work today epitomises the team values of a modern professional body supported by an effective and enthusiastic branch network. I would particularly like to thank the volunteer members serving on branch committees for organising a superb calendar of regional events. I have had the pleasure of attending some of these events as well as national events, in addition to representing the InstE at many important functions where I was able to outline the work of the InstE and raise its profile among key influencers. I would also like to take this opportunity to thank all the staff at Devonshire Street, not only for their support and guidance to see me through my year of office, but also for their important and proactive contribution to the work of the InstE and the very important relationships forged with branches and members at all levels.

2002 has certainly been busy, with the continuing high profile of energy issues nationally and internationally contributing to another productive and successful year. The most significant development for the InstE was the expansion of the events programme and our closer working with partners, particularly the DTI and the Carbon Trust. Members have been both impressed and challenged with the opportunity to engage directly in the

energy policy consultation process. A number of key InstE events have built bridges between the PIU report, the DTI Energy Policy Review and the recently published Energy White Paper. The InstE will continue to be involved in facilitating discussion among energy professionals as the implementation plans develop.

One of the most dramatic developments in 2002 has been the evolving proposal to merge and create a single Energy Institute. As with many of our supporters, the InstE has to change to continue to meet the needs of its industry. Following a period of investigation, the InstE joined with two potential partners already in merger discussions - the Institute of Petroleum (IP) and the Institution of Gas Engineers and Managers (IGEM). During the early autumn of 2002, IGEM decided to withdraw from discussions, and at this time the Council of the InstE decided to proceed with merger negotiations with the IP, a body of similar age and ambitions to ourselves, with the aim of creating a strong, single body that was truly representative of the entire energy sector, and that could ably serve both its group and individual members' needs today and well into the future.

During the autumn of 2002, supported by an extensive exploration of members' views, work commenced on building the business case. Following this, the 12,000 combined members were asked whether they supported the merger proposal to create the Energy Institute. I am very pleased to say that over 40% of our combined membership voted, to put that into context it is nearly double the accepted turnout for professional bodies. With over 94% of votes cast in favour of the merger, our members gave us a clear mandate for change and a



solid base from which to build the Energy Institute. The Councils and members of the InstE and the IP then endorsed the merger by voting unanimously in favour of the resolution to approve the Charter and Byelaws of the new Energy Institute and to jointly submit a petition to the Privy Council seeking incorporation of the new body. There is a lot of work to be done but the will is undoubtedly there to create an internationally renowned professional organisation with authority and influence. Subject to Privy Council and Charity commission approvals the Energy Institute is expected to be a legal entity by July 2003.

With the advent of an integrated global energy sector, we firmly believe that the new Institute is needed, not only to mirror developments in our market, but also to lay the foundations for the foreseeable future. We are convinced that this merger will create such an Institute - one that will have the strength and reach to cover energy and fuels in all their forms giving it both authority and relevance. As we work towards this successful merger, you can therefore be assured that the future of your professional body is a bright one, building on the proud history and successful foundations of the Institute of Energy, to extend our influence and the quality kite mark of your profession.

## Statement of the Trustees of the Institute of Energy

The summarised financial statements for the year ended 31 December 2002 set out on pages 16 to 18 are a summary of the information extracted from the annual accounts which may be obtained, together with the reports of the Auditors and Trustees, on application in writing to the

Secretary and Chief Executive at 18 Devonshire Street, London, W1G 7AU.

These summarised financial statements may not contain enough information to allow for a full understanding of the financial affairs of the Institute of Energy. For further information the full annual accounts, the

Auditors' report on those accounts and the Trustees' report should be consulted.

The annual accounts were approved on 24 April 2003, and will in due course be submitted to the Charity Commission and have been audited by Steele, Robertson & Co. and Marfell Smith & Co.



