

In partnership with

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Gas
Networks
Ireland

Powering a sustainable energy future

Combined Heat & Power Conference



Wednesday 7th February 2018 • Radisson Blu, Cork

Free to attend

Combined Heat & Power Conference



Introduction to CHP

Combined Heat & Power (CHP), also known as 'co-generation', is the simultaneous generation of electricity and heat from a primary fuel such as natural gas. Electricity is generated on site by using natural gas to drive an alternator connected to the engine. The heat from the exhaust fumes generated by the engine is harvested to provide heating and hot water for buildings, to supply district heating systems or process heat for industry (eg dairy processing plants, pharmaceutical operations). Some of the thermal energy can also be used to provide cooling and air conditioning through the use of absorption chiller technologies (known as 'trigeneration'). CHP technology is mature and well proven, and is expected to play an important role in Ireland's transition to a lower

carbon energy mix. This technology, combined with the introduction of renewable gas (biomethane) into Ireland's energy mix, will help Ireland to reach our 2020 national and EU targets on energy efficiency and renewable energy.

Financial savings

Due to potential inefficiencies in centralised electricity generation and transportation, plus the resulting cost of electricity from energy suppliers, significant financial savings can be made by generating electricity on site to meet local requirements. Using cogeneration to provide both heat and electricity on site allows a business to reduce overall energy costs resulting in a significant competitive and productivity advantage.

This is particularly true in Ireland, where electricity prices for large industrial and commercial customers are among some of the highest in Europe and where the price of natural gas has reduced dramatically over the past 12-18 months.

Benefits of CHP

- ✓ Significant **reduction** in energy costs
- ✓ **Short project payback** times achievable
- ✓ **CO₂ emissions reduced**
- ✓ **Lower carbon tax**
- ✓ **Security and continuity** of power supply
- ✓ **Conservation** of valuable **fuel resources**
- ✓ **NZEB** compliance

Environmental benefits

In conventional centralised electricity generation, much of the input energy (over 50%) is lost to the atmosphere as waste heat. Distributed electricity generation, through the installation of suitably designed CHP systems, makes use of almost all of the heat generated in the generation process locally – in 2015 the useful heat output was estimated at 98% of the total heat generated by CHP plants. **The efficiency of a CHP plant can exceed 90% if designed and installed correctly, and is typically 20-25% higher than the combined efficiency of heat-only boilers and conventional power stations.** The use of CHP in 2014 avoided 382,000 tonnes of CO₂ emissions when compared with conventional electricity and heat production.

CHP therefore has the potential to be an economic means of improving the efficiency of energy supply as well as achieving environmental targets for emissions reductions, which is becoming an increasingly important consideration for all businesses.

Natural gas as a bridge to a renewable future

Plans are underway in Ireland, led by Gas Networks Ireland, to introduce renewable gas (biomethane) into the natural gas network over the next number of years. Biomethane is a clean, renewable and carbon-neutral fuel which can significantly improve the sustainability of the natural gas network and reduce dependency on imported natural gas. Gas customers will have the option to purchase biogas through their gas supplier, which has the potential to further improve the environmental benefits offered by gas-fired CHP applications.



Conference Programme

0900 CHP introduction and overview

Chairman's welcome and introduction: **Owen Lewis**, IIEA Working Group on Energy and Climate

Welcome and introduction

Fran McFadden, Commercial Connections Manager, **Gas Networks Ireland**

CHP as part of a sustainable energy future

Hans Korteweg, Managing Director, **COGEN Europe**

The role of CHP in moving towards a low carbon energy future

Bob Hanna, Chief Technical Advisor, **Department of Communications, Climate Action and Environment**

Renewable gas: A key component of a low carbon future

Ian Kilgallon, Business Development and Innovation Manager, **Gas Networks Ireland**

Reducing carbon emissions: The environmental impact of CHP

Matthew Clancy, Bioenergy and CHP Programme Manager, **Sustainable Energy Authority of Ireland**

SUPPLIER PITCHES

There will be an opportunity for exhibiting organisations to showcase their products during a **five minute soapbox pitch** and demonstrate how CHP technology can offer lower costs, a better environmental performance and a more reliable and sustainable energy supply.

