IRELAND'S LEADING ENVIRONMENT & ENERGY MANAGEMENT PUBLICATION

environment & ENERGY MANAGEMENT

DRIVING ENERGY & ENVIRONMENTAL INITIATIVES IN IRISH BUSINESS

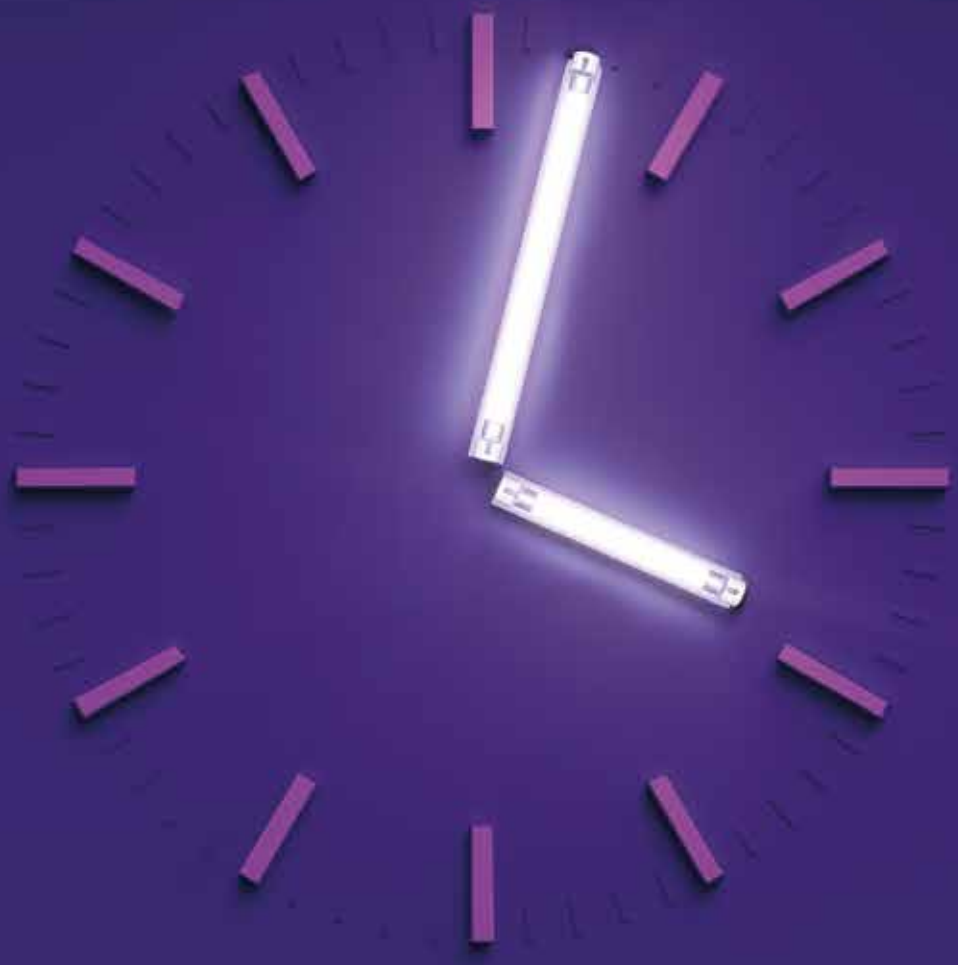
Planning for renewable energy

Emissions of greenhouse gases drop due to rising energy costs but there was a rise in transport sector

Enterprise Ireland: Why sustainability must be a priority for Irish firms

Green energy sources jeopardised if recycling targets missed

Time's running out to upgrade your lighting



From September 2023, the EU will phase out fluorescent lighting. This may directly affect your business, so why not beat the rush and apply for a fully funded lighting upgrade from Energia? You can get your old fluorescent lighting replaced, while also reducing your lighting consumption by up to 80%. We'll make it easy by managing the entire process from start to finish.

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"We'll track net zero progress for $1trn of investments"

A sustainability services company has launched a new product to help investors managing $1trn in real estate funds to track their progress towards net zero.

The Net Zero Tracker produces a graph showing the investor's own net zero target vs the real progress towards that goal over time. It can show whether they are on track or falling short and identifies which sustainable investments are having the most impact.

Chris Bennett, founder of Evora Global, said he hopes the new feature of his company's SIERA software will also aid our understanding of global efforts towards sustainability.

"Net Zero Week is a time when we really need to take stock of where we are in terms of sustainability. We need to do this as a society, as businesses and as individuals.

"To do this properly we need good data and a clear pathway towards a sustainable future. These things are possible and I hope the world's biggest funds and property owners will take a lead on this.

Bennett says his software team has developed the tools to show investors exactly where they stand in the drive to cut emissions.

"Close to 40 percent of emissions come from real estate. Meanwhile, investors in global real estate each have their own net zero targets, along with incentives to achieve those targets.

"But until there's clarity on their own progress, it's hard for those investors to make clear decisions on next steps.

"This feature enables real estate investors to see, in a single snapshot, how close they are to achieving their net zero targets, and how that's likely to progress over time."

The Net Zero Tracker means investors are able to see easily if they need to improve their own sustainability credentials in order to achieve their goals, using the data collected by building managers and stored by SIERA.

"We hope this feature will enable some of our world's most powerful investors to make decisions which will deliver significant progress towards a net zero society," added Bennett.

About Chris Bennett and EVORA

Chris Bennett is the co-founder of sustainability services company Evora Global, whose clients include Hines, Invesco and M&G. Founded in 2011, the company has over 200 staff and is a major proponent of the use of ESG data. Evora also recently made it into the FT 1000, as the 2nd fastest growing UK company in the real estate sector.

Evora's SIERA software enables its clients to make investment decisions regarding climate change and sustainability.

Green energy sources jeopardised if recycling targets missed

Ireland and other European nations risk jeopardising green energy sources if we fail to hit upcoming EU targets to recycle critical raw materials, it was warned today.

Electric vehicle batteries, wind turbines and solar power generators all require components such as lithium, magnesium, copper and nickel – but Europe is importing the vast bulk of these.

Waste Electrical and Electronic Equipment (WEEE) Ireland's 2022 annual report, out today shows consumers recycled a record number of e-waste items last year - 40,804 tonnes or just over 10kg per person.

A total of 19.5 million appliances were recovered, including 113,000 fridges, 225,000 TVs and monitors, 2.2 million lighting items and the equivalent of 60 million used AA portable batteries.

But the country's largest e-waste recycling scheme warns that we also need to meet a forthcoming EU target to recycle at least 15% of our annual consumption of critical raw materials from this e-waste.

"Recent global events and the energy crisis have underscored the vulnerabilities of relying on other countries for critical raw materials," said WEEE Ireland CEO, Leo Donovan.

"The EU currently imports 93% of its magnesium and 86% of its rare earth metals from China. We need secure and sustainable sources of these materials within the EU or we risk jeopardising the supply of vital technologies required for our green and digital transitions.

"As the world embraces a more sustainable future and shifts away from fossil fuels, the demand for lithium alone, a vital component in batteries that power everyday technology and devices, is projected to increase twelve-fold by 2030.

"To address these challenges, the EU aims to ensure that by 2030, at least 15% of the critical raw materials consumed annually originate from European recycled sources under the forthcoming Critical Raw Materials Act.

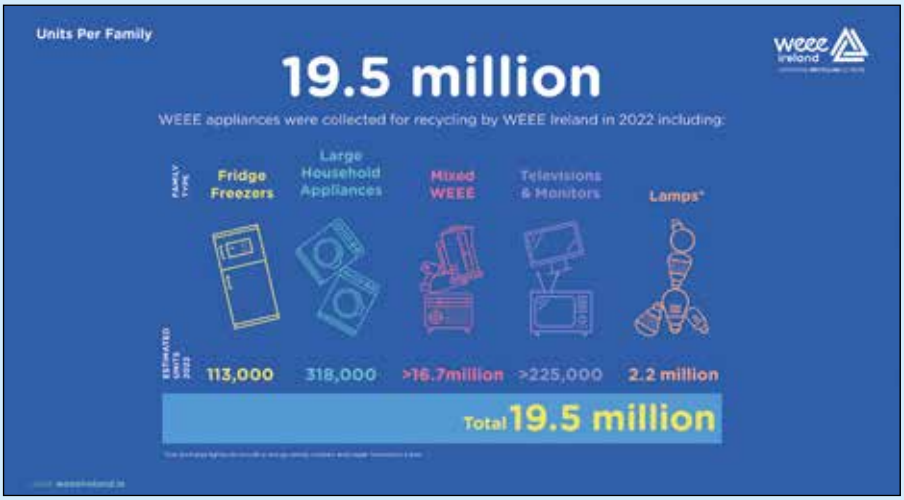
"Old and broken electronics and appliances are a rich source of essential critical raw materials, so it is vital that Irish households recycle the millions of broken and perfectly recyclable electrical items that are accumulating in our homes or being improperly disposed of."

He said WEEE Ireland's collaboration with KMK Metals Recycling in the midlands has been instrumental in processing e-waste to the highest European standards and ensuring its recycling into secondary critical and strategic materials.

Leo Donovan, CEO of WEEE Ireland warned that Ireland and other European nations risk jeopardising green energy sources if we fail to hit EU targets to recycle critical raw materials. Waste Electrical and Electronic Equipment (WEEE) Ireland's annual report today shows consumers recycled a record number of e-waste items last year - 40,804 tonnes or just over 10kg per person. Picture: Conor McCabe Photography.

"Last year, we got more out of these recovered items than ever before," said Mr Donovan.

The annual report shows 52% of electrical waste was collected from retailer sites in 2022, 24% from local public collection days, but only 24% from local authority sites - significantly lower than the 60% average in other European countries.



However, we fell short of Europe's 65% takeback target for overall e-waste, measured against new appliance sales, which surged by an average 25kg per person last year, up from 22kg in 2021.

There was progress on battery recycling - Ireland surpassed the EU's 45% target for waste portable batteries – collecting 1,202 tonnes, up 11% on 2021.

"Recycling centres and retailers are easily accessible to everyone, along with public collection days that we hold in different counties each week," said Mr Donovan.

To find your nearest local recycling centre, public collection day, or electrical retailer go to weeeireland.ie ■

FoodCloud partners with Coca-Cola HBC to launch new 'Food Sourcing Strategy'

Food Sourcing Strategy to focus on reducing food waste on the island of Ireland with an ambition of doubling volume of food redistributed to 5,100 tonnes per year by 2025

Minister of State for Land Use and Biodiversity Pippa Hackett today joined FoodCloud and their partners Coca-Cola HBC Ireland and Northern Ireland to announce a three-year initiative which will see the introduction of a new Food Sourcing Strategy.

With a strong working relationship of over 3 years, Coca-Cola HBC has supported both FoodCloud in the Republic of Ireland and their counterparts FareShare in Northern Ireland with financial and product donations as well as volunteer hours. This new partnership will take a strategic approach to reducing food waste across the island of Ireland and will focus on FoodCloud's objectives of doubling the volume of food redistributed to 5,100 tonnes per year by 2025. This equates to approximately 12,000,000 meals redistributed in Ireland and 16,000 tonnes of CO2-eq avoided. Tackling food loss and waste delivers a threefold purpose directly benefiting - the climate, food security, and the long-term sustainability of our food systems.

Through this initiative Coca-Cola HBC will support FoodCloud in Ireland and FareShare in Northern Ireland to analyse and review the existing approach to food sourcing and identify challenges and opportunities for growth. The outcomes and indeed the development of the food sourcing strategy is designed to support the efforts of social enterprises to engage larger manufacturers, producers and suppliers across the food and drink supply chain in surplus redistribution. Through the implementation of this new strategy, food industry partners will have the knowledge and processes they need to identify ways to prevent food waste and reduce carbon emissions within the sector.

Speaking at today's announcement, Minister of State for Land Use and Biodiversity, Pippa Hackett, said: "The new Food Sourcing Strategy is a very welcome initiative. Tackling food loss and food waste is a key step in combating climate change and in Ireland's transition to a circular economy. With over 770,000 tonnes of food waste recorded in 2020, it is vital that producers, suppliers, consumers and Government work together to address this pressing challenge."

Since 2013, FoodCloud has redistributed over 201.3 million meals in Ireland and

internationally. It has also rescued more than 84,555 tonnes of food from going to waste, avoiding over 270,576 tonnes of CO2-equivalent. Food waste also has a huge environmental impact, accounting for 8-10% of global greenhouse gas emissions*. To put that into perspective: Food waste generates over four times more greenhouse gas emissions than the global aviation industry.

The existing partnership between FoodCloud and Coca Cola HBC has already seen 586 tonnes of surplus food redistributed in the first quarter of 2023. That equates to approximately 1,875 tonnes of Co2 equivalent avoided and 1.4 million meals equivalent redistributed to Food Cloud's network of over 600 charities.

Aoibheann O'Brien, Co-Founder and Partnerships Director, FoodCloud, said: "While FoodCloud has made great progress in rescuing and redistributing surplus food, this figure represents only a very small percentage of the 770,300 tonnes of food that is wasted every year in Ireland. We are still only scratching the surface of surplus potential in Ireland and more needs to be done to achieve the ambitious target of halving food waste by 2023.

"The FoodCloud Food Sourcing Strategy supported by Coca-Cola HBC will be the foundation to significantly grow the volumes of food redistributed across the Irish supply chain by 2025 and support FoodCloud's ambitious vision of a world where no good food goes to waste. In our efforts to cut emissions as a country, the Food Sourcing Strategy has an important role to play in reviewing the processes in place and providing tangible learnings to help us double the volume of food redistributed to 5,100 tonnes per year by 2025 and to cut the associated emissions of wasted food. The food sourcing strategy involves an analysis, not only of the surplus that is available and of the needs of our charity and voluntary organisation (CVO) partners, but also an analysis of ways to unlock pockets of fresh produce and a diverse range of foods that can contribute to a balanced diet for the communities that we serve. We look forward to working with Coca-Cola HBC over the coming three years to meet these challenges."

The partnership being announced today builds on Coca-Cola HBC's commitment to achieve net zero emissions across its entire value chain by 2040. As part of this commitment, Coca-Cola HBC has sought to promote a life-cycle approach to reducing food waste and the sustainable sourcing of raw materials.

Tom Burke, Corporate Affairs and Sustainability Director, Coca-Cola HBC Ireland and Northern Ireland, said: "The journey to NetZero requires partnership across all industries and sectors. As the largest beverage provider on the island of Ireland and the world's most sustainable beverage company we recognise we have a role to play in leading the industry response and developing partnerships across the sector. In our own operations, we are looking both internally and externally to reduce carbon emissions and play our part in driving sustainability. Over the past three years we have seen the incredible work FoodCloud and FareShare do, and we are excited to work together to develop this vital Food Sourcing Strategy which will evolve how the food and drink industry approaches food redistribution and as a result reduce associated carbon emissions.

"The Food Sourcing Strategy will see Coca-Cola HBC and FoodCloud work together with others across the food and drink sector to find innovative new ways to reduce food waste and double the volume of food redistributed to 5,100 tonnes per year by 2025. We look forward to seeing a vibrant community of industry and community partners emerge as we work collectively to prevent food loss and achieve a world without waste."