# The Institute of Energy

## Statement of Financial Activities

	2002				2001			
	Unrestricted funds	Restricted funds	Endowment funds	Total funds	Unrestricted funds	Restricted funds	Endowment funds	Total funds
	£	£	£	£	£	£	£	£
<b>INCOMING RESOURCES</b>								
<b>Charitable activities</b>								
Subscriptions	262,659	-	-	262,659	276,686	-	-	276,686
Project and training event management	74,284	-	-	74,284	115,114	-	-	115,114
Conferences	206,581	-	-	206,581	79,436	-	-	79,436
Journals and other publications	54,964	-	-	54,964	53,483	-	-	53,483
Courses and other educational income	69,296	-	-	69,296	74,652	-	-	74,652
<b>Other activities to generate funds</b>								
Rental income and room hire	51,829	-	-	51,829	43,610	-	-	43,610
Royalties	5,962	-	-	5,962	4,921	-	-	4,921
Miscellaneous income	27,173	254	-	27,427	9,580	-	-	9,580
<b>Investment income</b>	7,969	3,079	1,365	12,413	12,810	1,827	1,677	16,314
<b>Donations</b>	-	1,203	-	1,203	750	1,258	-	2,008
<b>Total incoming resources</b>	<b>760,717</b>	<b>4,536</b>	<b>1,365</b>	<b>766,618</b>	<b>671,042</b>	<b>3,085</b>	<b>1,677</b>	<b>675,804</b>
<b>RESOURCES EXPENDED</b>								
<b>Costs of generating funds</b>								
Investment management	2,817	687	-	3,504	2,368	643	-	3,011
<b>Net incoming resources available for charitable application</b>	<b>757,900</b>	<b>3,849</b>	<b>1,365</b>	<b>763,114</b>	<b>668,674</b>	<b>2,442</b>	<b>1,677</b>	<b>672,793</b>
<b>Charitable expenditure</b>								
Project and training event management	25,571	-	-	25,571	53,646	-	-	53,646
Conferences	131,335	-	-	131,335	72,906	-	-	72,906
Journals and other publications	87,933	-	-	87,933	94,087	-	-	94,087
Courses and other educational expenses	24,524	-	-	24,524	29,625	-	-	29,625
Membership and other direct costs	47,285	-	-	47,285	15,467	-	-	15,467
Accommodation and related costs	33,192	-	-	33,192	28,360	-	-	28,360
Awards	-	-	250	250	-	-	1,500	1,500
Management and administration:								
Publicity	10,183	-	-	10,183	3,331	-	-	3,331
Salaries and related staff costs	311,237	-	-	311,237	283,984	-	-	283,984
General communications	77,154	-	-	77,154	65,246	-	-	65,246
Professional	18,093	1,760	-	19,853	20,563	1,000	-	21,563
Other administration expenses	42,083	32	-	42,115	26,506	1,220	-	27,726
<b>Total charitable expenditure</b>	<b>808,590</b>	<b>1,792</b>	<b>250</b>	<b>810,632</b>	<b>693,721</b>	<b>2,220</b>	<b>1,500</b>	<b>697,441</b>
<b>Exceptional items - costs of proposed merger</b>	<b>39,790</b>	<b>-</b>	<b>-</b>	<b>39,790</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total resources expended</b>	<b>851,197</b>	<b>2,479</b>	<b>250</b>	<b>853,926</b>	<b>696,089</b>	<b>2,863</b>	<b>1,500</b>	<b>700,452</b>
<b>NET INCOMING/(OUTGOING) RESOURCES</b>	<b>(90,480)</b>	<b>2,057</b>	<b>1,115</b>	<b>(87,308)</b>	<b>(25,047)</b>	<b>222</b>	<b>177</b>	<b>(24,648)</b>
<b>Investment gains/(losses)</b>								
Realised gains/(losses)	(9,049)	(7,344)	-	(16,393)	(5,281)	(1,470)	-	(6,751)
Unrealised gains/(losses)	(30,025)	(22,971)	-	(52,996)	(48,127)	(20,844)	-	(68,971)
<b>NET MOVEMENT IN FUNDS</b>	<b>(129,554)</b>	<b>(28,258)</b>	<b>1,115</b>	<b>(156,697)</b>	<b>(78,455)</b>	<b>(22,092)</b>	<b>177</b>	<b>(100,370)</b>
Fund balances at 1 January 2002	380,455	123,808	34,395	538,658	458,910	145,900	34,218	639,028
<b>FUND BALANCES AT 31 DECEMBER 2002</b>	<b>250,901</b>	<b>95,550</b>	<b>35,510</b>	<b>381,961</b>	<b>380,455</b>	<b>123,808</b>	<b>34,395</b>	<b>538,658</b>

All amounts derive from continuing activities.

All gains and losses recognised in the year are included in the Statement of Financial Activities.



## The Independent Auditors' statement on summarised financial statements

### Auditors' statement to the Trustees of the Institute of Energy

We have examined the summarised financial statements set out on pages 16 to 18.

### Respective responsibilities of the Trustees and the Auditors

You are responsible as Trustees for the preparation of the summarised financial statements. We have agreed to report to you our opinion on the summarised statements' consistency with the full financial statements on which we reported to the members on 24 April 2003.

### Basis of opinion

We have carried out the procedures we consider necessary to ascertain whether the summarised financial statements are consistent with the full financial statements from which they were prepared.

### Opinion

In our opinion the summarised financial statements are consistent with the full financial statements for the year ended 31 December 2002.

