Energy Policy, Standards and Innovation

Date/ Time: Tue 21-Mar-17; 09:00 to 17:00
(Registration from 08:30)

Venue: Rochestown Park Hotel, Cork

Synopsis: Energy utilisation remains a key consideration in assessing the operation of any organisation, whether commercial, industrial or residential. Increasingly ambitious corporate expectations and stricter national climate change commitments combine with rising energy prices to demand a further focus. At the same time step changes in technology provide opportunities to look again at how energy is generated, purchased, stored and used.

This seminar will include speakers from policy makers, energy providers, system designers and facility owners. They will discuss current trends and how implementing new technologies and approaches have resulted in real savings.

Who Should Attend: This seminar will be of value to engineers with a range of responsibilities, including designers, project managers, facility engineers, technology suppliers and engineering managers.

Cost, including lunch: Members: €135
Non-Members: €180
Student/ Unwaged: €30

Booking: Booking is online at https://engirecorkseminar17.eventbrite.com

This Seminar is an Engineers Ireland CPD certified event.
For details of other events see www.engineersirelandcork.ie
Chairman, Morning Session

John Kane, Business Unit Director (Ireland), Energy and Technical Services Ltd (ETS) and Chairman Engineers Ireland Energy & Environment Division

Energy and Technical Services (ETS) are an award winning energy management and engineering consultancy providing technical engineering expertise and energy management support to a number of clients across the UK and Ireland.

John is a Chartered Engineer (CEng MIEI) with over eleven years of energy auditing and project management experience in the industrial and commercial sectors. Having qualified with a MSc in Aerospace Dynamics, he subsequently received a MSC in Energy Management from DIT. Before joining ETS he was a Senior Energy Manager for Dalkia Ireland and then Head of the Energy Engineering Department at Veolia Ireland. John is also Chairman of the Energy and Environment Division of Engineers Ireland.

Climate Change Challenges: Energy Commitments post 2020

Brian Ó Gallachóir, Professor of Energy Policy and Modelling Research, MaREI Centre, Environmental Research Institute, UCC

A succession of international agreements, most recently COP-21 in Paris, have sought to limit carbon dioxide levels and resultant global warming. The implications for business, particularly in the transition to a low/ no carbon economy are far from clear. Brian will review the EU and Ireland’s commitments, resulting policy and the implications for business.

Brian is Professor of Energy Policy and Modelling in the UCC’s School of Engineering and Principal Investigator in the SFI MaREI Centre in UCC’s Environmental Research Institute. His research focus is on energy systems modelling, low carbon opportunities and energy policy. His research is well published and is used to inform national energy and climate policy. Brian is Chair of the Executive Committee of International Energy Agency (IEA)’s Technology Collaboration Programme on Integrated Energy Systems Modelling (ETSAP). He is a member of the Steering Committees of Energy Cork and the Gas Innovation Group.

Transitioning Ireland to a Low Carbon Economy

Jim Gannon, CEO, Sustainable Energy Authority of Ireland (SEAI)

SEAI’s mission is to play a leading role in transforming Ireland into a society based on sustainable energy structures, technologies and practices. SEAI aims to provide well-timed and informed advice to Government, and deliver a range of programmes efficiently and effectively, while engaging and motivating a wide range of stakeholders and showing continuing flexibility and innovation in all activities. In his talk Jim will outline the programmes, publications and funding available from SEAI to support businesses in the transition to decarbonised energy systems.

Jim is an Engineering Graduate of NUI Galway, with a Masters in Environmental Assessment from the University of Wales Aberystwyth and a MBA from the UCD Smurfit School of Business. He has worked within the energy sector throughout his career, delivering projects at a European, national and regional level for public and private sector organisations. This has included projects across conventional and renewable energy, transmission & distribution infrastructure, energy demand management and technology development.

The Transactive Grid

Conor Cooney, Technology Manager, Technology Innovation Unit, ESB Innovation

New technologies have revolutionised the energy industry, providing greener solutions, faster connections and more flexibility. ESB networks are becoming smarter, allowing customers to take control of their energy in a way that was never possible before, increasing efficiency and enabling them to turn from user to producer. This talk will examine the move from centralised generation to distributed generation and storage and the implications for ESB.