For more information about FoodCloud, please visit their website https://food.cloud/ ■

Indra Partners with Starla Energy to Supply Electric Vehicle Chargers to Home and Residential Customers

- Starla Energy to supply commercial electric vehicle (EV) customers with Indra Smart Home chargers
- Nationwide agreement includes Indra's domestic Smart PRO and Smart LUX™ chargers

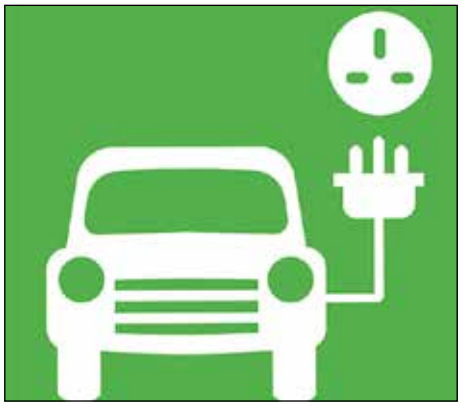
Leading British Electric Vehicle (EV) charging and smart energy business, Indra, has announced today an exciting partnership with Starla Energy, a provider of innovative solutions and services for EV charging to individuals and businesses.

Starla Energy has chosen Indra to supply its customers with its industry-leading Smart PRO and Smart LUX™ EV home chargers. The partnership agreement enables Starla Energy to offer its customers a class-leading smart EV home charging solution that combines cutting-edge technology, industry-leading reliability and exceptional ease-of-use. Furthermore, Indra's chargers offer solar matching and intelligent off-peak charging to minimise cost and maximise renewable energy usage for EV drivers.

The partnership means that Starla customers purchasing an all-electric van or pick-up truck can now access an easy, hassle-free EV installation and smart charging experience at point of sale.

Speaking about the partnership, Leighton King, Chief Commercial Officer at Indra says:

"We're delighted to be partnering with Starla Energy to supply our Smart EV chargers to its commercial vehicle customers. Starla Energy is an ambitious UK business that shares our vision to make EV ownership as straightforward, rewarding and sustainable as possible. By installing our high-quality chargers, Starling Energy can provide its customers with an elegant but robust charging solution that enables users to optimise their charging schedules



and tariffs to help them save money and the planet."

Martyn Broadhead, Commercial Director at Starla comments:

"Indra has a great reputation within the developing EV smart tech sector based upon the excellent Smart PRO range which we believe to be the best pound-for-pound charger in the market. Its ability to take power from Solar PV systems as well as the grid is a big factor for us. "We have already successfully delivered and installed Indra chargers to our customer base, and we look forward to delivering thousands more. The fact that Indra is UK-based is also in line with our policy to use homegrown solutions wherever possible – we want UK-created green technologies to drive UK market adoption to net zero."

Developed in-house using Indra's unrivalled smart charging expertise and experience, both the Smart PRO and Smart LUX™ have been built with EV drivers in mind.

The new Indra Smart LUX™ is the slimmest charger on the market with a sleek contemporary design, a choice of four colours, class-leading water and dust protection and exceptional impact resistance.

All Indra EV smart chargers include optimised charging schedules for off-peak charging, enabling access to renewable energy when it's at its cheapest, automatic software updates and solar compatibility with PV panels. Indra's cutting-edge tariff integration technology also enables end users to access the cheapest and greenest tariffs, including Type of Use tariffs.

For more information on Indra or its range of smart EV chargers, visit indra.co.uk ■

About Indra

Indra was founded in 2013 on a mission to create the smartest way to power EVs (electric vehicles). With its design, R&D, engineering and manufacturing operations based in Malvern, this British company has fast become a leading EV and smart energy technology business. Indra is creating a sustainable energy ecosystem through the use of pioneering technology that integrates the car, the home and the grid.

Indra has designed a range of innovative, high-quality EV chargers that offer the most reliable, intelligent and sustainable EV charging capability. By working with carefully selected professional installer networks, Indra's high-quality, high-performance products are easy to install and operate; and are already in use in thousands of home and commercial locations worldwide.

The company has also developed the first commercial bi-directional V2G (vehicle to grid) charger which allows power to flow both ways, enabling users to control the flow of energy to where it's most needed.

For more information visit www.indra.co.uk ■

About Starla

Starla Energy was founded in 2022 and provides EV charging solutions, home/workplace/commercial battery-based energy storage, Solar PV panel systems and on-site power generation solutions that utilise green energy.

The brand is committed to making the adoption of these green technologies as easy as possible, with a value proposition based upon significantly reducing grid-based energy consumption for both UK residential & business customers, in addition to supporting corporate sustainability goals.

For more information visit www.starla.energy ■

Multi-site Management Systems for ISO 50001

There is often confusion about the requirements of a multi-site management system and the ability to achieve certification to ISO 50001. This is particularly in relation to the designation of the SEU's. Some people will argue that you can simply have an energy management system for the organisation and designate the single facilities (or buildings) as SEU's and others will argue that you cannot. After having a long and detailed discussion about the technicalities of this with a colleague, it was suggested that I might pen an article about it and provide my opinion on this as someone that is quite familiar with the requirements of the ISO 50001 Standard and certification.

Firstly, I am going to draw a distinction between "multi-site EnMS" and "multi-site EnMS eligible for sampling". In doing so I am simply saying that an organisation can develop their energy management systems in whatever way they want, but for their energy management systems to be eligible for sampling they need to meet certain requirements. These requirements are laid down in ISO 50003:2021, Annex B3. Some persons might immediately ask the question about how a "guidance document" to the normative ISO 50001 standard can change the requirements of the ISO 50001 standard, but I can reassure that it does not do this. It simply provides clarity to the reader – the persons providing the services of certification of ISO 50001 to organisations, how they should interpret the requirements of the ISO 50001 standard to ensure that ISO actually means what it is meant to mean "the same everywhere", coming from the Greek work ISOS. (think Isobar, Isotherm etc). One simple way to understand the requirements laid down in ISO 50003 Annex B3 is when an organisation wishes to have their EnMS eligible for sampling, meaning that the certification body does not need to audit every facility within the organisation against the requirements of the standard, any reference within the standard to "the organisation" needs to apply to the totality of the organisation, and that the manner in which the organisation meets the requirements of the standard is consistent across the organisation – thereby meaning that you have a single EnMS across the organisation, as opposed to multiple EnMS's within the organisation, masquerading as a single EnMS in an attempt to reduce the number of audit days. Certified organisations and certification bodies alike need to be aware that there is a requirement for the certification body to ensure that organisations that do not have a single EnMS across the organisation are not made eligible for sampling.

Note, this does not mean that the individual parts of the organisation are identical to one another – there can be differences, provided that the sampling approach takes into account these differences.

So back to the question I started with, and the selection of SEU's within the wider organisation. I am not going to say, and cannot actually say, that it is not possible, but will point out that it can be problematic to do this. The reason I say this is that certification is an assessment of conformity. A certification body, nor indeed an auditor for a certification body can choose to "ignore" a requirement of the standard. To be recommended for certification, the organisation must be able to meet all requirements laid down in ISO 50001: 2018. If decisions are taken by the organisation whilst going through the implementation process that mean it is difficult, or impossible for them, to meet certain requirements of the standard, then the only option is to do what is needed to meet the requirements of the standard with that approach intact, or go back and reconsider that decision.

I am going to outline the two different approaches here in relation to a fictional organisation ABC which for the purposes of the discussion I will simply say is a public body that provides services to the public across multiple locations across a geographic region. The services to the public in different locations are not identical, but they all have a common link. For example it could be a local authority. The different buildings provide different functions and can be totally dissimilar to one another in some cases and similar in other cases. (think permanent structures v/s temporary structure; new build v/s historic building etc)

When you designate something as an SEU you are required to meet all of the requirements of the standard related to that SEU

For example we need to determine the relevant variables for the SEU. Note there must be at least one! Having none is not an option. (it may be time). You will see that I have deliberately bolded the determine word. It is determine, not identify. Because the word "determine" is not defined in the standard, the meaning of the word in an English dictionary should apply – "ascertain or establish exactly by research or calculation". Therefore if Buildings are an SEU it would be expected that the buildings would have similar relevant variables.

Similarly we are required to identify the person(s) doing work under the organisations control that influence or affect the SEU's and it would appear that for a building this could become quite a long list.

This is not to say that it "cannot" be done in this way, but more so to say that in some organisations the inconsistencies between the different facilities will effectively render the information coming from the energy reviews to be so different, because each building has shown itself to be so different that a the certification body if complying with the requirements of ISO 50003 and relevant IAF rules would be required to render the organisation not eligible for sampling - based on their selection of SEU's that have demonstrated themselves to be so different that it is not practical to say that there is a single EnMS in place. It would likely be much easier for the above approach to be used for an organisation where there is a high level of consistency across buildings, for example McDonalds outlets, the kitchens will be very similar and at least there will be a small number of different "types of outlets", meaning that the above approach could well be possible with the likely relevant variables being the product sold and a likely very similar breakdown of energy consumption across the group.

If we reverse engines for a bit now and reconsider the approach from the perspective of approaching the SEU's on an end use

breakdown of energy, remembering that we still needed to break down this energy use for the approach above as explained.

Let us consider two types of energy end uses as a start to outline how we might do this, lighting and hot water boilers.

For lighting we can consider the relevant variables to be possibly driven by the hours of operation, the hours of daylight or the type of lamp fitted.

The SEU of lighting when determining the current performance can be broken down into sub-types, eg incandescent, T8 fluorescent with magnetic ballast, T8 fluorescent with electronic ballast, T5 fluorescent, induction, High pressure sodium, metal halide and LED. For each of these types the efficiency can be defined as lumen per watt. It might go further then and consider efficiency from the perspective of lamps being lit unnecessarily by considering the types of controls in place for lamps, BMS, Lighting management systems, manual switching, PIR's, timers, photocells etc.

The energy end use can be defined as lighting, with a defined "appropriate" level of light "lux level" for each category of space within the building.

The organisation can then "determine its current performance for its SEU" by going across the organisation and determining the percentage of each type of lamp within each type of facility, the percentage of lamps with different types of controls and the percentage of areas that are 20% , 30% , 40% overlit etc.

This type of approach provides meaningful information back to the organisation as it points towards where the improvements are going to come from etc. It also allows a practical way of describing the operational and maintenance practices in place for lighting.

Similarly for hot water boilers, the relevant variables may be determined to be weather, production, throughput etc and when determining current energy performance it is likely again that the SEU would be broken down into sub categories, eg modular boilers, cast iron sectional boilers, fire tube boilers, condensing and non-condensing etc. Each sub type of boiler would have an associated "typical level of efficiency, combustion efficiency etc.", we could further look at the different pumping and end use arrangements, control arrangements, appropriate set points for different systems and indeed space categories in buildings. Again having done this level of work in getting to understand the many different ways that the spaces could be heated, and the associated benefits of each approach, the determination of current energy performance can be undertaken to determine which type of boilers are fitted where, the associated set points etc and end use delivery, again leading neatly to giving a better understanding of where the improvement will likely come from.

This approach can be replicated across all different areas of energy end use.

Both approaches are "possible" but I hope I have shown that the buildings approach can become more problematic for an organisation to demonstrate conformity.

The last point I will raise here is in relation to Energy Performance indicators. Whilst is it always an aspiration to develop energy performance indicators at an SEU level, it sometimes comes as a revelation to some individuals that it is not a requirement that you have an EnPI per SEU, especially when this is how many are taught the system must be implemented by some "so called experts".

The clause of ISO 50001:2018 related to EnPI's and baselines deliberately does not draw the direct link between EnPI's and SEU's. It requires that organisations determine EnPI's that are appropriate for monitoring and measuring energy performance and enable the organisation to demonstrate energy performance improvement. The EnB's and EnPI's need to flow from the energy understanding that has been developed by individuals from the experience of undertaking the energy review. It is however quite possible, and often simpler for an organisation to take an approach when developing their EnMS to breakdown of their SEU's on a "technology or end use basis", but when considering their EnPI's to at least initially keep their EnPI's at a building level, and maybe over time break this down to sub-building level to allow it to better determine and demonstrate improved energy performance.

The organisation separately needs to be able to retain documented information "of energy consumption related to its SEU's", a requirement which the building level EnPI can meet, and operational criteria related to the SEU, which is to show that they are appropriately managed – and this is typically available on the BMS. Relevant variables for SEU's must also be collected and retained which is why care must be taken in the appropriate determination in the first instance.

I hope that I have provided some insight into this topical area as I have been requested to do and I would encourage anyone facing the challenge of a multi-site EnMS implementation to take a look at the Baseline 50001 software that we at ISO Baseline Ltd have developed to make the process of implementing ISO 50001 a journey of excitement and improvement and not the drudge that management system implementation can sometimes become.

Rob Lyons, ISO Baseline rob.lyons@isobaseline.com

Offaly in the Irish Midlands ready to rival Europe's key cities as green Data Centre hub

Offaly in the Midlands of Ireland is well-placed to become a new hub for data centres with the potential to create thousands of green jobs, according to a new report by technology company Siemens.

The study, commissioned by Offaly County Council, explores how Offaly in the Irish Midlands region could rival Dublin, Frankfurt, London, Amsterdam and Paris in being an anchor for data centres powered by renewable energy.

Siemens outlined that data centre operators will consider the region, because of the simple access to reliable, renewable energy, the abundance of land for development, the moderate climate and strong supply of talent. Sites such as Rhode Green Energy Park in Offaly have been identified as potential opportunities for data centres.

Offaly has transitioned from peat-fired electricity to green energy production. At present, the County has 650MW of operational or permitted renewables. These include: wind, solar, hydrogen electrolysers, biomass methanisation, and synchronous compensator. The existing, consented and 'pipeline' of additional projects may raise the total to over 1.5 GW of renewable energy, storage and grid systems services facilities in Offaly.

Anna-Marie Delaney, Chief Executive of Offaly County Council, said: "We are very pleased to see Offaly's Green Energy developments and potential endorsed by this comprehensive report. Offaly County Council is committed to sustainable economic development and so harnessing green energy for large energy users like data centres and industry will assist that strategic objective in a number of ways.

"Offaly can provide an ideal central location for large energy users to decarbonise, while serving national and international markets. That investment will attract additional inward investment, innovation and related job creation to Offaly and the Midlands. The integration of large energy users with renewables will create a sustainable eco-system for enterprises to co-locate utilising waste heat and energy for a range of users including industry, horticulture and community benefit.

Furthermore, this trajectory will support Government Policy to enable the "twin transitions" of digitalisation and decarbonisation of our economy and society

This report by Siemens provides us with the foundations we need to attract operators from across the globe, deliver a business case to invest in our local infrastructure and create a more sustainable economy. "

The study was co-funded by the EU Just Transition Fund and North Offaly Development Fund (NODF). The North Offaly Development Fund is a community group with Rhode Green Energy Park as its flagship project.

Joe Walsh, General Manager at Siemens Ireland, said: "The data centre industry is looking for new locations away from its traditional hubs and the Midlands of Ireland has huge potential.

"Through local investment to provide the right level of connectivity, and through collaboration in the industry's supply chain, the region can provide the reliable, low-carbon sources of power generation required for data centre operators to meet their sustainability targets.