Steele, Robertson & Co

Chartered Accountants and registered auditors  
39 Cloth Fair, London, EC1A 7NR

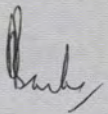
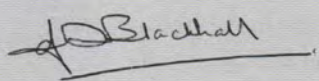
Marfell Smith & Co

Chartered Accountants and  
registered auditors

Market House, 124 Middlesex Street  
London, E1 7HY

Date: 24 April 2003

## The Institute of Energy Balance Sheet

		as at 31 December	
		2002	2001
		£	£
<b>Fixed Assets</b>			
Tangible fixed assets	44,919		57,954
Unquoted investments	-		10,968
Quoted investments	305,781		437,376
		350,700	506,298
<b>Current Assets</b>			
Stocks of Ties, Shields and Medals	1,479		2,444
Debtors	139,661		82,775
Bank balances and cash	80,108		47,362
	221,248		132,581
<b>Liabilities falling due within one year</b>			
Bank overdraft	37,730		-
Income received in advance	7,364		10,080
Creditors and accrued expenditure	144,893		90,141
	189,987		100,221
<b>Net current assets</b>		31,262	32,360
<b>Total assets less current liabilities</b>		381,961	538,658
Representing:			
<b>Capital funds</b>			
Endowments		35,510	34,395
<b>Income funds</b>			
Restricted		95,550	123,808
Unrestricted			
Designated funds	117,500		101,000
Revaluation reserve	-		23,766
Accumulated fund	133,401		255,689
		250,901	380,455
<b>Total funds</b>		381,961	538,658
Approved by:			
			
D Barber Honorary Treasurer		J Blackhall President	Dated: 24 April 2003

## Institute of Energy accounting policies

### 1. Accounting convention

The accounts are prepared under the historical cost convention, modified by the revaluation of quoted investments at market value; with the application of the fundamental accounting policies of going concern, accruals, consistency and prudence and in accordance with applicable Accounting Standards, the Statement of Recommended Practice issued in October 2000, and in accordance with the Charities

(Accounts and Reports) Regulations 2000.

### 2. Basis of inclusion

These accounts include the incoming/outgoing resources for the year and the funds and net assets representing those funds at the year end of head office and all branches of the Institute of Energy, including those of its Benevolent Fund (for which, in addition, a separate audited statement is prepared).

### 3. Depreciation of tangible fixed assets

Tangible fixed assets are stated at cost less depreciation. The historical costs of leasehold property and improvements thereon are depreciated evenly over the terms of the lease (expiring in 2009) and its carrying value does not represent the market value, which is shown by way of note in the financial statements. Other tangible fixed assets are depreciated on a



straight line basis over their estimated useful lives at the following rates:

Fixtures and fittings	10%
Electrical equipment	25%

#### 4. Quoted investments

Quoted investments are included at market value, calculated on a portfolio basis.

Unrealised and realised gains and losses are recognised in the year they arise.

#### 5. Income and expenditure

Income and Expenditure are stated net of Value Added Tax (VAT) where applicable, and are recognised in the year in which such income and expenditure relate. Irrecoverable VAT is allocated in the SOFA on a proportionate basis over the appropriate significant expenditure categories.

#### 6. Liability for dilapidations at expiry of lease in July 2009

An amount equal to the anticipated liability for dilapidations as estimated by Council at each year end, less amounts already set aside, divided by the number of full years remaining on the lease, has for a number of years been set aside annually by transfer to the Dilapidations Fund, in order to ensure that existing free reserves and the eventual Dilapidations Fund will together suffice to meet any eventual liability. Council has taken professional advice on this matter and presently estimates that the maximum to set aside at anticipated 2009 prices will not exceed £200,000. Accordingly £16,500 has been allotted in 2002 to the Dilapidations Fund (2001: £19,000).

#### 7. Pension arrangements

The Institute of Energy contributed to personal pension plans for eligible employees, funded on a money purchase basis and invested in insurance policies. Contributions are charged as expenditure in the year they fall due. All funds are independently administered.

#### 8. Engineering Council fees

The Institute of Energy acts as a collecting agent for the Engineering Council in respect of fees, and accounts to it for such fees on the basis of annual estimates,

## Institute of Energy Benevolent Fund Statement of Financial activities

	year ended 31 December	
	2002 Restricted income funds £	2001 Restricted income funds £
<b>INCOMING RESOURCES</b>		
Charitable activities		
Donations and bequests	1,203	70
Miscellaneous income	254	-
Investment income	3,079	1,827
<b>Total incoming resources</b>	<u>4,536</u>	<u>1,897</u>
<b>RESOURCES EXPENDED</b>		
Costs of generating funds		
Investment management	687	643
<b>Net incoming resources available for charitable application</b>	<u>3,849</u>	<u>1,254</u>
Charitable expenditure		
Professional fees	1,760	1,000
Bank charges	32	32
<b>Total charitable expenditure</b>	<u>1,792</u>	<u>1,032</u>
<b>Total resources expended</b>	<u>2,479</u>	<u>1,675</u>
<b>NET INCOMING/(OUTGOING) RESOURCES</b>	<u>2,057</u>	<u>222</u>
Investment gains/(losses)		
Realised gains/(losses)	(7,344)	(1,470)
Unrealised gains/(losses)	(22,971)	(20,844)
	<u>(30,315)</u>	<u>(22,314)</u>
<b>NET MOVEMENT IN FUNDS</b>	<u>(28,258)</u>	<u>(22,092)</u>
Fund balances at 1st January 2002	119,765	141,857
<b>FUND BALANCES AT 31st DECEMBER 2002</b>	<u>91,507</u>	<u>119,765</u>

All amounts derive from continuing activities.