Conor graduated from UCC with degree in Civil & Environmental Engineering and Masters in Sustainable Energy, and has 9 years’ experience with ESB. From 2008 to 2011 worked in wind farm design & construction with ESB International. He then spent three years managed roll-out of Electric Vehicle charging infrastructure throughout Ireland, and for the last three years has worked in small group which manages ESB’s interaction with emerging energy technologies and business concepts.
Managing Overheating Risk in Low Energy Retrofits: Ventilative Cooling Potential in Ireland
Paul O'Sullivan, Lecturer in Energy System Modelling, CFD & Thermal Analysis, CIT

Overheating is an unwanted consequence of modern building designs and internal gains that is likely going to be further compounded by the effects of climate change on local climates within urban and suburban areas. Free cooling by ventilation, or more commonly referred to as Ventilative Cooling, is a generally accepted effective, energy efficient, mitigation strategy to building overheating. The climate cooling potential for Ireland will be discussed in the context of Part L and zero2020, a low energy retrofit case study, will be used to demonstrate measured performance of ventilative cooling in a low energy application.

Paul is a Chartered Mechanical Engineer and is currently a Lecturer at CIT. He co-leads the research group MeSSO at CIT with research interests in the performance modelling of ventilative cooling systems, indoor environments, thermal comfort and building energy systems performance. He is co-leader of Sub Task C for the IEA-EBC Research Program Annex 62 on Ventilative Cooling. Prior to working at CIT he spent 10 years working in industry in both design and project based engineering roles working for multi-national companies across Europe. He is in the final stages of a PhD with the Institute for Energy Futures at Brunel University.

Gas Networks Innovation & Policy Developments in Energy & Transport
James Browne, Innovation Engineer, Gas Networks Ireland

This talk will focus on recently commenced gas innovation projects in biogas to grid injection and compressed natural gas fuelling infrastructure, as well as government policy developments in renewable heat and transport. The presentation will introduce the “Causeway Project” which is an EU Connecting Europe Facility (CEF) co-funded project that includes 14 public access Compressed Natural Gas vehicle fuelling stations as well as Ireland’s first biomethane to grid project.

James is an experienced researcher and engineering professional who has extensive knowledge of the biogas industry spanning the full supply chain from biogas production to end use. He has a strong background in anaerobic digestion and biogas purification technologies. He works in Renewable Gas Business Development and is project lead for Gas Networks Ireland’s first biomethane to grid project.

Industrial Motors – Best Practice
Stephen Rooney, Area Manager for Drives and Motors, ABB

Electric motors in industrial applications account for approximately 60 - 65% of consumed industrial electricity. Major energy savings are available through increased motor efficiency and the use of variable speed drive systems. This talk will address savings which can be gained by application of best practice in motor design, selection and control.

Stephen Rooney has over 10 years’ experience in the drives and motors industry and has been working with ABB since 2013. He has a BEng in Manufacturing Engineering from the University of Ulster and a Post Grad Diploma in Environmental Engineering from Trinity College Dublin.

The Suitability of Heat Pumps for Irish Housing
Richard Sherlock, Field Sales Manager, Air-Conditioning and Heating Divisions, Mitsubishi Electric Europe

This presentation will make the case for the installation of heat pumps in both retrofit and existing installations. It will look at the benefits of the system, both for today and the future, examine heat pumps as a heat generator against traditional sources, and assess the benefits for the use of heat pumps as a sustainable technology. Monitoring information from existing installations will be utilised to prove the effectiveness of heat pumps for use in our climate.