Questions & answers / Panel discussion

1110 Morning coffee / networking break

1130 CHP working in practice

Capturing the benefits of large scale CHP

Derek O'Connor, Facilities Engineering Manager, **Bausch + Lomb Ireland**

Becoming a leader in energy efficiency

John Ryan, Energy & Engineering Manager, **Aughinish Alumina**

CHP as a practical energy solution for the hotel industry

Andrew Mullan, Chief Engineer, **Radisson Blu Hotel + Spa, Cork**

Delivering major financial and environmental savings with CHP

Don O'Brien, General Manager, **ABP Ireland**

The large energy users' experience

Kathryn O'Flynn, Environmental and Services Manager, **Lakeland Dairies**

Questions & answers / Panel discussion

1315 Chairman's summary followed by networking lunch

1400 **Optional visit to view the Radisson Blu CHP unit**



Combined Heat & Power Conference

Combined Heat & Power =
A high performing energy
solution for your business

CHP in practice

CHP is suitable for a wide range of applications, but is particularly appropriate as an energy solution where there is a **high demand for both electricity and heat or hot water**. At a European level, CHP is embedded across many sectors including food, distilling, agriculture, ceramics, chemicals, refining and paper, and in the supply chain of many more industries including packaging, food processing and the automotive sector.

Here in Ireland the levels of CHP applications are low with just 7.5% of Ireland's electricity and 6.9% of the country's heat demand coming from CHP installations in 2015 (the European figure in 2011 was 11%). A large proportion of these CHP units are within the services sector, including hotels and leisure centres. Within industry, the food and beverage sector also represents a major industry powered by CHP. Hospitals and nursing homes are another sector which is particularly well suited to CHP, due to their high demand for electricity, heat and hot water.

 *CHP is an important element of the transition to a diverse and low carbon energy mix.*



Policy environment

European Union energy policy requires that all member states take due consideration of the role CHP can play in meeting energy efficiency targets. It requires analysis of CHP as a potential solution for new and refurbished electricity generating stations, major industrial installations that generate waste heat at a useful temperature, and large scale new and refurbished district heating systems. Electricity generated from high efficiency CHP is also required to have guaranteed access to the electricity grid and to be provided with priority dispatch.

The 2007 Energy White Paper set a target of 800MWe of installed CHP capacity by 2020 – at the end of 2015 the figure was 342MWe which would require an annual installation growth rate of 15% to meet the 2020 target. This compares to an increase of 0.5% in installed capacity in 2015 and an annual average growth rate of 2.12% between 2006 and 2015. The latest White Paper, published in 2015, includes a commitment to “develop a policy framework to encourage the development of CHP” but doesn't include any measurable target.

Speaker panel



Bob Hanna is Chief Technical Advisor at the Department of Communications, Climate Action and Environment (DCCA). He was previously Advisor to Sustainable Energy Ireland, Commercial Manager with Premier Power and General Manager of NIE's international business. He has also held positions with the former National board for Science & Technology and ESB. He is a chartered energy engineer.



Ian Kilgallon is Business Development & Innovation Manager, Gas Networks Ireland. Ian's team in Gas Networks Ireland is focused on progressing collaborative innovation projects with key stakeholder companies, research organisations, and developers. Current priority topics aim to assist Irish industry to decarbonise with renewable energy and supporting new rural developments, such as indigenous renewable gas and community cooperative projects. Working in the gas industry for over 14 years, Ian has previously held the positions of National Metering Manager, Market Operations Manager, Regulatory Affairs and Key Account Manager. Prior to working in gas, Ian, who is an Industrial Engineer, spent 18 years establishing and supporting manufacturing and supply chain operations across Europe, Asia and North America for Apple, EMC and Dell.



Hans Korteweg was appointed Managing Director of COGEN Europe in May 2017. He has more than 15 years of energy and environment policy experience, during which time he spearheaded the implementation of effective communications and lobbying strategies for high-growth organisations in Brussels, across Europe and internationally. He also has a decade of association management experience. Most recently, Hans was Director of Communications and Government Affairs, EMEA Region, for the Westinghouse Electric Company.



Owen Lewis is a member of the IIEA Working Group on Energy and Climate. He is also Emeritus Professor of Architectural Science, UCD Dublin, is chair of the Irish Green Building Council and the Energy Institute Ireland Branch. He is also a member also of the Boards of the National Gallery of Ireland, Grangegorman Development Agency, the Marine Institute and the Tipperary Energy Agency. Owen is Vice President of the Royal Dublin Society. Owen was previously Chief Executive of the Sustainable Energy Authority of Ireland (SEAI) between 2009 and 2012. Qualified as architect, engineer, and energy technologist, he has practised professionally in Ireland, England and Zambia. He was part-time Executive Director for Innovation and R&D at Bord na Móna between 2006 and 2008. Owen was Dean of the Faculty of Engineering and Architecture at UCD Dublin and later Principal of the UCD College of Engineering, Mathematical and Physical Sciences. In 1976 Owen co-founded the Solar Energy Society of Ireland.