All gains and losses recognised in the year are included in the Statement of Financial Activities.

which are subsequently adjusted to actual. Balances between the Institute of Energy and Council and amounts received or paid in advance are included in debtors and liabilities due within one year as appropriate, but such fees are not otherwise recognised in the financial statements.

#### 9. Operating leases

Rentals payable are charged on a time basis over the term of the lease.

#### 10. Expenses relating to the proposed merger

All costs relating to the proposed merger of the Institute of Energy and the Institute of Petroleum are written off at the time they are incurred. The amounts so written off are external costs, which to date have principally consisted of professional fees, and no allocation of the cost of the Institute of Energy's staff is made to this category of expense.



## Statement of the Trustees of the Institute of Energy Benevolent Fund

The summarised financial statements for the year ended 31 December 2002 set out on pages 18 to 19 are a summary of the information extracted from the annual accounts which may be obtained, together with the reports of the Auditors and Trustees, on application in writing to the Secretary and Chief Executive at 18 Devonshire Street, London, W1G 7AU.

These summarised financial statements may not contain enough information to allow for a full understanding of the financial affairs of the Fund. For further information the full annual accounts, the Auditors' report on those accounts and the Trustees' report should be consulted.

The annual accounts were approved on 24 April 2003, and will in due course be submitted to the Charity Commission and have been audited by Steele, Robertson & Co. and Marfell Smith & Co.

## Benevolent fund Accounting Policies

### 1. Accounting convention

The accounts are prepared under the historical cost convention, modified by the revaluation of quoted investments at market value; with the application of the fundamental accounting policies of going concern, accruals, consistency and prudence and in accordance with applicable Accounting Standards, the Statement of Recommended Practice issued in October 2000, and in accordance with the Charities (Accounts and Reports) Regulations 2000.

### 2. Investments

Quoted investments are included at market value, calculated on a portfolio basis. Unrealised and realised gains and losses are recognised in the year they arise.

## The Independent Auditors' statement on summarised financial statements

### Auditors' statement to the Trustees of the Institute of Energy Benevolent Fund

We have examined the summarised financial statements set out on pages 18 to 19.

### Respective responsibilities of the Trustees and the Auditors

You are responsible as Trustees for the preparation of the summarised financial statements. We have agreed to report to you our opinion on the summarised statements' consistency with the full financial statements on which we reported to the Trustees on 24 April 2003.

### Basis of opinion

We have carried out the procedures we consider necessary to ascertain whether the summarised financial statements are consistent with the full financial statements from which they were prepared.

### Opinion

In our opinion the summarised financial statements are consistent with the full financial statements for the year ended 31 December 2002.

Steele, Robertson & Co  
Chartered Accountants and registered Auditors  
39 Cloth Fair  
London  
EC1A 7NR

Marfell Smith & Co  
Chartered Accountants and registered auditors  
Market House  
124 Middlesex Street  
London E1 7HY

Date: 24 April 2003

## The Institute of Energy Benevolent Fund Balance sheet

	year ended 31 December			
	2002	2001		
	£	£	£	£
<b>Fixed assets</b>				
Unquoted investments	-	10,968		
Quoted investments	64,468	104,164		
		64,468		115,132
<b>Current assets</b>				
Debtors - Institute of Energy	1,795	1,348		
Accrued income	-	67		
Bank balances and cash	25,244	3,218		
<b>Net current assets</b>		27,039		4,633
<b>Total assets less current liabilities</b>		91,507		119,765
Representing:				
Restricted income funds				
Revaluation reserve	-	10,250		
Accumulated fund	91,507	109,515		
		91,507		119,765
<b>Total funds</b>		91,507		119,765

Approved on behalf of the Trustees

D Barber Honorary Treasurer

Dated: 24 April 2003



# Events

## June 2003

### **Non-conventional oil and gas - unlocking the potential**

Conference, 4-5 June, London  
Contact: SMi Conferences  
Tel: 020 7827 6000  
Email: customer\_services@smi-online.co.uk