"This has the potential to create thousands of jobs, generate millions of Euros of investment to the region, all based on clean, green power, and catalyse Ireland's transition to net zero."

The Council aims for the report to help attract a data centre anchor tenant in the vicinity of Offaly's Rhode Green Energy Park, which would be the first step in creating a thriving data centre sector. The co-location of a large energy user and renewable energy offers a solution to grid capacity issues, and gives opportunities for more sustainable clusters of industries.

Data centres could be, in part, powered by wind, solar or even green hydrogen from renewable sources, and any waste heat that is generated could be used to heat local homes, businesses, local industry and community buildings, according to the study. There are also opportunities for data centres to anchor investment by being lead tenants of eco-industrial parks alongside green energy enterprises.

Eugene Mulligan, Chair of NODF, said: "This report provides us with key insights and a strong evidence-based roadmap supporting economic diversification way from peat through green energy enterprise, leveraging the many emerging renewable energy projects emerging in Offaly."

Researchers from Siemens interviewed leaders from the data centre sector, renewable energy infrastructure developers and government bodies to inform the report.

It lays out an action plan to attract investors, including promoting Offaly and the Midlands as 'open for data centre business' with regional strengths such as local renewable power sources that support increased sustainability.

ENERGIA Lighting Solutions

Energia recently carried out a lighting upgrade at Duffy's SuperValu, Edgeworthstown, Co. Longford

ENERGIA Lighting Solutions offer businesses an upgrade to their current lighting system using high quality, energy efficient LEDs. The upgrade requires no upfront cost, as it is funded by savings made from the new lighting. Energia recently carried out a lighting upgrade at Duffy's SuperValu, Edgeworthstown, Co. Longford. Ceire Duffy, Director, talks us through the process.

Can you give us a general overview of your business and sustainability goals?

"We as a business are always looking at ways to improve our energy efficiency and reduce our carbon footprint. The store itself is expanding and ever-changing, so the recent upgrades have been a welcome addition to the store. It's another step on our sustainability journey."

Why did you decide to carry out a lighting upgrade? Was it part of a larger energy efficiency / carbon footprint reduction strategy?

"Yes, we had previously added some new lighting upstairs, along with some sensors; to upgrade the main shop floor was always something we had in mind, but just hadn't found a suitable contractor or project manager to carry this out."

How did you hear about Energia Lighting Solutions?

"Through our account manager. We contacted Energia to see if they could help us progress on our sustainability journey in-store by further upgrading our lighting solutions."

How did you find the end-to-end process? Was there any disruption to trading?

"We were very impressed with the offering. All the instructions and info were explained well. It was an easy process to go through, especially with using Energia for the fitting. Work was all completed in a timely manner, and there was very little disruption to work on-site. The electricians were very helpful and kept us informed throughout the day of installation. We would highly recommend the process to others."

What has been the impact on your store's lighting bills since upgrading to LED lighting?

"We ran the project through Energia's Lighting as a Service model. So, we are paying for the works through the energy savings we are making, so it's been great for us as a business, as we had no upfront costs for the works."

What advice would you give to a business considering a lighting upgrade?

"Take the step; along with the improved lighting for your premises, you'll also reduce your energy consumption. As mentioned, the lighting quality has been a huge improvement in our store, with customers noticing the difference. It also helps to know you're doing your part in reducing your carbon footprint."

Is there a significant financial outlay required for a project of this size?

"As we availed of Energia's Lighting as a Service solution, we had no upfront costs. Everything was covered by Energia's Lighting team, and the whole process was a smooth journey."

Why did you choose to install Energia's Connect360 smart energy analytics product?

"Along with improving our lighting system, we wanted to get some additional detail on the energy we use in our store. Connect360 will allow us to get a better real-time understanding of our consumption. With that data to hand, we can see what additional changes might be needed to further enhance the energy efficiency of the store."

Ceire Duffy, Director Duffy's Supervalu, Edgeworthstown, Co Longford.

What energy savings has Connect360 helped you to realise or do you hope it will help you to make?

"Overall, we will be looking to make further changes throughout the store in order to make incremental energy savings. I hope with the use of the system, it will help myself and staff to make behavioural changes throughout the store, like switching off machines at the end of the day etc."

How has Connect360 impacted, or do you hope it will help to impact, your business' carbon footprint and bottom line?

"We hope it will give us a better understanding of how and where our energy is consumed within the store. It can lead to a 10-15% reduction in usage, but overall I'd hope it will make us more aware of our usage and avoid as much energy waste as possible."

What advice would you give to a business considering a lighting upgrade or Connect360?

"To get in touch with Energia; they will manage the full process from start to finish for you, and the results are there to see."

From September 2023, the EU will phase out fluorescent lighting. This may directly affect your business, so why not beat the rush and apply for a fully funded lighting upgrade from Energia? You can get your old fluorescent lighting replaced, while also reducing your lighting consumption by up to 80%. Energia will make it easy by managing the entire process from start to finish.

Find out more at energia.ie/lighting ■

Milestone report marks SSE's 20 years in offshore wind delivery

Report outlining two decades of project delivery by SSE Renewables is launched at Global Offshore Wind 2023

To mark its 20th Anniversary in offshore wind delivery, SSE Renewables has published a new report which outlines how it has progressed over the last two decades to become the company building more offshore wind energy than any other in the world right now. The milestone report has been launched today at Global Offshore Wind 2023 which is taking place this week at London's ExCeL Arena.

Celebrating two decades of offshore wind delivery by SSE Renewables, the report documents how the company has grown to become a world-leader since it first embarked into offshore wind 20 years ago with its first development, the 25MW Arklow Bank project in the Irish Sea. In the 20 years since, SSE Renewables has contributed to the development and delivery of 1.5GW of installed offshore wind capacity already operating in Irish and UK waters.

Today, the company is leading the construction of almost 5GW of new offshore wind generation, almost 200-times the capacity of the first offshore wind farm it co-developed and installed at Arklow Bank in 2003. This construction pipeline includes the 1.1GW Seagreen, Scotland's largest and the world's deepest fixed bottom offshore wind farm, and the 3.6GW Dogger Bank, the world's largest offshore wind farm currently in construction, both of which represent a combined £12bn spend in infrastructure capex*.

SSE Renewables also has the largest secured offshore wind development pipeline in Ireland and the UK at over 9GW. This includes projects such as Ossian, its first global-scale venture into floating wind, and Berwick Bank which is setting new biodiversity standards. The company also boasts an unrivalled 5GW future pipeline of prospects including a potential fourth phase for the world's largest offshore wind farm, Dogger Bank, as well as over 3GW of new capacity around Ireland at Celtic Sea Array, Setanta and Tarbert.

Internationally, SSE Renewables is expanding into new markets where the offshore wind opportunity is immense and critical to achieving significant emissions reductions.

Paul Cooley, Director of Offshore – Global at SSE Renewables, said:"I'm extremely proud we are marking this milestone in our company's progression with the publication of this 20th Anniversary report. It's only when you stop to take stock of what we have achieved so far, both as an organisation and as part of the global offshore wind sector, that we can fully appreciate how our actions, past and present, are powering real change and have contributed to an offshore wind revolution.

Paul Cooley, Director of Offshore – Global at SSE Renewables (left) and Dan McGrail, Chief Executive of RenewableUK, pictured at the launch of a new report which outlines how SSE Renewables has progressed over the last two decades to become the company building more offshore wind energy than any other in the world right now. Picture credit: RenewableUK.

"As a company, we're committed to taking action to address the climate emergency by delivering offshore projects on a global scale. 20 years ago, when we first embarked into offshore wind with the development of a 25MW project at Arklow Bank, it was the world's largest offshore wind farm. Two decades on, and the scale of what we are now delivering is extraordinary when compared with what has gone before. We're now delivering the world's largest offshore wind farm currently in construction, the 3.6GW Dogger Bank Wind Farm, as part of a nearly 5GW build pipeline which means we're leading the construction of more offshore wind than any other company in the world.

"Looking forward to the next 20 years, we're pushing frontiers in the technological and sustainable delivery of new projects. These advancements in project delivery, from the deployment of floating technology to embedding biodiversity at the heart of how we develop new offshore wind projects, will transform our sector as we progress towards a net zero energy system by 2050. Because the world needs action at scale to deliver a sustainable future for the planet, and it will be the offshore wind industry that will be at the fore of leading this charge."

SSE Renewables' offshore wind development portfolio is at the heart of SSE plc's overall Net Zero Acceleration Programme Plus which will see the FTSE-listed company invest £18bn to 2027, the equivalent of £10 million each day, in Ireland and the UK. This plan will be crucial in turning Irish and UK Government targets for net zero from ambition into reality.

You can read the report here: SSE Renewables - Celebrating 20 Years of Offshore Wind.

** Dogger Bank Wind Farm is a joint venture with Equinor and Vårgrønn. Seagreen Offshore Wind Farm is a joint venture with TotalEnergies.*

About SSE Renewables

SSE Renewables is a leading developer and operator of renewable energy, headquartered in the UK and Ireland, with a growing presence internationally. Its strategy is to lead the transition to a net zero future through the world-class development, construction and operation of renewable power assets and it is building more offshore wind energy than any other company in the world. Part of the FTSE-listed SSE plc, SSE Renewables is taking action to double its installed renewable energy capacity to 8GW by 2026 as part of its Net Zero Acceleration Programme, and increase renewables output fivefold to over 50TWh annually by 2031.

Minister Smyth opens Energy Poverty Stakeholder Forum

Forum features comprehensive agenda designed to facilitate in-depth discussions and knowledge sharing

Minister of State for Communications and the Circular Economy, Ossian Smyth TD, today opened the Energy Poverty Stakeholder Forum in Dublin city centre. The forum is the first plenary session to ensure stakeholders' voices are heard throughout the Energy Poverty Action Plan's annual report process. It provides an opportunity for dialogue and collaboration between policy makers and stakeholders, and welcomes representatives from across NGOs, industry, and public bodies.

The Energy Poverty Action Plan was published in December 2022. The plan set out the range of measures implemented across Government during winter 2022/23, as well as the longer-term policies being enacted to ensure that people most at risk of energy poverty can adequately heat and power their homes. A cross-departmental and inter-agency Steering Group was established to develop, implement and oversee the policies and measures detailed in the Action Plan. A central part of this work was to facilitate structured, whole of Government engagement with key stakeholders. Today's event aims to provide a platform for stakeholders to collaborate, assess progress to date, and generate new ideas to combat energy poverty.

Speaking ahead of the forum's opening, Minister Smyth said:

"Energy poverty is a serious issue in Ireland today and one that I and this Government are determined to meet head-on. It's through events such as today's Energy Poverty Stakeholder Forum that we can learn what are the real concerns of the stakeholders involved in this area and how best to tackle them. Our priority is to create a more equitable and sustainable future for everyone in this country."

The forum features a comprehensive agenda designed to facilitate in-depth discussions and knowledge sharing, consisting of presentations, workshops, and panel discussions. Throughout the day, participants will have the opportunity to gain valuable insights from those with expertise in the areas of energy poverty and affordability, share their own experiences and make suggestions for future policy options and support measures. By working together, participants will explore new strategies and solutions that can help tackle energy poverty and create a more equitable and sustainable future for all. The outputs from the day will help inform Government policy and revisions to a future Energy Poverty Action Plan.

To access the Energy Poverty Action Plan visit: gov.ie - Energy Poverty Action Plan (www.gov.ie) ■

Minister of State for Communications and the Circular Economy,Ossain Smyth,

Ireland has become warmer and wetter in the last thirty years – Met Éireann publishes Ireland's new Climate Averages for 1991-2020

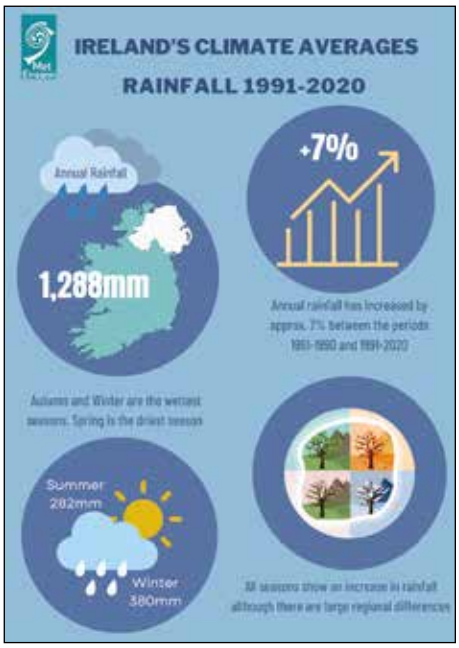
Increases in air temperatures, rainfall and sunshine hours over the last 30 years

Today, Met Éireann, Ireland's National Meteorological Service, publishes a comprehensive summary of Ireland's latest climate averages, for the period 1991-2020. These are the 30-year averages of observed variables such as rainfall and temperature.

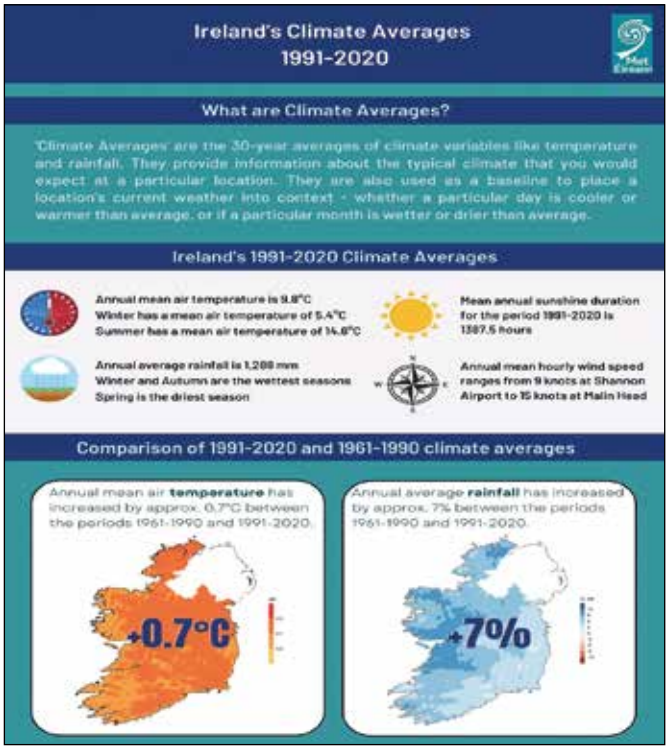
The key findings from Met Éireann's analysis of the 1991-2020 climate averages highlight changes in Ireland's climate over the past three decades. The most notable one being an overall increase in air temperature compared to the previous 30-year period with the average yearly air temperature for Ireland standing at 9.8°C (1991-2020). This represents an increase of 0.7°C. Furthermore, mean temperatures are higher across the country for all seasons in the most recent 30-year period.

The research also shows that sunshine hours have increased by approximately 5% when compared to the 1961-1990 period, with May as the sunniest month of the year followed by June.

Met Éireann's analysis also reveals an increase in rainfall of approximately 7% over the last 30 years when compared to the 1961-1990 period, with annual average rainfall for Ireland at 1,288 mm (1991-2020). Regional variations are also evident, with the West and North of Ireland showing the greatest increases in annual rainfall.