Richard has been national sales manager for Mitsubishi Electric in Ireland for the Air Conditioning and Heat Pump Sectors for the past two years. Prior to this he has worked in the heat pump sector exclusively for 7 years, as well as being chairperson for the Heat Pump Association of Ireland since 2011. Richard brings a grounded and practical view of the rollout of heat pumps in Ireland. He has a degree in engineering from DIT Bolton Street furthered by an MBA from Smurfit Business School, and has worked with renewable technologies for over 10 years with an extensive knowledge of the heat pump market in Ireland in both technical and market terms.
Think Outside the Barrel - The Future of the Oil Refinery

Dermot O'Sullivan, Operations Manager, Irving Oil

Climate change is ending our reliance on the use of fossil fuels as a primary energy source. In his talk Dermot will consider the oil refinery of the future and the transition away from conventional hydrocarbons.

A chemical engineering graduate from UCD, Dermot has over 30 years’ experience in the energy industry, most recently as Operations Manager at Irving Oil, Whitegate Refinery.

Chairman, Afternoon Session

Kieran Lettice, Cluster Manager, Energy Cork

Energy Cork is an industry-driven cluster pursuing coordinated actions to strengthen enterprise and employment within the energy sector in the Cork region. Supported by Cork City Council and Cork County Council through their respective Economic Development Funds, Energy Cork was conceived by Cork Chamber with a view to building on the unique opportunities for the region to secure competitive advantage in the energy sector.

A Chartered Engineer, Kieran has worked in the energy industry for 15 years - as a consultant in Ireland, the United Kingdom and internationally. His experience includes: renewable energy project development; low-carbon R&D programme management; energy procurement; market and policy development; business development and industry cluster management. Energy Cork was launched in late 2013, supported by Cork City Council, Cork County Council and Cork Chamber, and has grown to include over 80 corporate members.

Case Study: Water and Energy Reduction in Pharmaceutical Manufacturing

Bryan Powell, Site Energy Manager, GSK Cork

Since 2008 GSK have implemented a very successful programme to reduce their carbon footprint and water consumption. In 2014 they installed a 3MW wind turbine to reduce electricity bill and carbon emissions. This talk will review this and other innovations, challenges faced, and the strategies, methodologies, technologies and standards utilised to overcome them.

Bryan is a graduate of CIT with a Batchelor of Engineering (BEng) in Sustainable Energy Engineering. He joined GSK in 2014 as a Facilities Project Engineer and is now Site Energy Manager.

Energy Sector Innovation using Optimisation

Kevin Fitzgibbon, Applied Research Manager, Nimbus CIT

The Nimbus Centre undertakes fundamental and applied research into multiple domains, including energy systems. The talk will outline the breadth of the centre’s capabilities; and will describe some of its research output. The potential of Nimbus’ innovative ‘Energy Optimisation System’ will be highlighted, in the context of changing electricity markets and emerging trends.

Kevin is a Chartered Engineer with over 25 years’ professional experience in a variety of roles, including international development work, consulting engineering and as an Applied Research Manager at Nimbus, CIT. Sectoral strengths include water systems, environmental impact assessment, renewable energy systems, and embedded Information Communications Technology for water systems and services.

Conserving Energy in Industry: How ISO 50001 can work for you

Conor Casey, CEO, Casey Technology

The ISO 50001 energy management standard is a proven framework for industrial facilities, commercial facilities, or entire organizations to manage energy - including all aspects of energy procurement and use. Savings can come from no-cost to low-cost operational improvements. This talk will address the practical reality of conserving energy in industry, describe how ISO 50001 works, and look into the future of energy conservation.

Conor is one of Irelands leading energy consultants providing energy management services to many of Irelands large energy users since 1995. As CEO of Casey Technology, Conor leads a team of professional
energy consultants who have delivered more than 10% of the national energy savings target under the Energy Efficiency Obligation Scheme. The energy management systems installed by Casey Technology are compliant with ISO 50001.

Making the Case for Behind-the-Meter Energy Storage
Liam Breathnach, Chief Technology Officer, Solo Energy

Electricity storage is a key enabler for the greater integration of renewable energy on the power system. Storage can provide greater flexibility to system operators by smoothing intermittent generation and variable demand. It presents an opportunity to reduce bills through peak reduction and/ or the consumption of onsite renewable generation. This presentation looks at the status of the “behind-the-meter” energy storage industry and Solo Energy’s 100% renewable electricity supply offering based on a distributed energy storage network.