### **Introduction to energy management**

Course, 11 June, Glasgow  
Contact: Institute of Energy  
Tel: 020 7580 0008  
Email: events@instenergy.org.uk

### **Domestic CHP - turning technology into profit**

Conference, 12 June, London  
Contact: Sarita DiGiovine  
Tel: 020 8722 6036  
Email: s.digiovine@highburybiz.com

### **InstE Branch Event Annual EMC lunchtime lecture**

13 June, Cheltenham  
Contact: South Wales and West of England Branch  
Geoff Spiller  
Email: geoff.spiller@babcockbes.co.uk

### **ISES solar world congress**

Congress, 14-19 June, Sweden  
Tel: +46 31 708 60 00  
Email: ises2003@gbg.congrex.se

### **European wind energy**

Conference, 16-20 June, Spain  
Contact: European Wind Energy Association  
Tel: +32 2546 1940  
Email: info@ewea.org

### **Managing office equipment for reduced costs and a better environment**

Workshop, 18 June, Glasgow  
Contact: Carbon Trust Scotland  
Tel: 01932 644532  
Email: scottishevents@actionenergy.co.uk

### **Security of supply**

Conference, 18-19 June  
Amsterdam  
Contact: Helen Coetzee, ICBI  
Tel: 020 7915 5618  
Email: hcoetzee@icbi.co.uk

### **InstE Branch Event Branch AGM and annual dinner**

Contact: Hong Kong Branch  
Anthony Lo  
Email: anthonycwlo@graduate.hku.hk

### **InstE Branch Event Visit to BedZED**

Date tbc  
Contact: London and Home Counties Branch - Matt Leach  
Tel: 020 7594 9328  
Email: m.leach@ic.ac.uk

### **Renewable energy course**

24-35 June, Milton Keynes  
Contact: National Energy Foundation  
Email: chris@greenenergy.org.uk

### **InstE Branch Event**

#### **Student prize-giving**

25 June, Belfast  
Contact: Northern Ireland Branch - Ciaran McGrath  
Email: mcgrathc@belfastcity.gov.uk

### **Profiting in the green economy**

Conference, 25 June, London  
Contact: Environmental Industries Commission  
Tel: 020 7935 1675  
Email: info@eic-uk.co.uk

### **European emissions trading**

Conference, 25-26 June  
Brussels  
Contact: IQPC  
Tel: 020 7368 9406  
Email: katrina.gregory@oilandgasiq.com

### **Melchett lecture 2003**

Lecture, 26 June, London  
Contact: Institute of Energy  
Tel: 020 7580 0008  
Email: events@instenergy.org.uk

### **Waste treatment technologies**

Conference, 29 June-2 July  
Sheffield  
Contact: IChemE  
Tel: 01788 578214  
www.icheme.org/waste  
Co-sponsored by the Institute of Energy

## July 2003

### **Is your compressed air system leaking money**

Seminar, 2 July, London  
Contact: Monica Morgon  
Tel: 01923 664531  
Email: morganm@bre.co.uk

### **Developments in the North Sea**

2 July, London  
Contact: Institute of Petroleum  
Tel: 020 7467 7105  
Email: marta@petroleum.co.uk

### **A sustainable energy future - action on aspirations**

Conference, 8 July, London  
Contact: PRASEG  
Tel: 020 7233 5887  
Email: info@praseg.org.uk

### **InstE Branch Event Technical visit - power generation from hazardous waste incineration**

9 July, Hampshire  
Contact: South Coast Branch  
Bob Olding  
Tel: 01202 456307  
Email: bob.olding@bournemouth.gov.uk

### **InstE Energy lunch**

11 July London  
Contact: Institute of Energy  
Tel: 020 7580 0008  
Email: events@instenergy.org.uk

### **Registering on an event seen here?**

*If you are registering on an event which you have seen listed here, please don't forget to mention to the organisers that you saw it listed in the Energy World Events Diary.*

*For further information about events, and to view the Institute of Energy's events calendar please click on to our website at: [www.instenergy.org.uk/events/calendar.htm](http://www.instenergy.org.uk/events/calendar.htm)*





## Advanced energy management one day courses

**Having already** developed a comprehensive introductory one day course, covering all aspects of energy management, the InstE has expanded its portfolio to include a series of advanced energy management one day courses.

These courses are held in London and each course will cover a specific area of energy management in depth, providing delegates with practical solutions to assist in producing an effective energy management strategy, increasing energy efficiency and reducing energy consumption.

The five courses will cover Part L Building Regulations (18 September); Monitoring and targeting (8 October); Educating the workforce (16 October); Renewables (6 November); and Energy auditing (26 November).

These courses cost £195 each for InstE members and £245 each for non-members, however, there is a discount

available if you book a place at all five courses.