The release of these findings by Met Éireann comes ahead of the World Meteorological Organisation's (WMO) publication of the Global Climate Averages (or Climate Normals) for 1991-2020, due to take place this August. Met Éireann contributes to the development of this global dataset through the provision of data from Ireland's equivalent 30-year period averages.



Met Éireann Climatologist and Project Lead, Mary Curley, said:

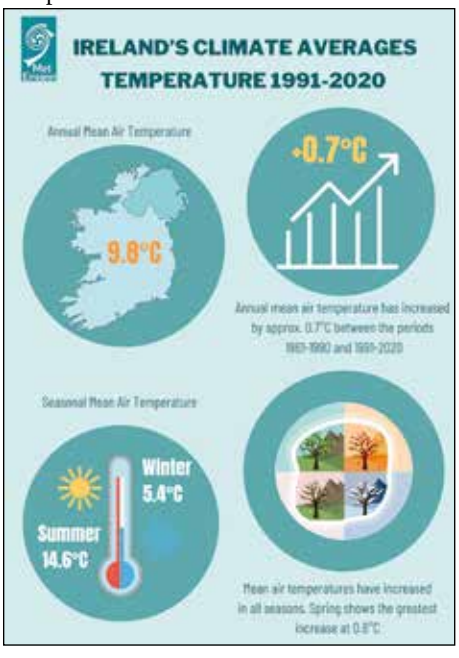
"The publication of Ireland's most recent climate averages allows us to assess how Ireland's current climate compares to the previous 30-year period. We know that the atmosphere is warming and what we're seeing at the local and national scale fits the international picture.

Importantly, the data provides information about typical climate conditions for a particular location and is a crucial benchmark for weather and climate conditions. This serves as an important resource for Government and relevant stakeholders to enable informed decision making to benefit society."

She added: "While these averages give us an up-to-date baseline to compare our current and future weather to, it's important to remember that weather patterns can vary significantly from year to year."

The findings in these new 30-year averages align with the results from Met Éireann's TRANSLATE climate projections, optimised for Ireland, which were released in June. TRANSLATE confirms the likelihood of a warmer and wetter climate annually for Ireland, in relation to future potential global warming under different green-house emission scenarios.

Met Éireann will publish a comprehensive technical report on the 30-year averages 1991-2020 on met.ie later this year, which will provide more detailed information.



International Women in Engineering Day - interview with Jamie Dunn, Veolia

A clear company purpose is becoming essential for today's modern businesses, with recent research that showing that 50% would be likely to leave a company whose purpose did not align with their personal values. Launched in 2019, Global resource management group, Veolia, is using its corporate purpose of ecological transformation to engage employees and tackle climate change, resource depletion, biodiversity collapse, and pollution. Present on five continents, the company designs and manages water, waste and energy solutions that deliver 111 million people with drinking water, 97 million with sanitation, produces 44 terawatt hours of low carbon energy, and recovers 61 million tonnes of waste. As part of the global 220,000 strong Veolia team, Jamie Dunn, National EC&I Engineer at Veolia reflects on her career to mark International Women in Engineering Day 2023.

Jamie Dunn, National EC&I Engineer at Veolia.

How did you get into Engineering?

Growing up I had a keen interest in "how things worked". As a kid my Dad would take me to motorcycle and car race meets, which I loved and really inspired me. We would watch Formula 1 together, and when it came to making options for my career I was interested in how I could break into the motor racing industry. The Formula 1 cars have multiple instrumentation technologies on them which I found fascinating, therefore it made sense to look into instrumentation apprenticeships. My Dad worked as a Systems Engineer at Fawley Refinery and so after I finished my GCSEs I applied for an apprenticeship there as an Instrument Technician. The role involved maintaining and working on instruments measuring pressures, levels, temperatures and flows, whilst ensuring a 24/7 process.

Whilst I was there I went to college and university to complete a HNC in Electrical and Electronic Engineering. Following my apprenticeship I moved across to Southern Water as an Instrumentation, Controls and Automation Technician, where I spent almost 10 years supporting their waste and fresh water processes, before joining systems integrator Cougar Automation as a Support Engineer. After 6 years with Cougar, I was ready for my next chapter and joined Veolia, which is where I have been for the past 5 years starting as Southern Regional Engineer, and I am now National EC&I Engineer.

What is a typical day like for you?

Veolia manages a network of 10 Energy Recovery Facilities across the UK. The primary use of an ERF is to sanitise refuse waste that otherwise would have gone to landfill. Instead we take these materials and recover them creating energy to power the National Grid and at three of our facilities we also have the added benefit of a district heating network. Day to day I support the running of these sites and ensure the lifecycle of equipment is well maintained, supporting any failures through both planned projects and reactive activities, and making sure the sites are working to the latest standards (cyber security, etc), and innovating processes assisting the business to meet its strategy goals and values.

Why you work at Veolia?

I particularly enjoy working at Veolia as their strategies are aimed at preserving the environment, serving growing populations, and assisting customers to meet business demands in a more sustainable way.

What do you love about your job?

Working at Veolia, I feel part of pioneering real change with innovative and developing solutions. Focus is on delivering ecological transformation through preserving resources and supporting green recovery, and in turn bringing benefits to local communities and the planet. I am continually given opportunities to better myself both as a person and within my career. Over the past 2 years Veolia has sponsored me through a Masters degree (in Engineering Management), which I have recently completed. It wasn't something I thought I'd ever get the opportunity to achieve, so it has meant a lot to me personally, and will obviously serve me well in my career development.

What would you say to those who are thinking about joining Veolia?

In my 22 years experience within the Controls and Instrumentation industry I have seen a lot of change both in technology and business. It's been really interesting to see how businesses are adapting and becoming more aware of the need for diversity within their organisations. Veolia certainly goes above and beyond in this area. As a woman I feel empowered working at Veolia, and want to be an inspiration for all genders.

Why should other women consider a career in engineer?

Hopefully in this day and age men and women know they can be whatever they want to be. More women seem to be taking the engineering career path, although the industry is still very male dominated. Gender diversity obviously brings its positives (different perspectives of how to resolve a fault, develop innovation strategies, or encourage and grow talented people, for example), but it is still important to focus on quality and experience. I believe to encourage more women into the world of engineering we need to be sowing the seed with young children in schools (all ages).

As a little girl, seeing women succeeding in male dominated industries really inspired me and made me want to be part of "breaking the mould". 22 years ago it was almost rebellious to consider such a career path! I have spoken in schools over the years, and really hope I inspired some young brains into the world of engineering. I'm always happy to be a mentor for anyone who is keen and motivated, my door is always open.

Electric vehicles surpass diesel sales for first time

Electric vehicles accounted for 24% of all new cars sold between January and March – surpassing diesel sales for the first time.The statistics are contained in the Government's new quarterly report into the implementation of its Climate Action Plan, which will be considered by Cabinet today.The report shows the Government has implemented 75% of the actions it said it would complete over the first three months of the year.

27 of the 36 actions scheduled for delivery were completed on time this quarter.

Three departments met all of the actions under their remit for the quarter – the Departments of Finance; Enterprise, Trade and Employment; and Foreign Affairs.

However, the Department of the Environment, Climate and Communications only had a delivery rate of 71% – although it had the greatest number of actions to take.

The Department of Agriculture, which had the second highest number of actions, had a delivery rate of 91%.

On electricity, just under 35% was produced from renewable sources in 2022 and Ireland met half of its 2030 onshore wind target.

What are described as "key actions" include the launch of the €1.5 billion Agri-Climate Rural Environment Scheme (ACRES) to help improve biodiversity, climate, air and water quality.

It said in the first three months alone, there were over 46,000 applications, accounting for a third of the 135,000 farms in the country.

Association of Energy Engineers Ireland (AEE) Corporate Membership

AEE Ireland is the accredited Irish Chapter of The Association of Energy Engineers (AEE).

The AEE is a nonprofit professional society of 18,000 members and 25,000 certified individuals in over 100 countries. The mission of AEE is "to shape the future of the energy industry through Networking, Energy Awareness, Education, Training, Professional Certification, Recognition and to Foster action for Sustainable Development."

Joining AEE Ireland as a Corporate Member offers an exceptional opportunity to become part of a prestigious network of Energy Professionals and gain recognition among a diverse group of individuals, including Energy Engineers, Sustainability Managers, Renewable Managers, Facility Mangers and more.

AEE Ireland serves as a platform for bringing together accomplished professionals from across Ireland who hold responsibility for the efficiency and sustainability of their respective facilities, organizations, and groups.

As a Corporate Member, you will have the chance to engage in meaningful discussions, share best practices, and collaborate with like-minded experts in the field.

aee® Association of Energy Engineers

Ireland Chapter

For further information on becoming a member of AEE Ireland please contact
Shauna Clancy, Corporate Membership
E: shauna@boxmedia.ie | P: + 353 46 977 3434 / www.aee.ie

Case Study:

Purcell Construction Implementing Last Planner® System (LPS)

PURCELL

Purcell Construction is a leading Irish Building Contractor, operating from offices in Galway & Dublin. In 2020, the company embarked upon a project to introduce LEAN across their business and took to sourcing a partner for the deployment. Crystal Lean Solutions (CLS) were appointed as their LEAN partner.

Purcell Construction selected CLS as a partner for a number of reasons, including their experience of LEAN within the construction industry, and guidance in helping to select the right LEAN programmes. One of these programmes tasked included the Last Planner® System and with enthusiasm from all, the rollout planning phase began.

The Last Planner® is a production planning system designed to produce predictable work flows and rapid learning in the programming, design, construction and commissioning of projects.

The Last Planner® System (LPS) offers many benefits which include;

- Enabling work flow
- Enables planning in more detail week to week
- The plan has engagement as it is built by those actively involved
- The plan drives a change in behaviour and mindset and enforces accountability by each of the stakeholders within the project

Working in a Covid Environment

Following the appointment of the team, Covid-19, the global pandemic struck. This moved all activities in relation to LEAN implementation into an online environment. The project was championed by senior team members including a dedicated facilitator, contracts managers and their construction planner. The goal of the project was to:

- Support collaborative planning
- Introduce sequencing of work
- Ensure milestone dates were met
- Optimise the flow of information
- Focus on successful handoffs

In August 2020, the CLS team began Yellow belt training with the Purcell leadership team. Following the success of that training, three more of their teams were trained between October and into January 2021. The team provided excellent customer care with a positive down to earth approach and understanding of working in a challenging working environment as a result of the pandemic.

Once the LPS Team were appointed, the next steps of the approach included:

- Onboarding of Sub Contractors
- Assignment of a Last Planner coordinator
- Training of the LPS team
- Set up of Digital Pull Plan
- Set up of Standard week for LPS deployment
- Management of Weekly Work Plan using CoPlan
- Appoint a mentor for the project

Once training was complete, the Purcell's team set out on using the Last Planner® System on a pilot project – a 40 million euro critical national infrastructure project at the National Train Control Centre (NTCC) in Dublin. The project was a complex & highly technical project, including 5,000m2 of raised access floors, 22km of cable tray, 14km of site ducting and 110km of data cabling.

Training then extending in March 2021 to Purcell sub-contractors with CP Skillnet Support.

Active engagement

With all teams actively using LPS and six week lookaheads, the team then transitioned to the 'Big Room' for the next six months, using both virtual white boards and CoPlan – an Last Planner® System digital solution.

The Big Room is a LEAN concept designed to support collaboration and ensure that all relevant information is in the same location. The name Big Room also reflects that as there is a lot of information including plans, drawings, project plans etc popped up on the walls – requiring a big room approach.

To ensure continuous improvement, throughout this deployment, the team conducted a Lessons Learned Workshop which highlighted robust conversations, an improved and collaborative approach between contractors and overall ownership and accountability for the project improved. Some wins for the team were the ability to proactively respond to potential challenges and ability to see constraints in a timely manner. In addition, engagement from sub-contractors improved as they arrived to meetings with prep work already completed.

Ensuring all the relevant parties were in the same room was a challenge in a Covid environment, however with the communication approach improved and the use of digital tools and processes, it meant that all subcontractors were aware of the expectations and planning schedule in place in a timely manner.

What Purcell Construction says:

"The Crystal Lean Solutions team supported the Last Planner® System deployment using CoPlan and other virtual frameworks. Their coaching skill an adaptability resulted in the successful replication of the "The Big Room" environment, necessary to foster the behaviours that lead to high levels of collaboration created entirely within a virtual real.

Given the Covid-19 situation, this innovative technology and approach meant that our teams could remain socially distanced and safe with o negative impact on the efficiency of the LPS process."

In relation to the pilot project:

"The LEAN initiative has significantly enhanced our overall management style. As a result, we are on target to deliver a 40 million critical national infrastructure project ahead of schedule, despite the significant impact of Covid-19 and many other challenges facing the construction industry."

Wilo Powers Ahead with 'World-First' Green Hydrogen Transition with H2Powerplant

With green hydrogen emerging as a leading energy source of the future for industry, Wilo is showing how to harness this energy with its H2Powerplant, a unique operating plant in a world-first live production environment.

The first ever green hydrogen solution of its kind to be brought to market, the H2Powerplant proves the concept of power independence and generation in a decentralised way. Already in operation at Wilo's German headquarters, Wilopark in Dortmund, it is a step-change for moving the dial on green hydrogen production – with only 1% of the world's current hydrogen classed as 'green' according to IRENA.

Now proven in its operation, the system will be rolled out to all Wilo locations and is also available to the market in a modular arrangement for varying power demands. The product that will now go to market is available in four different sizes that will be able to generate power equal to the annual demand of either three, five, or 20 households.

The system uses electrolysis to convert renewable energy generated from solar, wind and hydropower into green hydrogen. When it's needed, a fuel cell can then be used to convert the hydrogen back into electrical energy and the waste heat is either used in the interconnected system for heating, stored or converted into cooling on site.

This system can also be used to support new and/or existing combined heat and power (CHP) systems that have been designed to work with a blended hydrogen mix, meaning it also has the potential for retrofit applications.

Dave Williamson, Sales and Marketing Director at Wilo UK, said: "Green hydrogen is fundamental for achieving the climate protection goals agreed in Paris. Ultimately, this game-changing technology will enable companies to accelerate the migration to clean energy from existing infrastructure without having to start from scratch.

"For example, companies using gas or CHP systems that will operate with a blended gas mix that can utilise hydrogen from the H2Powerplant and reduce carbon emissions within existing infrastructure. Wilo has already received enquiries from world-leading large energy users in the UK, wanting to implement the H2Powerplant as part of their own net zero strategies and when bidding for major sustainability-driven tenders."

The first pilot project for H2Powerplant was approved in May 2022 which saw Wilo and various industry partners design and build the first functioning system at Wilopark in Dortmund.

Initially the intention was to use the plant as an emergency power supply, but as the project evolved, greater power potential was realised within the solution. It went on to power much more across the site, including lighting, the EV charging system and part of the heating.

Construction took place from July 2022 and the system was commissioned and inaugurated on 9 September 2022. The grand opening of the H2Powerplant took place during the international industry conference at the Wilopark in Dortmund.