Liam is a chartered engineer with a degree in Electrical and Electronic Engineering from UCC and a Masters in Applied Computing for Technologists from DIT. He is an expert in the modelling and analysis of power systems with over ten years of prior experience in the power system studies field at ESB International (ESBI). He has undertaken numerous transmission and distribution projects both in Ireland and internationally.

Cork County Council ISO 50001 Certification Case Study
Brian Ahern, Senior Executive Engineer, Cork County Council

The aim of the talk is to give a brief outline of the path to ISO 50001 Certification for Cork County Council. Cork County Council is geographically the largest county in Ireland and has a very diverse scope of services ranging from graveyards to playgrounds, road maintenance to fire stations and a fleet of over 600 vehicles. Achieving ISO 50001 certification for the entire organisation was a challenge but was achieved within eight months from the initial letter of intent.

Brian is Civil Engineer in the Roads Management Office (Public Lighting). Formerly he was part of the Energy Management Team that achieved ISO 50001 certification for Cork County, the first local authority in Ireland to do so. Brian previously worked in construction on many of the large motorway and pharmaceutical projects.

Case Study: Building a 3MW Data Centre
Jerry Sweeney, Managing Director, Cork Internet eXchange

Cork Internet eXchange (CIX) is currently building a 3MW extension to their data centre in Hollyhill. This presentation will outline the design choices taken and the reasons for those choices. It will focus on the Power and Cooling aspects of the build, but Connectivity and Fire Suppression will also be mentioned.

Jerry has a B.E.(Elec.) from UCC and an M.Sc. in Supply Chain Management from DIT. While in college his work experience and project work related to grid integration of wind turbines. After graduating in 1980 he worked in semiconductor testing, electronic manufacturing and reverse logistics. From 1988 to 2006 Jerry was Managing Director of Chip Electronic Services. Since 2007 he has been Managing Director of CiX, the largest data centre in Ireland outside of Dublin. He is an Accredited Tier Specialist of the Uptime Institute.

Internet of Things: Innovations in Monitoring and Control
Denis Canty, Lead Technologist - Data Science & IoT - Innovation Garage, Johnson Controls

Johnson Controls create intelligent buildings, efficient energy solutions, integrated infrastructure and next generation transportation systems to deliver on the promise of smart cities. At One Albert Quay their technology intelligently controls the HVAC and monitors a range of environmental data inside and out, such as air quality, gas levels and temperature/humidity. In his talk Denis will review how the Internet of Things (IoT) is influencing monitoring and control technologies, and the insights available from Big Data analysis.

Denis’s research interests include the commercialisation of machine learning and artificial intelligence and the future impact of technology on sustainability. He is focused on market sensing and building analytics applications to solve direct customer challenges. A graduate of CIT, Denis also has a Masters in Computer Science and a Masters in Microelectronic Design.
<table>
<thead>
<tr>
<th>Agenda Item</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration/ Coffee</td>
<td></td>
</tr>
<tr>
<td>Introduction/ Opening Remarks</td>
<td></td>
</tr>
<tr>
<td>Climate Change Challenges: Energy Commitments post 2020</td>
<td>Brian Ó Gallachóir, UCC</td>
</tr>
<tr>
<td>Transitioning Ireland to a Low Carbon Economy</td>
<td>Jim Gannon, SEAI</td>
</tr>
<tr>
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<td>Conor Cooney, ESB Innovation</td>
</tr>
<tr>
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<td>Paul O'Sullivan, CIT</td>
</tr>
<tr>
<td>Potential in Ireland</td>
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</tr>
<tr>
<td>Q&amp;A</td>
<td></td>
</tr>
<tr>
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<td></td>
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<tr>
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</tr>
<tr>
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</tr>
<tr>
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</tr>
<tr>
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<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
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</tr>
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<tr>
<td>Closing Address</td>
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