**For more information, please**

**contact the Events Office,  
Institute of Energy, 18  
Devonshire Street, London**

**WIG 7AU, telephone 020  
7580 0008 or email  
events@instenergy.org.uk.**

## Towards zero carbon - renewables, fuel cells and embedded generation

**The Institute** of Energy and the Solar Energy Society (UK-ISES) would like to invite you to a one day conference to discuss the potential synergies of renewables, fuel cells and embedded generation and the practicalities of implementing these technologies.

The Energy White Paper: 'Our energy future - creating a low carbon economy', published in February 2003, places a significant emphasis on the roles of renewables, distributed generation and the potential for fuel cells in the UK's future energy mix. The Greater London Authority has also recently published a draft energy strategy putting low carbon solutions at the top of

the agenda.

This conference is aimed at engineers and technologists in both private and public sectors who want to know more about how these low carbon technologies can be achieved in practice. It draws together speakers who have experience of new energy systems, together with those at the forefront of technology developments and policy development.

Attendance at this conference will illustrate the latest developments in fuel cell technology that are near market and entering the demonstration phase; present synergies between fuel cells, hydrogen storage and intermittent renewable energy

sources; experience to date with embedded fuel cell and renewable energy systems; and provide delegates with a perspective on policy and the market instruments necessary to stimulate future deployment.

The key-note address will be given by Dr Mary Archer, President of the UK-ISES and Companion of the InstE.

**This conference is being held on Wednesday 3 September 2003 in London. For more information, please visit [www.instenergy.org.uk/events](http://www.instenergy.org.uk/events) or contact the Events Office, Institute of Energy, 18 Devonshire Street, London WIG 7AU, telephone 020 7580 0008 or email [events@instenergy.org.uk](mailto:events@instenergy.org.uk)**

## Sir Frank Whittle: his life and achievements

**The Institute** of Energy will be holding an evening lecture in the autumn, discussing Sir Frank Whittle's life and achievements, presented by Roy Fowkes, a Fellow of the Institute of Energy.

It was Sir Frank Whittle that ensured that Britain was the first to enter the jet age when his jet-propelled Gloster-Whittle E 28/29 flew successfully from Cranwell on 15 May 1941. During 10 hours of flying, this experimental aircraft achieved a top speed of 370 mph, faster than the Spitfire

or any other conventional propeller-driven machine. This technology was also exported to the States, when a US General, impressed with the results, requested the intelligence before entering the Second World War. He was appointed a CBE in 1944, CB in 1947, and KBE in 1948, and in 1949, he was awarded the Melchett Medal for his work on the gas turbine.

Roy Fowkes first met Sir Frank in 1943 whilst working as a young Engineer Apprentice at his company Power Jets Ltd.

However it was in 1980, whilst working for Esso Petroleum, that Roy persuaded Sir Frank to attend a special celebration

and as a result of this visit, they became close friends.

The lecture is being held in London on 10 September and tickets costs £30 members and £35 for non-members.



*Sir Frank Whittle pictured here with Roy Fowkes.*

**For more information, please contact the Events Office, Institute of Energy, 18 Devonshire Street, London WIG 7AU, telephone 020 7580 0008 or email [events@instenergy.org.uk](mailto:events@instenergy.org.uk)**



## Are you a member of the Institute of Petroleum?

As members will know, work on merging the InstE and Institute of Petroleum is currently underway, including plans for the issue of 2004 subscription renewal notices. We know from our records that we have a number of members who are also members of the Institute of Petroleum. However, it is likely that there are more members of InstE who have joined IP

since these records were last updated. As far as possible we want to avoid sending those who are members of both bodies a request for two lots of subscription! For this reason any InstE member who is also a member of the IP is asked to notify the Membership and Education Office by 30 June 2003. Please email [membership@instenergy.org.uk](mailto:membership@instenergy.org.uk) or phone 020 7580 0077.

## European Energy Manager

The InstE has recently embarked on a two year EU-funded project to develop a qualification for European Energy Managers. The partnership comprises three Chambers of Commerce in Germany, Austria and Portugal and the Institute of Energy as the UK partner. The intention is to develop a qualification that will be recognised nationally throughout the four countries in the partnership and ultimately be extended for use with other countries throughout the EU.

The qualification will be tailored predominantly to the needs of the manufacturing sector and will be piloted initially with a selected number of energy managers over the early part of 2004. The training towards each module of the qualification will comprise attendance on a course backed up by practical application of the learning through a work-based feasibility study.

There are a number of



benefits for those who participate in the pilot project. Attendance on the training courses is likely to comprise approximately 12-18 days over a period of 6-7 months. In addition participants will get to network with their European counterparts via an e-forum, be provided with written support materials, including case studies, checklists and calculation tools, and undertake a feasibility study for a project which could save their company an average of 400 MWh.