For more about Wilo and its H2Powerplant, please visit: https://wilo.com/en/Pioneering/Hydrogen/ ■

Association of Energy Engineers Ireland Conference 2023 – The SETU Arena, Waterford on 14th September

The inaugural Association of Energy Engineers (AEE) Ireland Conference & Exhibition 2023 is taking place in the SETU Sports Arena Waterford, Ireland on the 14th September. This unique event will bring together Energy Engineers and Facility Managers from across Ireland who have the responsibility of energy efficiency within their organisation. They will have the opportunity to listen to and engage with presentations from Global industry leaders and peers – discussing Policy, Trends, Innovation, ESG and Energy Efficiency in Irish Industry.

One of the largest energy efficiency events in Ireland, the event schedule includes 2-days of Training (CEM, ISO50001, CBCP, CMVP, etc), 1-days of conference, 1-days of advanced energy solution exhibition and networking/social events. This schedule of activities over the week will ensure a culture of sharing and learning, while offering AEE Ireland Chapter members the opportunity to openly discuss the challenges, benefits and learnings of adopting the latest technologies and future energy solutions.

The exhibition offers energy efficiency solution suppliers to network with AEE Ireland members, but also the greater Irish energy market. Over 50 companies will exhibit and provide the delegate with an insight into structured energy solutions available today, but also understanding future trends and initiatives.

Since the Association of Energy Engineers inception in 1981, AEE's Certified Energy Manager (CEM®) credential has become widely accepted, recognised, and used as a measure of professional accomplishment within energy management. It has gained industry-wide use as the standard for qualifying energy professionals both in the United States and throughout Europe.

AEE Ireland 2023 Conference will take place in the SETU Sports Arena on 14th September. To learn more about AEE Ireland 2023 please visit www.aeeconference.ie, or email john@boxmedia.ie ■

Who Will Attend?

The Association of Energy Engineers Ireland Chapter invites energy professionals from commercial business, government, institutional, municipal, and industry to learn, network and connect.

- Certified Energy Managers (CEMs)
- Executives (CEO, CFO, COO)
- Energy Engineers
- Building Managers
- Facility Managers
- Utility Accountants
- Energy Service Performance Managers
- Energy Efficiency Consultants
- Project Engineers
- Resource Efficiency Managers (REMs)
- Plant Engineers, Managers & Administrators
- End Users
- Maintenance Managers
- Boiler Owners & Operators
- Corporate Planners
- Electrical, Mechanical & Process Engineers
- Energy Procurement Professionals
- Environmental Engineers & Managers
- Health Care Facility Administrators
- HVAC Contractors
- LDC and Municipality Representatives
- Utility Facility Managers & Account Managers
- Researchers in Public Institutions
- Certified Energy Auditors (CEAs)
- Certified Building Commissioning Professionals (CBCPs)
- Certified Lighting Efficiency Professionals (CLEPs)
- Certified Sustainable Development Professionals (CSDPs)
- Certified Carbon Reduction Managers (CRMs)
- Certified Energy Procurement Professionals (CEPs)

Renewable future: Unlocking economic potential

Northern Ireland needs a focus on a holistic and inclusive transformative change process, not just the de-fossiling of the present, if it is to reap the economic benefits, says Martin Doherty, centre manager of the Centre for Advanced Sustainable Energy (CASE).

The fact that change must happen when it comes to how we produce, store, and use energy is absolutely undeniable, not only for us here in Northern Ireland but right across the globe. We need to remove fossil fuels from our energy mix, and it needs to be done both rapidly, and thoughtfully.

The future of energy is utterly intrinsic to people's quality of life, and the massive rises in energy costs have brought the issue to the fore in people's minds in a way that it has seldom been seen before.

That is why the Centre for Advanced Sustainable Energy (CASE) is hosting the first Northern Ireland Energy Summit where we will present our policy document, Pathway to a Renewable Future. This document, which is being produced after a comprehensive stakeholder outreach process will showcase what we believe is a holistic and inclusive transformative change process that equips us for the economy of 2050 rather than simply de-fossilising the present.

After an encouraging start, Northern Ireland seems to have rested on its laurels and is allowing others to steal a march on progress to a net zero future.

The absence of the Assembly undoubtably adds to the complexity of making change happen but should not prevent it happening. The ascent of the Climate Change Act 2022 demonstrated that there is a political willingness to see a transformation in how we power our economy and lifestyles.

The ability to make decisions in a bold, ambitious and pragmatic manner is possible, as demonstrated by the actions of the Assembly during the recent pandemic. This whole systems approach to managing a national crisis is again required to overcome the fragmentation that energy developers and communities see when attempting to effect change.

The Climate Change Act mandates that government departments to act in a connected manner and act as enablers. Energy and decarbonisation cuts across economy, agriculture, environment, and infrastructure impacts everyone. Creating policy in isolation can result in missed opportunities to holistically address a larger scale problem. Joined up policy and departmental cooperation works better. For example, using agricultural waste streams to generate energy allows for rebalancing our

economy whilst turning erstwhile pollutants into the building blocks of a biobased industry.

The ambition of the 10X strategy for the economy is not supported by our current energy plans. In fact, the goals for wind generation in Great Britain and Ireland, potentially in excess of 100 and 70GW respectively, over the coming decades dwarfs current Northern Ireland policy considerations. We must match our neighbours' ambitious goals to amplify and leverage our own potential.

In short, our economy will struggle to compete as global markets demand zero-carbon supply chains, and to sustain carbon taxes as they ramp up by the end of the decade; unless we transform our energy supply and decarbonise. How do we achieve the investment required now, when Northern Ireland lacks the billions of pounds needed to invest annually from the public purse? Attracting capital investment is vital. Large, direct subsidies are mostly unaffordable, but strategically creating opportunities for low-risk with good returns, can stimulate investment. The CASE white paper will explore options for novel financing and experimental governance models that will stimulate the necessary debate about what changes we need to take to unlock our potential.

Recent CASE published research opened a new thinking on how we could heat our homes and power businesses with the clever utilisation of our biogenic resources (farm wastes for those outside agriculture).

The potential for biomethane is clear but represents only a small fraction of what can be achieved. Converting the CO2 content of biogas to e-methane with the addition of green hydrogen could give as much as 10 TWh of energy (biomethane + e-methane), more than enough to meet current gas demands.

"Our economy will struggle to compete as global markets demand zero carbon supply chains, and to sustain carbon taxes as they ramp up by the end of the decade; unless we transform our energy supply and decarbonise."

Storing this green gas in gas caverns during the summer, when demand is low, gives energy resilience for winter months. A further circular economic and clustering approach would see the heat generated from these processes deployed as district heating for homes thus displacing even more of fossil fuel dependency.

Opportunities for such system-based approaches with clusters of businesses have been shown to be common across Northern Ireland and offer routes for local energy supply and decarbonisation as well as new products and services. Additionally, the social value in this approach is very high with the ability to provide locally generated low-cost heat to homes, schools and hospitals combined secure skilled employment.

A critical component of underpinning the necessary societal change will be increasing the carbon literacy of all. This will empower decision-makers and communities to ensure that energy transformation is equitable and a force for the better. There will be impacts in terms of infrastructure development, but we can ensure that they are weighted by greater community wealth and opportunity with the potential to eradicate fuel poverty.

We can learn from our past. Generations ago, seeding opportunity from renewable energy provided a platform for Northern Ireland to become a global, industrial powerhouse starting with linen production. We can do the same again. Northern Ireland has the wind, water, solar and biogenic resources to displace fossil fuels.

Achieving carbon neutrality alleviates and reduces the harm on health from fossil fuel pollution and the perilous dependency on uncertain foreign supply of oil and gas. We can once again harness the pioneering innovation and research that lead to our world leading role in textiles to become renewable technology haberdashers to a global marketplace.

This opportunity cannot be wasted, let us ensure we move forward together, with benefits for all.

CoolPlanet and LDC Sablé sign a strategic partnership agreement to achieve their sustainability goals.

CoolPlanet, a leading provider of decarbonisation management systems (DMS), and LDC, a major agri-food company, have signed a strategic partnership agreement to reduce electricity and gas consumption during LDC's production process. The partnership will help LDC achieve its ambitious sustainability goals. The contract was signed at the Irish Embassy in Paris in the presence of Minister Simon Coveney and the Irish Ambassador to France, Niall Burgess.

Lambert Dodard Chancereul (LDC) is a family-owned agri-food group and a European leader in poultry and processed products. The company has a workforce of more than 23,500 and 93 production plants with a turnover of nearly €5.1 billion. CoolPlanet has already reduced Scope 1 Emissions at one of their French sites by 83% this year.

As part of this partnership, CoolPlanet will work closely with LDC's maintenance and engineering teams to optimise energy use, reduce greenhouse gas emissions, and help LDC achieve its sustainability goals. CoolPlanet's energy management platform offers real-time monitoring and analysis capabilities, allowing LDC to identify energy-saving opportunities and optimise resource use. Thanks to this partnership, LDC aims to achieve significant savings while increasing its decarbonisation.

"LDC is committed to sustainability and is constantly looking for innovative ways to improve its production processes," said Dylan Chevalier, CSR Director of LDC Group. "We are delighted to partner with CoolPlanet, a company with deep expertise in
energy management and data analysis and that shares our vision of sustainable performance. This partnership will help us reduce our carbon footprint and achieve our sustainable performance goals. The first phase of collaborative work together on our site in Sablé sur Sarthe resulted in an 83% reduction of Scope 1 emissions, thanks to the optimisation of existing electrical and thermal energy systems."

"We are delighted to partner with LDC for this important sustainability initiative," said Norman Crowley, Chairman of CoolPlanet. "Our decarbonisation management system CoolPlanetOS was designed to help companies like LDC improve their energy efficiency and accelerate their decarbonisation. We are confident that our partnership with LDC will help the company achieve its sustainability goals while strengthening its competitiveness in the market."

The signing of this contract at the Irish Embassy in Paris highlights the close ties between Ireland and France and testifies to Ireland's commitment to support sustainable business practices.

About CoolPlanet

CoolPlanet is a leading provider of decarbonisation management systems (DMS) for businesses of all sizes. The company's advanced energy management platform allows organisations to monitor, analyse, and optimise energy use, reduce costs, and improve sustainability. CoolPlanet's innovative solutions have helped businesses across various sectors achieve their energy management goals while reducing their environmental footprint.

About LDC

LDC is a family-owned poultry and catering business based in France and Europe, with 23,900 employees. Its mission is food sovereignty with respect for women, men, and nature. Its commitment is to act with its territories to raise sustainably, live better together, respect the earth, and nourish well. Recognised for its quality products, the company promotes sustainable production practices. LDC Group is currently building its strategy for mitigating and adapting to climate change and biodiversity loss. This first partnership between LDC Sablé and CoolPlanet fits perfectly within this framework to reduce its carbon footprint and sustainably develop its activities.

A route to market

Following the publication of the Energy Action Plan 2023, Head of Energy for the Department for the Economy, Deputy Secretary Richard Rodgers, discusses the need for acceleration towards a totally decarbonised energy system.

In 2016, the closure of the Northern Ireland Renewables Obligation (NIRO), a support scheme designed to boost the generation of renewable energy, coincided with the region's soaring reputation for renewable generation across the globe.

Far from coincidental, the scheme had served its purpose in incentivising investment in, for the most part, onshore wind turbines. Onshore wind aided Northern Ireland to far exceed targets set for renewable electricity generation in 2020 and is largely responsible for renewable electricity levels reaching over and above 50 per cent by the end of 2022.

However, since 2016, Northern Ireland has shifted from leading to lagging in renewable generation, a fact articulated by the Department for Economy's Head of Energy Richard Rodgers.

On why the shift has been so dramatic, Rodgers contends that Northern Ireland, as a region, failed to grasp the economic opportunity that presented itself in the form of renewable incentivisation. However, the Deputy Secretary is adamant that the opportunity still exists, so long as the region moves at speed.

In the wake of the NIRO scheme, as the rest of Great Britain and the Republic of Ireland delivered fresh supports, work on revised renewable supports for Northern Ireland were put into stasis as a public inquiry dealt with the fallout out of the failed Renewable Heat Incentive (RHI) scheme.

"RHI stopped a lot of things in their tracks, which is much of the reason as to why we have gone from being a leader in this area to being behind all of our neighbours. Looking forward though, the drive to a totally decarbonised energy system for this region is now much more focused."

Head of Energy for the Department for the Economy, Deputy Secretary Richard Rodgers,

In March 2023, the Department for the Economy published its second iteration of the annual energy action plans, necessitated by the overarching Path to Net Zero strategy published in December 2021. Included in the 2023 action plan is a pledge to publish the final design of renewable electricity support, along with a pathway and timeline for the support being in place, within the year.

Describing the support scheme as "critical" to putting energy policy to effective use, creating the conditions for investment, and delivering consumer protections, which are lacking today, Rodgers says: "This is so important because everyone can see that the current market is delivering high energy prices, that we, as consumers, are forced to pay."

The final design of the support scheme, along with a timeline for the support being in place, is expected by the end of 2023. It is understood the support will target offshore wind generation, but Rodgers explains that the Department's vision is for all future renewable generation technologies to potentially fall under the scheme's remit.

"The launch of the design is going to be a critical path to getting offshore wind by 2030, but it has implications for all other energy, such as geothermal and biomethane. It is a design for electricity, but essentially the same principles apply to all the energy we produce."

Asked about the potential shape of the scheme, Rodgers says that the principles are similar to that of the Contracts for Difference (CfD) scheme used in the UK, or the RESS scheme in the Republic of Ireland, whereby the aim is to competitively establish a strike price that will be payable over the lifetime of the asset.

Although it was originally touted that Northern Ireland may be part of the UK's CfD scheme for offshore, the unique circumstances of the region meant that the decision was not taken forward. Use of CfDs has been trending across Europe because of recognition that they prove cost-effective for consumers, while offering long-term price stability that investors require to cover upfront costs.

Rodgers believes that learnings from both the UK's and the Republic of Ireland's scheme mean that Northern Ireland has the opportunity to do better for consumers and investors, in the scheme's design. For example, the absence of indexation in the Republic of Ireland's RESS has pushed prices up. Similarly, shorter contract lengths in other countries have been recognised as an obstacle, while auction frequency and eligibility criteria are also critical.

Action Plan 2023

"We must move fast because we want to be part of enabling supply chains, not waiting at the back of the queue. That is why our action plans are so important, they are setting out what we are aiming to deliver now."

The action plan sets out progress made by its predecessor, the 2022 action plan, but also flags a number of 2022 actions which were not achieved, and so have been rolled

over.

While many may point to the absence of a functioning government in Northern Ireland, as well as the recently published 'restrictive' budget for public services, as cause for delay, Rodgers is quick to point out that the Department's work is progressing on a solid foundation.

"A huge positive is that the Executive approved the overarching energy strategy, which means we have an agreed and accepted vision for where we want to get to: self-sufficiency in affordable and renewable energy. The prize, which is crucially important in today's global energy market, is that we can become our own price maker, and not a price taker.

"That vision, which underpins the economic opportunity in self-sufficiency, provides us with the opportunity to tackle fuel poverty and boost economic growth. It is a very exciting prospect."