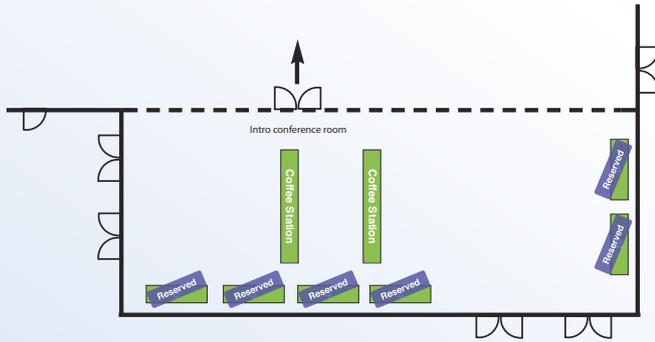
Fran McFadden is the Commercial Connections Manager with Gas Networks Ireland and is responsible for the connection of all industrial and commercial customers to the natural gas network nationwide. Fran's team is focused on growing the number of commercial customers on the Gas Networks Ireland natural gas network and driving existing natural gas customers towards more efficient and more environmentally-friendly use of energy in their business. Fran has worked in Gas Networks Ireland for over ten years and prior to this held various sales management positions in the telecommunications sector.



Derek O'Connor is the Facilities Engineering and Structural Manager for Bausch + Lomb Ireland having joined the company in November 2003. His main responsibilities include the uptime, compliance, expansion projects and energy management for the site. During this period Derek has achieved runner up in the SEAI national energy awards in 2008 in the 'large user' category, was the team lead in obtaining ISO50001 accreditation in April 2013 and successfully completed the recent installation of a 3.3MWe CHP for the site in May 2016.

Exhibition opportunities

There will be a limited number of high quality exhibition opportunities available at the CHP conference. These will be located outside the main conference room in the area where registration and networking breaks will take place. This represents an excellent opportunity for those with goods or services they are interested in promoting to those attending the conference.



For further information, contact Laura O'Neill on 01 661 3755 or email laura.oneill@energyireland.ie



Venue information

The conference takes place in the Radisson Blu Hotel and Spa in Cork, located 15 minutes from the city centre. Parking is complimentary and available on site.

Ditchley House
Little Island, Cork
Email: info.cork@radissonblu.com
Tel: 021 429 7000

Accommodation

A number of rooms have been reserved in the hotel for the night of Tuesday 6th February. These are available to book directly with the hotel (these are limited and available on a first-come, first-served basis).

Contact: Radisson Blu reservations

Quote: CHPconference

Tel: 021 429 7000 Email: reservations.cork@radissonblu.com

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Organised by Energy Ireland

I wish to:

- Register to attend the CHP conference
- Receive details on exhibition opportunities at the conference

Registration

The CHP conference is free to attend, however, pre-registration is required in order to secure a place. Numbers may be limited and will be allocated on a first-come, first-served basis.

To register:

Online: www.irishchpconference.com
 Tel: 01 661 3755
 Email: chpconference@energyireland.ie

Delegate details

Name (Mr/Mrs/Miss/Ms/Dr): _____

Job title: _____

Organisation: _____

Address: _____

Telephone: _____

Email: _____

Cancellations/substitutions

For those unable to attend, a substitute delegate may be sent at any time. Please notify us of any name changes in advance by emailing chpconference@energyireland.ie or by telephone on 01 661 3755.

Acknowledgement of registration

Confirmation of registration will be sent to all delegates, following receipt of registration details. If you have not received your acknowledgement seven days prior to the date of the conference, please contact Energy Ireland to confirm your booking.
 Email: chpconference@energyireland.ie

Don't miss your chance to attend - secure your place now!

Who should attend?

The conference will be relevant to anyone with an interest in CHP as an energy solution. This will include:

- ✓ Energy and environmental managers (public & private sector)
- ✓ Financial controllers
- ✓ Purchasing / procurement managers
- ✓ Policy makers
- ✓ CHP developers
- ✓ Consultants and advisors
- ✓ Energy suppliers
- ✓ Equipment suppliers
- ✓ Financial and legal advisors
- ✓ Engineering consultants

The conference will be of particular interest to energy / environment / facilities / technical managers with responsibility for buying and managing energy within industrial and commercial organisations, keen to learn more about how CHP can deliver significant **cost and environmental savings**.

Delegates attending the conference will:

- ✓ Understand the potential cost and environmental savings CHP can deliver
- ✓ Learn how CHP can benefit your business / industry
- ✓ Hear practical case studies from real life projects in both the public & private sectors
- ✓ Discover how renewable gas can act as a bridge to a renewable future
- ✓ Meet with suppliers and consultants who can advise on suitable solutions for your organisation

Special requirements

The conference venue is accessible for those in wheelchairs or with limited mobility. Anyone with any additional requirements, wishing to attend the conference, please contact us using the contact details above, we will be happy to discuss how these can be accommodated.