### WHAT TYPE OF PERSON SHOULD APPLY?

If you are interested in taking part in the pilot project the main criteria are:

- to be a 'technical' person with responsibility in your organisation for energy

## InstE Melchett Lecture

The InstE is pleased to announce Sir John Parker, Chairman of National Grid Transco, as the recipient of the 69th Melchett Medal, the InstE's most prestigious annual award. Sir John will be speaking at this annual event on 'Supplying Britain's gas and electricity - past successes and future challenges' which is being held at the Royal Society in London on 26 June.

Sir John Parker FREng receives the award for his outstanding services to the energy industry. Sir John joined BG Group plc as a Non-Executive Director in February 1997, becoming Chairman of the Lattice Group following the de-merger of Lattice from BG Group in October 2000. He took on the additional responsibility of Acting Chief Executive following the resignation of the CEO. Following the merger of Lattice Group and National Grid Group in October 2002, Sir John became Chairman of the combined Group.

In his lecture, Sir John will examine Britain's successful restructuring of its gas and



electricity industries and the benefits born out of this, and will look ahead to the fresh challenges faced by National Grid Transco in light of the recently published Energy White Paper. These will include the move from self-sufficiency in gas to growing import dependence; and the rapid development of renewable electricity from remote locations and energy-efficient embedded generation within active distribution networks.

**Attendance at the Melchett Lecture is free by registration only. To ensure your place, please complete and return your registration form (enclosed with last month's Energy World) to:**

**The Events Office, InstE, 18 Devonshire Street, London W1G 7AU.**

matters;

- to be in a manufacturing industry;
- to have a typical energy consumption of at least 4,000 MWh; and
- to have an organisation size of approximately 300-1,000 employees.

However as this is a pilot project the criteria is flexible and even if your organisation does not meet all these aspects it might not bar you from taking part. Similarly, if the time

commitment looks too great the pilot project is likely to develop flexible ways of delivering the learning that might still allow you to take part.

**There are a limited number of places available on the first pilot course so if you are interested please get in touch now to register your interest. Contact Sarah Beacock, Membership and Education Manager on [sbeacock@instenergy.org.uk](mailto:sbeacock@instenergy.org.uk) before 11 July.**



## Ellis memorial lecture 2003 by Ken Parker CEng FlntE



**On the 8 May** over 90 members and guests enjoyed the Midlands Branch's prestigious Ellis Memorial Lecture given by Professor Tony Marmont, who spoke on the subject of 'Renewable energy in the new millennium - economic, environmental and social aspects.'

Professor Marmont gave a splendid presentation that covered the issues of global climate change, the needs and effect of the changes that are to come, and how we can either add to this effect - speeding it up, or take appropriate action to mitigate the impact.

To mitigate the change requires something which Tony termed the 'triple bottom line' where companies, individuals, councils and corporate bodies simultaneously look at the economic, environmental and social performance of their particular project. For any group to be successful in the 21st Century, they will need to meet all three aspects. Pure economics without the back up of good environmental and social performance cannot work. In order to meet the criteria, one has to consider the best technology to be used, and the point was strongly made that, in general, technology should be based on individual buildings looking after their own energy performance

needs. It was argued that central power stations, with their huge inefficiencies, together with the inefficiencies and losses associated with central power distribution, should be

replaced by embedded generation with local distribution at the point where the energy is actually needed. Tony described how this can be achieved by giving examples of what he has personally put in place at both his office buildings at West Beacon Farm and in his own home.

With Professor Marmont's lecture focused on reducing carbon dioxide emissions in the 21st Century, he argued that fossil fuel based centralized plant will need to be replaced by new high tech industries. These will be based on the thermal energy received from the sun and the results of solar power, wind, wave, solar electric, solar heat, geothermal, photo-chemistry, photo-synthesis, biomass conversion and hydrogen as energy carriers. Tony gave the example of the way in which the car can be the producer of energy and not the polluter and produce revenue for the owner, (unlike present day cars which depreciate and waste 85% of the energy put in).

Tony's lecture also reviewed the construction and design of new houses that have been built in Nottinghamshire which have extremely low energy demands. These have the appearance of a normal house in terms of construction and yet have virtually no

central heating, though they maintain a temperature of 22°C throughout the winter and summer. Tony included in his presentation a description of how a solar powered air conditioning unit works and it was suggested that, once earth warming begins to bite, significantly more air conditioning will be needed in buildings and that conventional air conditioning would only increase climate change effects. Mention was also made of the new Hydrogen Village that is to be built alongside Nottingham University Campus, which will be entirely fuelled by renewable energy using hydrogen as the energy medium, with an integrated transport structure to back it up.

The occasion was well supported by both industry and members who were treated to an exchange of theories and observations. As Professor Marmont's presentation content was regarded as being somewhat contentious, it made for a lively discussion period.