Importantly, underpinning the Department and wider Government's vision is legislation in the form of the Climate Change Act (Northern Ireland) 2022 and the draft Northern Ireland carbon budgets and recommended annual emissions for each sector, produced by the Climate Change Committee.

Asked about the pace of decarbonisation, in comparison to neighbouring countries, Rodgers states: "We must move fast because we want to be part of enabling supply chains, not waiting at the back of the queue. That is why our action plans are so important, they are setting out what we are aiming to deliver now."

"That vision, which underpins the economic opportunity in self-sufficiency, provides us with the opportunity to tackle fuel poverty and boost economic growth. It is a very exciting prospect."

Rodgers accepts that the absence of a Northern Ireland Executive and Assembly could be a barrier to future progress, highlighting the need in the near future for legislation in areas such as offshore wind, or hydrogen, he adds: "That is not stopping us from getting on to be ready for those technologies right now."

Offshore wind

In January 2023, the Department and the Crown Estate issued a statement of intent on a commitment to establishing offshore wind leasing for Northern Ireland. The statement signalled progress on the Energy Strategy's ambition to generate 1GW of offshore by 2030. Around the same time as the statement, the Department published its draft Offshore Renewable Energy Action Plan.

Rodgers describes the statement as a "sign of real intent", outlining the focus on what can be done in the absence of political leadership, building on the elements approved by the previous Executive. Interestingly, Rodgers says that the 1GW is an ambition which could soon be enhanced, stressing that it is the enabling components of creating an offshore wind market, which are most valuable.

"What we need is a route to market for an abundance of offshore wind, which is not just about meeting our own current needs, but also attracting new manufacturing opportunities and producing the sustainable maritime and aviation fuels of the future."

Heat

On progress made to date under the annual action plans, Rodgers lists the approval of permitted development rights for heat pumps, as early stages of aligning Northern Ireland with the rest of Great Britain and the Republic of Ireland in enabling heat pumps to be in every home in Northern Ireland, if policy assesses this as the most cost effective route to domestic heat decarbonisation.

The Head of Energy explains that the potential benefits expand beyond environmental benefits alone and could be a huge economic opportunity. Highlighting a number of indigenous businesses which are already serving as disruptors in the Great Britain market, Rodgers says: "The benefit of this is not just the expansion of the footprint of a single business, but the 50 or so local companies which are in the supply chain. That is the 10X economy in action."

Another big advantage of market creation, Rodgers explains, is the enablement of a pathway for skills development. An energy skills audit, proposed in the 2022 action plan, has been delayed. The 2023 action plan says it will commence implementation of a plan, based in the findings of the audit, from June 2023. Rodgers says that the audit is complete, but not yet published, and outlines that the Department hosted a multi-stakeholder workshop in April to inform a future plan.

The Deputy Secretary believes that a real opportunity exists for tertiary education and indigenous companies to create an eco-system of skills development for a net zero future, much like the software clusters which exist now, and building on Northern Ireland's historic reputation for quality engineering.

"The real question is: how do we enable these innovative companies?" Rodgers asks. "I think a point which is really worth stressing is that unlike the past, where Belfast was a central hub for manufacturing and engineering, the innovative companies which exist currently are spread across the region. By fostering more organisations like this, we have a real opportunity to drive economic growth on a regional basis.

"We can bring back the manufacturing we lost when we have an abundance of renewable energy, but we cannot have that abundance of renewable energy unless we have a route to market for the investment. That is where technologies like offshore wind, heat pumps and hydrogen provide that pathway. However, in order to make that happen, we need to be giving signals to industry that there is a long-term and sustainable future for these technologies in Northern Ireland."

Resources

In a time of serious budget constraint, Rodgers believes that the finite resources in public services must be focused in the right areas in order to offer those signals to industry. To this end, he believes a truly joined-up approach across government, with a multi-year commitment is the solution to driving forward on missed targets under the 2022 action plan, such as the launch of domestic and business energy efficiency schemes.

Rodgers says that he is keen that investment in these schemes is a priority for a new Executive, to leverage private investment and create a multiplier effect for local communities, skills development, and the local economy.

"I am confident that if we create the conditions for the innovators in this region, it will not take much to succeed in moving the dial on our decarbonisation journey," he states.

He concludes: "Going back to our 10X economic vision, we want to be one of the elite small economies in the world. That means increasing GVA, so not just creating jobs, but creating high-value jobs, much like the software cluster has done.

"That work can inform and enable the energy revolution. Our solution must be to focus on our strengths and create the right atmosphere to foster innovation, investment and ultimately, economic growth."

Auction-based scheme most likely for renewable energy support

As the Department for the Economy seeks to deliver on its 2023 energy action plan pledge to have a renewable energy support scheme in place by the end of 2023, a recently closed consultation phase sought to set out how that scheme should take shape.

While the idea of simply transposing the renewable energy support scheme in Britain onto Northern Ireland was deemed not viable by the Department for the Economy, a scoping exercise performed by Cornwall Insight on behalf of the Department prior to the publication of the consultation terms found that "a highly competitive auction process similar to those seen in the Great Britain and Republic of Ireland markets is likely to be the best approach" for larger investors and economies of scale.

However, the report into the scoping round also notes that microgenerators "would require a very different subsidy, with more certainty and less complexity", meaning that it is incumbent upon DfE to structure a scheme that will "meet the needs of all parties, or [find out] if alternative approaches (such as separate pots or even separate subsidies) are required".

Central to the consultation and the eventual shape that the scheme will take will be the principles it follows, which form the first question of the consultation document. Respondents were asked if they agree with the three core principles as outlined by DfE:

Incentivise sufficient renewable electricity generation to ensure that at least 80 per cent of electricity consumption is from renewable sources by 2030.

Ensure that consumers pay a fair price for electricity produced locally and that prices are more stable.

Encourage a wide range of renewable sources to diversify the technology mix to support security of supply.

"A consultation on the performance of the CfD scheme in Britain published in July 2021 found that the many projects would not have been viable without the CfD support mechanisms, meaning that the scheme has supported the faster rollout of renewable electricity projects while delivering lower costs for consumers."

Auction-based scheme

The second question put to respondents concerned whether a Contracts for Difference (CfD) scheme should be the preferred approach to supporting renewable electricity generation in Northern Ireland, providing the clearest hint as to the approach most likely to be taken. The main advantage of such an approach, DfE states, is that "depending on current energy market prices, funds can move bidirectionally to support either renewable electricity generators or consumers", meaning that funds move from suppliers to generators when wholesale prices are below the strike price and vice versa when the wholesale prices are above the strike price.

The Department states that CfD schemes have "contributed to dramatically reducing the cost per unit of energy", citing the example of the UK, which has utilised a CfD scheme in its renewable energy supports. The cost of electricity generated by UK offshore wind farms has "reduced from over £100/MWh in the initial auction rounds to around £40/MWh in the latest rounds" under CfD mechanisms. A consultation on the performance of the CfD scheme in Britain published in July 2021 found that the many projects would not have been viable without the CfD support mechanisms, meaning that the scheme has supported the faster rollout of renewable electricity projects while delivering lower costs for consumers. The use of the CfD model allowed the UK Government to unveil its biggest ever round of renewable energy auctions with £285 million per annum in funding for low-carbon technologies, including £200 million for offshore wind per year, in December 2021.

CfD mechanisms can provide protection against market volatility, a concern for investors given that prices in the Single Electricity Market fell to €23/MWh in May 2020, rose to €143/MWh in July 2021, and reached €402/MWh in September 2021 during a period of low wind which coincided with a number of gas plants being offline. CfD structures provide certainty, and benefit consumers in the right market conditions, by locking in a price per unit of energy generated over the course of the contract agreed. Since September 2021, market prices have risen above strike prices and CfD generators in Britain have been paying back to suppliers, reducing the green levy applied to British household electricity bills. Low Carbon Contracts Company research shows that £275 million was paid back to suppliers from CfD generators over quarter four 2021 and quarter one 2022.

The Department also points to the fact of both Britain and the Republic of Ireland having already established support schemes using broadly similar CfD mechanisms and states that "should a similarly designed auction-based support scheme be launched in Northern Ireland, such familiarity and confidence in the effectiveness of CfD schemes would be expected to encourage investment and draw

developers' interest to the Northern Irish market". However, Cornwall Insight's scoping report notes differences between the British and Irish markets, with the Irish Government considering the extension of the lifespan of the subsidy to encourage investor participation, while British consultations have considered shortening the lifespan to benefit consumers. The DfE, the report says, will "need to carefully balance these types of considerations".

"Small and micro generation has played a 'crucial role' in reaching 40 per cent renewable share by 2020, but DfE notes that the 80 per cent target 'naturally favours the introduction of a scheme that focuses on encouraging the deployment of large-scale assets over small and micro generators'."

The third question put to respondents in the consultation regarded the fairness of participation in the renewable energy support scheme being made mandatory for all generators. Such an approach would "allow more protection to consumers, as the costs of the schemes would be established when the support is awarded and changes in market prices would less directly impact the costs to consumers" and the more assets deployed under the structure, the more guaranteed protection for consumers. While the British market is currently voluntary for generators, the UK Government "has recently considered moving existing merchant and Renewable Obligation subsidised assets onto CfDs in a response to high market prices and supernormal profits", with similar approaches seen in both Italy and Germany.

Capacity and microgeneration

Respondents were also asked what the minimum capacity for new sites should be for a project to be eligible for the renewable energy support scheme, and if that minimum capacity should be technology specific. As Northern Ireland aims at an 80 per cent share of electricity generation for renewables by 2030, renewable output will be required to effectively double by then. Small and micro generation has played a "crucial role" in reaching 40 per cent renewable share by 2020, but DfE notes that the 80 per cent target "naturally favours the introduction of a scheme that focuses on encouraging the deployment of large-scale assets over small and micro generators". The Republic's RESS requires a minimum capacity of 0.5MW, while Britain's CfD scheme requires a minimum of 5MW for solar, onshore wind, and remote island wind to be eligible.

The Cornwall Insight report states that small-scale assets contributed to roughly 40 per cent of total solar PV capacity deployed in Britain in 2021, but DfE points to that fact that wind sites accounted for almost 85 per cent of all renewable electricity generation in Northern Ireland in September 2022, indicating that "even when microgeneration composed a substantial portion of total solar PV capacity, it only very marginally contributed to meeting wider renewable electricity targets". Indeed, the Department's attitude towards small-scale and microgeneration can perhaps be best seen in the phrasing of its question on the topic: "Do you agree that incentivising small-scale and microgeneration would not make a substantial contribution to reaching the Energy Strategy targets?"

Community benefits

One of the core differences between the models in Britain and the Republic of Ireland is that the Republic's RESS scheme requires a project to deliver support to its local community at a set level, while the British scheme contains no such provisions. Such supports can take the form of community grants or discounts on electricity network charges that taper off with increasing distance from the supported wind farm. The Danish policy of requiring developers to offer the local community the opportunity to invest in the project is also mentioned by DfE as a successful example.

With the consultation period having closed in April 2023, and contract and payment structures also to be factored in, DfE will now seek to finalise its design of how a support scheme will look in Northern Ireland and reach its target of publication before year-end 2023.

Planning for renewable energy

A consultation is ongoing for a proposal by the Department for Infrastructure (DfI) aiming to secure the "orderly and consistent development of land in Northern Ireland under the reformed two-tier planning system".

The draft review on strategic planning policy on renewable and low carbon energy will be open for consultations until 30 June 2023.

The review aims to ensure that regional strategic planning policy on renewable and low carbon energy remains fit for purpose and up-to-date to inform decision-making in relation to development proposals for this subject area.

It is also intended to inform the local development plan (LDP) process and enable decision-makers to bring forward appropriate local policies to meet Northern Ireland's energy needs, under the Northern Ireland Energy Strategy, whilst meeting its obligations under the Climate Change Act (Northern Ireland) 2022.

The Department for the Economy acknowledges the "need to improve the process for plan-making and the determination of planning applications, including for renewable and low carbon energy development".

Renewable energy context

The draft report contextualises that, since reforms of the planning system and the transfer of planning powers to local government on 1 April 2015 to the end of September 2022, 837 renewable energy planning applications were approved, including:

- 32 wind farms;
- 583 single wind turbines;
- 32 hydroelectric plants;
- 93 applications for solar panels;
- 76 biomass/anaerobic digesters; and
- 21 other (includes landfill gases, waste incineration and heat pumps).

The Northern Ireland Energy Strategy established a renewable electricity consumption target of 70 per cent by 2030, a target which has subsequently increased to 80 per cent by 2030 under the auspices of the Climate Change (Northern Ireland) Act 2022.

The Climate Change Act places a duty on Executive departments to ensure that the greenhouse emissions in 2050 is at least 100 per cent lower than the baseline figures from 1990, and to ensure that the net emissions account for carbon dioxide for the year 2050 is at least 100 per cent lower than the baseline for carbon dioxide.

Regional strategic policy

The report has been published shortly after a memorandum of understanding between the Department for the Economy and the Crown Estate which is expected to lead to bidding for offshore renewable energy development, a procedure which has been hampered by several stumbling blocks, including delays to new market and incentive arrangements in 2014, and a statement by the Department for the Economy in 2019 saying that Northern Ireland's coastline was not suitable for offshore wind development due to likely objections to the visual landscape which would emerge from the expansion of offshore wind infrastructure.

The report states that the Department for the Economy recognises "that there are landscapes across Northern Ireland where their intrinsic value should be protected against inappropriate renewable and low carbon energy development".

It continues: "A cautious approach for renewable and low carbon energy development proposals will apply within designated landscapes which are of significant value, such as areas of outstanding natural beauty, World 7 Heritage Sites and their wider settings, including the Giant's Causeway and Causeway Coast World Heritage Site."

The report also calls on visually dominant development proposals to be avoided in such sensitive landscapes as it may be difficult to accommodate developments and their associated infrastructure, without detriment to the region's cultural and natural heritage assets.

It further states how, for wind farm development, a separation distance of 10 times rotor diameter to occupied property, with a minimum distance not less than 500 metres, will generally apply. This will also apply to any wind turbine development with a rotor diameter of 50 metres or greater.

Noteworthy is that the ETSU-R-97 system remains the UK standard methodology for the assessment of noise from wind energy development. "It, along with A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, prepared by the Institute of Acoustics, should be taken into account by decision-makers, including any future update to this standard," the report states.

"Potential noise impacts, including amplitude modulation, from wind turbines on surrounding properties must be carefully considered. Applicants should seek to minimise and mitigate against any potential impacts from wind energy proposals which are likely to result in shadow flicker on nearby properties."

The review on strategic planning policy on renewable and low carbon energy is currently open for submissions, with the consultations process to run until 30 June 2023. However, implementation of any future policy deriving from the review will not be possible until the reformation of a Northern Ireland Executive.

Calor: Sustainable energy solutions

Calor has a bold ambition. It is to offer its rurally-based customers 100 per cent renewably and sustainably sourced energy by 2037, its centenary year.

Calor recognises that to realise this goal, innovation, and collaboration are essential and is working closely with employees, customers, suppliers, and partners to continuously identify new solutions and make them available.

Energy security and affordability are at the forefront of people's minds. There is a growing focus on how to heat homes and businesses, potential renewable solutions and the costs associated with a warm and comfortable environment.

Decarbonising heat is key to achieving net zero. However, it is imperative that consumers have a choice of home energy solutions to meet every budget, infrastructural challenge, and environmental goal.

SHV Energy, Calor's parent company, has a long history of innovation and commitment to lowering the carbon footprint of the fuel range offered across the organisation's business units. Over the years, as the environmental impact of carbon and air pollutants has become clearer, they have moved away from coal and oil to offer Liquefied Petroleum Gas (LPG) and Liquefied Natural Gas (LNG.)

Working with rural consumers located off the natural gas grid, Calor has been providing LPG to homes and businesses for over 80 years, offering significant advantages to many business sectors due to its lower carbon credentials compared to oil and other higher carbon producing fossil fuels. With more and more companies placing sustainability in their long-term strategies, Calor has introduced Futuria, a new and growing portfolio of sustainable energy solutions, and a commitment to grow and develop the pathways to make these available in the future. In tandem with its parent company SHV Energy, Calor is making strides in developing, investing in, and growing the Futuria range.

Since 2018, Calor Ireland has been at the forefront of enabling off grid consumers to make more environmentally friendly choices by delivering access to the first commercially available, certified renewable gas in Ireland, BioLPG. Produced from renewable feedstocks, such as plant and vegetable waste, BioLPG reduces CO2 emissions by up to 90 per cent*, and is identical in use and performance to conventional LPG meaning that the transition is simple and cost effective with no requirement to change equipment if using LPG powered appliances currently.

Richard Alexander, Sustainable Fuels Lead, Calor says: "Calor and SHV Energy understand that we will need to do more to meet climate targets. SHV Energy is partnering with leading, innovative players to help make sustainable fuel advances possible through its Futuria Sustainability Strategy. Calor Ireland has been to the forefront of enabling off grid consumers to make more environmentally friendly choices by delivering access to our certified renewable gas since 2018. Calor has the experience and the expertise to play a leading role in Northern Ireland's green energy evolution, with its ambition that all its energy products will be from renewable sources by its centenary year 2037."

SHV Energy has partnered with leading, innovative players to help make these sustainable fuel advances possible. it has a strong global portfolio of R&D projects and partners, working to develop dedicated pathways to purposely produce BioLPG and other sustainable fuels with high yields and from a wide range of feedstock. These active collaboration with leading universities, such as Queen's University Belfast, the University of Amsterdam, and Aston University.

"Calor Ireland has been at the forefront of enabling off grid consumers to make more environmentally friendly choices by delivering access to our certified renewable gas since 2018."

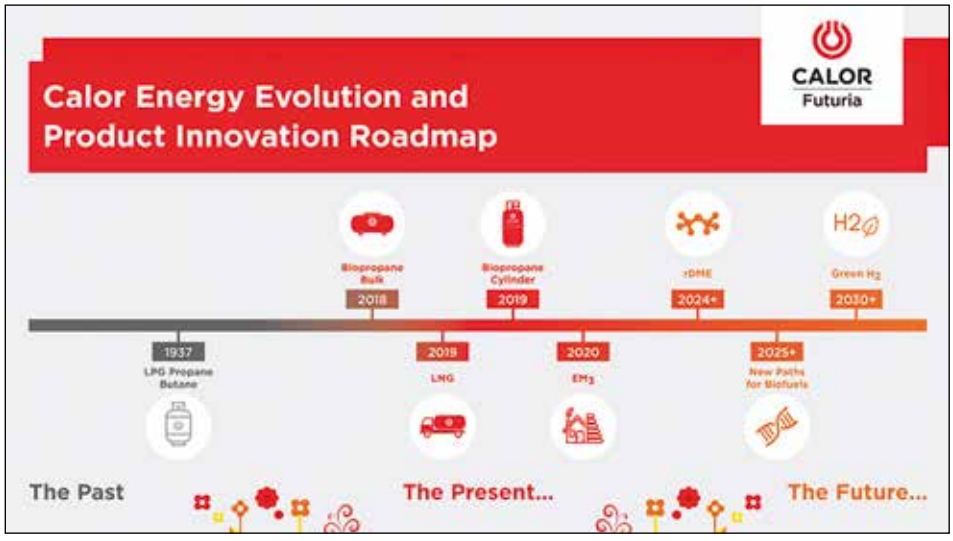
There is a clear need for alternative renewable energy solutions in off-grid areas, whether for homes and businesses in rural areas, hard to electrify HGVs or industrial processes. To address this the LPG Industry across the globe are transitioning to 'drop-in' renewable liquid gases, one of which is dimethyl ether (rDME), a renewable gas produced from municipal waste. rDME is an affordable drop-in fuel that can be safely blended into LPG and BioLPG with no change to existing infrastructure. It is envisioned that the sustainable fuel will then be used by the LPG Industry in a variety of applications, benefiting homes and businesses in rural areas in the future.

Recently, SHV Energy announced their commitment to accelerating the development of rDME with a joint investment venture with UGI International, into a company called Dimeta, which will produce the rDME and accelerate its adoption. This, alongside other renewable liquid gases can reduce carbon emissions, improve air quality in an affordable way. Renewable and recycled carbon DME (rDME) is a safe, clean-burning, sustainable fuel that can support decarbonisation of the off-grid energy sector including domestic and commercial heating and cooking, industry and transport.

Dimeta plans to produce 50,000 tonnes per year of rDME in the first UK plant. The production facility is located in Teesside, one of the UK's leading decarbonising industrial clusters and shall be in operation in 2025.

Calor has the experience and the expertise to play a leading role in Northern Ireland's energy transition and in collaboration with its stakeholders, contributing towards cleaner air and a safe and stable climate for generations to come.

For more information visit: www.calorgas.ie



Johnson Controls to expand OpenBlue digital buildings capabilities through acquisition of workplace management software leader FM:Systems

- Acquisition adds complementary cloud-based software as a service (SaaS) digital workplace management capabilities to Johnson Controls' leading OpenBlue digital buildings software portfolio
- FM:Systems' double-digit revenue growth and gross and operating margins expected to be accretive to Johnson Controls
- Significant synergies providing increased capabilities and offerings from FM:Systems products to Johnson Controls customers

CORK, Ireland July, 2023 — Johnson Controls (NYSE: JCI), the global leader for smart, healthy and sustainable buildings, has acquired FM:Systems, a leading digital workplace management and Internet of Things (IoT) solutions provider for facilities and real estate professionals. The base purchase price for the transaction is $455 million, plus additional payments to be made subject to the achievement of post-closing earnout milestones.

"FM:Systems' powerful, predictive workplace management platform will build on our best-in-class building automation services, OpenBlue, to offer a one-stop solution that helps customers accelerate their digital transformation journey, improve building efficiency and reduce operational costs," said Johnson Controls Chairman and CEO George Oliver. "Coupled with our building asset solutions, energy management offerings and global field network, this acquisition further differentiates Johnson Controls' leadership in the fast-growing segment for autonomous and digitally enabled buildings."

FM:Systems, headquartered in Raleigh, North Carolina, and owned by Accel-KKR, has more than 200 employees and 1,200 customers, representing more than 2.4 million users across 80 countries. The company has earned a loyal customer base, achieving a greater than 110% average net revenue retention since 2020. An established leader in the digital workplace solutions industry, FM:Systems has had double-digit revenue growth with gross and operating margins that are accretive to Johnson Controls.

"Workplace management technology is a key enabler in terms of improving operational efficiency, creating safer, healthier and smarter buildings, and supporting sustainability goals. Since our investment in 2017, FM:Systems has become a leader in this space with continued innovation and service excellence, leading to a strong growth profile," said Dean Jacobson, managing director at Accel-KKR. "We are proud of the success accomplished together with the talented team at FM:Systems, and we are pleased to see how well FM:Systems fits into and expands Johnson Controls OpenBlue digital capabilities in pursuit of a shared vision to lead in the future of autonomous and connected buildings."

FM:Systems' innovative software products offer a range of solutions to make workspaces smarter, like space-scenario planning, asset management and facilities maintenance, supported by security protocols, floor plan scenario modeling, bi-direction integration with AutoCAD and Revit models, and advanced workplace analytics capabilities. Improving the experience of everyone inside, from visitors to occupants to building managers, its powerful sensors and analytics can help portfolio managers optimise space, realise greater cost savings, and help manage and report on indoor air and other environmental data in facilities as diverse as commercial real estate, hospitals, universities, and government buildings.

FM:Systems' capabilities will further strengthen Johnson Controls OpenBlue suite of software, which uses cutting-edge artificial intelligence and digital twin technologies to improve building performance, while making buildings smarter and healthier for the planet. Buildings collectively account for nearly 40% of global greenhouse gas emissions. The added expertise of FM:Systems will accelerate Johnson Controls' leadership in net zero building technologies globally, while strengthening long-term relationships with existing customers and creating new opportunities to meet demand in the fast-growing smart building segment.

FM:Systems CEO and Chairman Kurt von Koch will join Johnson Controls' digital business in a leadership role.

The acquisition is not expected to impact Johnson Controls' 2023 fiscal year financial outlook.

Centerview Partners LLC served as exclusive financial advisor and Cleary Gottlieb Steen & Hamilton LLP served as legal advisor to Johnson Controls on the transaction. Moelis & Company LLC and Raymond James acted as financial advisors, and Goodwin Procter as legal advisor to FM:Systems.

Ireland has become warmer and wetter while May is sunniest month, 30-year Met Éireann study shows

- Country has also seen a 7% increase in rainfall, with an average annual figure of 1,288mm
- Ireland has become both warmer and wetter in the past 30 years, according to a study from Met Éireann.

In its analysis of the climate averages from 1991 to 2020, the meteorological body said the average yearly air temperature in Ireland stands at 9.8 degrees, an increase of 0.7 degrees from the previous 30-year time frame.

According to the forecaster, annual sunshine hours have increased by about 5 per cent when compared with the 1961 to 1990 period. May is listed as the sunniest month of the year, followed by June.

During the past 30 years, the country has also seen a 7 per cent increase in rainfall, with an average annual figure of 1,288mm. Regional variations exist, said Met Éireann, with the west and north of the country displaying the greatest increases in annual rainfall.

"We know that the atmosphere is warming and what we're seeing at the local and national scale fits the international picture," said Mary Curley, Met Éireann climatologist and project lead.

"Importantly, the data provides information about typical climate conditions for a particular location and is a crucial benchmark for weather and climate conditions. This serves as an important resource for Government and relevant stakeholders to enable informed decision-making to benefit society.

"While these averages give us an up-to-date baseline to compare our current and future weather to, it's important to remember that weather patterns can vary significantly from year to year."

Met Éireann calculates and updates Ireland's 30-year climate averages every 10 years. According to the forecaster, from 1991 to 2020, spring was the season that saw the greatest temperature rise of 0.8 degrees in its average annual temperature. Mean temperatures increased for all months of the year, with the greatest increase of 1 degree seen in May, and the lowest of 0.2 degrees in October.

In total, 1991 to 2020 saw 63 more hours of annual sunshine than the previous 30 years, a 5 per cent increase. May is the sunniest month of the year with an average 189.6 hours of sunshine, while December is the darkest month with 44.1 hours of sunshine.

During the most recent 30-year period, spring was a drier season than summer, seeing an average of 256mm of rainfall followed by 282mm during the summer months. All regions of the country saw an increase in the annual rainfall averages. In the east, there was an increase of about 3-6 per cent, with the west and north of the country seeing 6-12 per cent more rainfall.

Met Éireann has said it will publish a comprehensive technical report on the 30-year averages from 1991 to 2020 later this year.

Enterprise Ireland: Why sustainability must be a priority for Irish firms

When the World Economic Forum presented its annual risk report in 2006, it said the biggest global risks were terrorism and potential pandemics. It referenced climate change, but said the full effect would only be felt in the long term.

The long term that was referenced in that report is now well and truly here, and in this year's report they warned that four of the top five risks relate to climate. There is hope, however, as a report issued by the IPCC earlier this year, while somewhat stark, was clear that we can mitigate the worst effects of climate change if we can maintain warming at 1.5 degrees.

Sustainability is a core pillar of Enterprise Ireland's strategy and we firmly believe it is crucial for all of our clients. We all have our part to play in society, and for Irish owned businesses that means developing a sustainability strategy, along with a detailed implementation plan and the urgency to carry out this work.

This strategy must cover the whole business and consider efficient use of resources, from reducing food waste and developing green infrastructure, to process improvements and partner management, through to energy supply diversification.

Mitigating climate change is vital but it's also worth bearing in mind there are multiple market drivers demanding that companies become more sustainable.

One such driver is carbon costs, which have rapidly increased in recent years, and the EU is phasing out free allocations under its emission trading system. Enterprise Ireland client companies are currently spending in the region of €130m a year on carbon credits, but this could soon increase to over €400m a year if we don't reduce our carbon footprint.

Green procurement and green supply chains are also an increasingly important factor for Irish businesses that are doing business internationally. Increasingly, companies are requiring their suppliers to demonstrate robust sustainability plans showing the steps that they are taking to reduce their environmental impact.

Having a credible sustainability strategy is now crucial to recruitment and retention, particularly when it comes to employees under 30. Likewise, consumers have expectations and clearly favour products and services with sustainability at their core. It's clear that having a strong sustainability strategy confers real competitive advantage.

While carbon reduction is vital, sustainability is broader than that. It also includes supporting biodiversity, promoting water quality and making the most of the extraordinary opportunities offered by the circular economy.

Change is possible and Enterprise Ireland is on that journey with Irish business. At the recent Business Leaders' Conference hosted at the Enterprise Ireland Summit, the theme for the day was 'Scaling, Sustainability and Driving Innovation'. And the afternoon session, attended by hundreds of Irish business leaders, focused solely on sustainability and the importance of sustainable growth.

Enterprise Ireland is ready to support companies in developing innovative responses to meet both the demands and opportunities offered by sustainable business. We are here to help at every stage of your sustainability journey.

Consumers, especially younger ones, are increasingly demanding sustainability from firms.

Green shoots of change' – climate action scale-up vowed as dip in emissions falls short

Environment Minister Eamon Ryan has said climate action will be scaled up and speeded up as latest emissions figures show only a minor improvement.

He was responding to the emissions inventory published by the Environmental Protection Agency which shows the volume of greenhouse gas (GHG) emitted last year fell by 1.9pc.

While the reduction was welcomed, climate scientists, advisors and NGOs said it was far short of what was required by law and by a climate that has been causing chaos through its extreme weather impacts of late.

"It is a relief to see that Ireland's climate changing pollution fell in 2022 but it was only a dip and not yet the dramatic reductions we need to see," said Oisín Coghlan of Friends of the Earth.

He pointed out that some of the factors behind the fall were temporary so there was no guarantee that one year's reduction would become a trend.

"The reductions in agriculture and home heating pollution were largely driven by rising fertiliser and fossil fuel prices as a result of war in Ukraine," he said.

"The Government needs to take steps to actively ensure those reductions are locked in, rather than rebounding as prices ease."

He described the 6pc rise in transport emissions, the worst performing sector, as "horrifying".