### New Members

#### LONDON AND HOME COUNTIES

**Mr J McSorley, Fellow BP**

#### NORTHERN IRELAND

**Mr C Lavery, Affiliate**

Larne Borough Council

**Mr L Marshall, Graduate**

Halcrow Group Ltd

#### SOUTH COAST

**Mr K Pointon, Member**

**Mr D Kinnear, Affiliate**

Gardiner and Theobald

## People

### Tony Duffin



The Carbon Trust has appointed Tony Duffin to its Low Carbon Innovation Programme (LCIP) team. Tony has been appointed as Business Development Manager and his key responsibility will be to oversee the development of LCIP's range of investment streams and support the programme's continuing expansion following its launch last year. This includes the direction of a major field trial of small combined heat and power (CHP) units to be launched later this year. Tony joins the Carbon Trust from AEA Technology where he worked as a Business Manager.

### Callum McCarthy



Callum McCarthy, the current Chief Executive of energy watchdog Ofgem is to assume control of the Financial Services Authority in October. He will succeed Sir Howard Davies.



## Royal Charter granted to the Energy Institute

**Following** a meeting of Her Majesty's Privy Council on Thursday 8 May 2003 a Royal Charter was granted to the Energy Institute. It is expected that the Royal Charter for the Energy Institute will be sealed in June, bringing the new Institute into existence as a legal entity. In July, the assets and liabilities of the Institute of Energy and the Institute of Petroleum will be transferred into the Energy Institute.

John Blackhall CEng FInstE, President of the Institute of Energy commented to the energy media that "the Privy Council's approval of the Royal Charter is another historical step in the creation of the Energy Institute" and Pierre Jungels CBE CEng FInstPet, President of the Institute of Petroleum went on to say "this merger builds on the strengths of both organisations and the Privy Council's approval allows us to lay the foundations for the Energy Institute and the future of energy professionals."

### SIGNIFICANT OPERATIONAL PROGRESS

In other merger news the Interim Council, that has delegated authorities to oversee the merger integration activities, met on the 29 April. High on the agenda were HR matters and the Energy Institute's organisation structure. Significant progress was made on these issues with the senior staff structure to be announced in June, followed swiftly by the confirmation of all other appointments to create the Energy Institute's staff team. The Staff

Consultation Committee, made up of elected members of staff, continues to meet on a regular basis for discussion and consultation with the Director General of IP and Chief Executive of InstE.

At its April meeting the Interim Council also discussed a new governance structure for the Energy Institute. This structure is likely to be presented to the next Interim Council meeting. Following this, election and appointment procedures will be developed for officers and Council members of the Energy Institute.

The Interim Council also received a progress update on the work stream groups as they work towards merging the operational activities of the two current organisations. The IT work stream has completed an audit of current software and hardware, as well as completing an evaluation of the IT needs of the new Institute. It has also developed a migration plan for IT systems to be transferred to 61 New Cavendish Street.

Another key task for the new Institute is communicating the operations of the merged body, as well as the benefits arising from it. This area is being looked at in detail both by the communication and information services work stream groups, and benchmarking of the existing activities of the two organisations in these areas is progressing well. As well as ongoing meetings with members at national and branch events and activities, meetings with leading figures in industry, government and academic circles continue to communicate the

development and future direction of the Energy Institute. This includes Lord Sainsbury, Science Minister, who is deeply committed to the engineering technology and science community.

The publications and event programmes have been reviewed for 2003 and work is progressing on the programmes for 2004. In addition, production cost savings for the two magazines have already been identified and are currently being implemented. At the end of May a combined Institute of Petroleum and Institute of Energy branch meeting was held over two days at the Institute of Petroleum offices to look at the future branch structure, operations, finances and future branch events. Also in May there was the second in a series of focus groups to test possible logo and branding options for the Energy Institute with both members and staff involved.

The education and training work stream group has completed a needs analysis for a sample of members in different grades to evaluate the portfolio of professional development

services that Energy Institute members will require. Discussions with key partners will continue over the next few weeks as Energy Institute services are put into place. Both the individual and group member work stream groups have also been busy. Work to identify the current profile of the combined membership, matched with potential membership services is a key task. The current member offerings have been reviewed and benchmarked with other membership organisations to ensure Energy Institute members receive access to an enhanced range of benefits as one of the most important commitments expressed in the merger prospectus.

With formal approvals being received and operational merger activities progressing well, we are on track to create your Energy Institute, in line with the timetable set out in the merger prospectus. With the legal creation of the Energy Institute in the summer, a formal launch, marked both by national and branch events will take place in the autumn.

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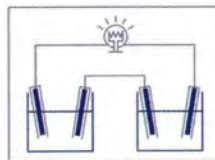
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