Marie Donnelly, chair of Climate Change Advisory Council, also expressed concern at the temporary nature of the factors at play.

"We are not on track to achieve our emissions targets," she said.

She also highlighted the continued rise in transport emissions as a worry.

"Investment and support is needed now, to incentivise a switch to public transport and an uplift in active travel."

Stop Climate Chaos Coalition (SCC) coordinator Sadhbh O'Neill said the overall emissions reduction masked a worrying increase in the use of gas in power generation.

While use of coal, oil and peat fell, almost 13pc more gas was used which was the highest amount since 2010.

At University College Cork, Professor Hannah Daly stressed that the 1.9pc reduction was far below the 5-6pc that was required to keep legally binding targets in sight.

Failure to achieve that level of reduction meant only sustained annual cuts of 12.4pc over the next few years would make the targets a realistic goal.

Minister Ryan said the 2022 reduction displayed "important green shoots of change".

"We do need to see our emissions fall at an even faster rate but this decrease remains a significant achievement given our expanding economy and our growing population," he said.

"We will continue to revise our climate plans to ensure that we scale up and speed up our actions."

Professor Brian Ó Gallachóir of UCC, said, however, that accelerating climate action alone would not suffice as it was being outpaced by economic growth and increasing consumption.

"The drivers of emissions growth are stronger than the drivers of emissions reduction.

"This means we need to seriously question how and why we prioritise economic growth above all and this discussion will be challenging from both a political and societal perspective."

Emissions of greenhouse gases drop due to rising energy costs but there was a rise in transport sector

Ireland's greenhouse gas emissions fell by almost 2pc last year in a tentative sign of progress on climate action targets.

The decrease is less than half the reduction required, however, and the Environmental Protection Agency (EPA) warned that meeting the targets would now be "extremely challenging".

The reduction came about mainly because soaring bills forced households to cut back on electricity and heating, although the nationwide ban on smoky fuels is thought also to have contributed.

It happened also because of greener practices in agriculture, the sector which produces by far the most emissions in the country.

Farmers used fewer fertilisers which reduced the amount of temperature-raising nitrogen escaping into the atmosphere.

Other factors included 2022 being a good year for wind energy which allowed more electricity to be generated without the use of fossil fuels.

Manufacturers also used fewer fossil fuels and cleaned up their industrial processes.

Transport almost derailed the efforts in the other sectors, however, as emissions from petrol and diesel cars, vans and trucks rose significantly.

That completely wiped out any gains made from the increase in electric vehicles.

Overall, national emissions were down 1.9pc in 2022 but under national climate targets, that should have been at least 4.8pc.

That leaves Ireland off-track not just for meeting national targets but also EU obligations.

Fines running to millions of euro follow from the failure to comply.

The modest reduction for 2022 follows an increase of 5.1pc in emissions in 2021 when a reduction of 4.8pc was also due.

Because of the under-performance in 2021 and 2022, a massive improvement is needed this year and in 2024 and 2025.

That marks the end of the first five-year "carbon budget" – a limit set by government on the emissions the country collectively can produce.

"An extremely challenging annual reduction of 12.4pc is required for each of the remaining years if Ireland is to stay within the budget," said the EPA, which compiles the annual greenhouse gas emissions (GHG) inventory.

Overall greenhouse gas emissions fell slightly in 2022 but emissions from transport increased.

If emissions exceed the current five-year budget, they will have to be made up for in the next period which ends in 2030

At that point, the law states, Ireland's GHG emissions must have halved.

The EPA warns that if excess emissions from 2021-2025 have to be carried over to the next period "this would make achievement of the second budget substantially more difficult".

Laura Burke, the EPA's director general, welcomed the reduction for 2022 but said: "This decrease in emissions needs to be significantly ramped up."

The main sources of GHGs were unchanged last year.

Agriculture remained the sector with the most emissions, accounting for 38.4pc of the national total.

Methane from livestock, chiefly dairy cows, was the main issue and it actually rose slightly but the reduction in nitrogen-based fertilisers offset the increase, resulting in an overall fall of 1.2pc.

The single biggest cause of GHG emissions, however, was carbon dioxide from the fossil fuels that provided 86.4pc of the country's energy needs in the form of electricity, heating fuels and transport fuels.

There were substantial reductions in coal (-16pc), oil (-29pc) and peat (-25pc) used to generate electricity, which was positive as they are the fuels that produce the most carbon emissions.

They were replaced partly by renewable energies, mainly wind but also some solar, which generated 39pc of the country's electricity – up from 35pc in 2021.

Gas was the main replacement, however, and while it produces less emissions than solid fuels, it is also carbon intensive.

As a result, the overall reduction in electricity related emissions was just 1.8pc.

The trends in transport are of particular concern because even though the increase in the sale of EVs is on target, that is not making up for the overall rise in vehicles on the road.

Transport emissions grew 6pc last year which has a major impact on the country's total as transport is the second biggest emitting sector in the country, making up 19.1pc of national emissions.

Residential heating and hot water is the next largest sector, accounting for 10pc of national emissions.

While there was a 12.7pc reduction in emissions in the sector, much of the decrease was attributed to householders cutting back because of the energy price crisis.

Caroline O'Doherty: Technology alone won't save the planet, you need people to buy into it

Green energy evangelists are hard to beat for enthusiasm. They see hydropower kilowatts in clouds, megawatts in sunbeams and gigawatts in every wisp of passing wind. Free clean energy is just waiting to be harnessed, distributed, used, stored and converted to other flexible forms. Power-to-X is the buzz phrase for the latter – the process of turning surplus renewable energy into green hydrogen for transport fuel and low-carbon chemicals for industry.

Energy islands are the holy grail – offshore hubs shared by countries and companies to gather power from diverse locations and distribute it seamlessly through always-open, always-brimming interconnectors.

The sources are endless, the possibilities immense, the logic overwhelming.

So what could possibly suck the energy out of a room full of the converted?

The exasperated voice of a Romanian journalist, actually. How could she talk about green hydrogen when half her country was still burning wood for heating and cooking, she asked.

How could she paint a picture of the power systems of the future when people were still living in the last century?

She wasn't alone in articulating the challenges of communicating the rationale and mechanics of the energy transition.

Over the course of a two-day gathering organised by the European Commission's energy department, journalists from around Europe chatted between presentations about the particular difficulties in their own countries where people and politics, far from being in transition, were stuck fast in old ways.

A Bulgarian pointed out that his country had been through five general elections in two years and now had an Irish-style rotating premiership only with the rotation happening every nine mind-bending months. Paralysis was the result, he said. New policies could not gain traction and the electorate was becoming alienated. Trying to lay the groundwork for something transformational against that backdrop was like pouring foundations in a flood.

The Greek member of the group talked of how progress made in weaning power generation off domestically mined lignite had stalled since the invasion of Ukraine.

Under closure plans set out over the last decade, only two plants should remain by now but nine were still in operation.

Meanwhile after years of recession and stagnation, a very welcome economic growth spurt was driving energy demand faster than the demand could be cleanly met – a familiar sounding tale from this side of the bloc.

The Belgian reporter told of rural communities, proud of their rustic charm, resisting the ugly, intrusive infrastructure of electricity cables, pylons and substations needed to support the roll-out of renewables. That too had a familiar ring about it. Poland, the home of coal, had been warming up to solar but unsurprisingly the trouble next door shifted priorities.

People making evacuation plans for their families in the event of an escalation, as our Polish colleague had, were not necessarily focused on PV panels. Portugal has just increased its renewables targets which are now more ambitious than Ireland and it is preparing for its first offshore wind auction, just slightly behind us.

But unlike Ireland, they don't have a shallow water eastern coast to dip their toe in, only the deep Atlantic where the more complex, more expensive floating turbines are required.

The Portuguese journalist wasn't sure she could believe the hype – or even the hope – and if she didn't believe it, how could she write it?

We have the energy solutions for green power, but we need commitment and public support. Cranes seen at the construction site of gravity-based wind turbine foundations for the Fecamp offshore wind farm.

Even the Danes, the hosts of our group and leaders of the green transition pack, had their problems. The day after the gathering ended, the Danish government announced it was shelving one of the two flagship energy island projects that had been confidently presented to us because the cost was higher than the publicly funded purse could be asked to bear.

Ireland also has issues to grapple with if our own clean energy ambitions are to be realised – politicking, planning, spending priorities and public buy-in among them. The trip was primarily intended to provide a brief, intense immersion in the technological solutions to the decarbonisation of energy and there was no shortage of impressive examples. But it also highlighted that transformation is about people, not just technology. If energy systems are to be decarbonised at the speed the climate crisis demands, then people power as much as green power needs to be harnessed.

• ENERGY POINT •

MARA LAUNCH MARKS MAJOR MILESTONE FOR OFFSHORE ENERGY DEVELOPMENT

- New authority will regulate development and activity in Ireland's maritime area including offshore energy projects
- First Designated Maritime Area Plan (DMAP) Proposal for Offshore Renewable Energy published, which will be located off the South Coast of Ireland
- ORESS 2 consultation process launched for next phase of offshore renewable auctions
- Seafood-ORE working group publishes summary engagement guide for seafood industry and Offshore Renewable Energy (ORE) interactions
- Establishment of MARA paves way for National Industrial Strategy for Offshore Wind
- Detailed map and notice of intention to designate a new Special Protection Area (SPA) to protect birdlife in North-West Irish Sea

The Government has officially launched the Maritime Area Regulatory Authority (MARA), marking a significant milestone in the State's stewardship of the maritime area including plans for renewable offshore energy development.

The newly established authority will be responsible for regulating development and activity in Ireland's maritime area and its role will include assessing applications for Maritime Area Consents (MACs), which are required before developers of offshore wind and other projects in the maritime area can make a planning application. It will also be responsible for granting licences for certain activities in the maritime area.

The establishment of MARA represents the beginning of phase two for Ireland's all-of-government approach to renewable offshore energy and will determine how we develop this valuable resource.

Minister for Housing, Local Government and Heritage, Darragh O'Brien TD, officially launched the new regulatory authority at an event in Rosslare Europort today, emphasising:

"With the launch of the Maritime Area Regulatory Authority here in Rosslare today, we now begin the second phase of our all-of-Government approach to the development of offshore renewable energy. Delivery of offshore renewable energy will be crucial as we strive towards our climate goals over the next few years and MARA will provide the regulation and clarity that this emerging industry needs and govern our extensive maritime resource and contribute to our nation's sustainable future."

Chief Executive Officer of MARA, Laura Brien, added:

"Ireland has one of the highest sea-to-land ratios in Europe and today marks the beginning of an exciting new chapter in how Ireland will manage that resource. MARA's remit is wide-ranging reflecting the diverse marine resource that we will steward for this generation and the ones to come. MARA is confident in our ability to support the governance of our maritime resources. In achieving this, we look forward to working with the wide range of stakeholders in the seafood, tourism, transportation as well as offshore renewable energy sectors to deliver on our role."

Ireland's first 'Designated Maritime Area Plan Proposal'

Today also saw the launch of the first Designated Maritime Area Plan (DMAP) Proposal for Offshore Renewable Energy by Minister for the Environment, Climate and Communications, Eamon Ryan TD. This signals Ireland's first step into the systemic, plan-led development of our huge off-shore wind potential.

DMAPS will determine the broad area where ORE projects can be developed, and will act as a management plan for a specific area of our marine waters.

This first ORE DMAP for the South Coast puts forward an initial 'proposed' geographical area within which future offshore renewable energy development may take place. This area will be refined through a process of public engagement and consultation, expert environmental impact assessments and other expert analysis of the maritime areas, to assess its suitability for offshore renewable energy development.

Following a period of public engagement, a 'Draft DMAP' (which is anticipated to encompass a significantly smaller footprint than the initially outlined in proposal) will be published. Following this, a further statutory public consultation will take place, before the Draft DMAP is presented to the Minister for Housing and both houses of the Oireachtas for approval.

Minister Ryan explained:

"Today marks the start of our new plan-led approach to the development of our off-shore wind industry, which was supported by both Houses of the Oireachtas. It also aligns us with the strategic direction being taken by the world's leading off-shore wind countries like Denmark and Scotland. The rigorous legislative approach included within the South Coast DMAP Proposal will offer the best approach to protect local marine environments, fishing communities and boost local community development. It will offer comprehensive opportunities for public engagement,

including the engagement of local communities."

Consultation process launched for next phase of offshore renewable auctions

In addition, Minister Ryan today also announced a consultation on the principles for the design of offshore wind auctions under the Renewable Electricity Support Scheme (ORESS), under the Government's plan-led Phase Two policy. The ORESS 2 consultation process will seek the views of stakeholders on key design principles to help ensure ORESS 2 auctions are attractive to the offshore wind industry, deliver a route to market for significant amounts of clean renewable energy, and ensure value for money for electricity consumers. ORESS 2 auctions will be geographically aligned with available onshore grid capacity. Its first auction, 'ORESS 2.1', will see the development of offshore wind within an offshore renewable energy 'designated Area' - the South Coast DMAP. The consultation will run until Friday 25 August 2023, and it is expected that ORESS 2.1 will launch before the end of this year or early next year.

Minister Ryan pointed out:

"ORESS 2 is another hugely important step towards achieving our aim of delivering sustainable electricity for homes and businesses throughout Ireland. The success of our first offshore wind auction earlier this year (ORESS 1) highlighted Ireland's enormous potential in the offshore renewables space. Both The South Coast DMAP Proposal and the ORESS 2 consultation process are important elements of our wider offshore renewables plan. As well as helping to meet our climate goals, these processes, along with subsequent offshore development, will have a transformational impact on regional communities and on sustainable jobs creation."

Seafood-ORE working group publishes summary engagement guide for seafood industry and Offshore Renewable Energy (ORE) interactions

Ministers today also welcomed the recent completion of a Summary Guide document for engagement between the Seafood and Offshore Renewable Energy (ORE) industries.

Led by the independent Chairmanship of Captain Robert McCabe, the Seafood/ORE Working Group was established by the Government in May 2022 to facilitate discussion on matters arising from the interaction of the seafood and offshore renewable energy industries. The completed Summary Guide is intended to provide Offshore Renewable Energy projects and seafood stakeholders with guidance on how to engage and co-exist in a constructive manner throughout the lifecycle of an ORE Project. The publication of the communications guide document marks a significant milestone in the output of the group, which will continue to work on further priority objectives relevant to both industries over the coming year.

Seafood/ORE Working Group Chairman, Captain Robert McCabe:

"The completion of the summary guide document represents a significant achievement in the managed introduction of Offshore Renewable Energy into Ireland's maritime area, and I wish to commend the considerable efforts of the working group over the past year in finalising a comprehensive engagement guide within a challenging timeframe."

Establishment of MARA paves way for National Industrial Strategy for Offshore Wind

In May, Minister for Enterprise, Trade and Employment, Simon Coveney TD, received Government support to develop a National Industrial Strategy for Offshore Wind which will set out how Ireland can maximise the economic opportunity arising from the production of Offshore Wind Energy (OWE). The Strategy will be developed in consultation with the relevant government departments, agencies, and industry, with the objective of ensuring that Ireland fully captures the value of both the supply chain to deliver an OWE sector at scale, and the routes to market for this renewable energy. It is expected that the National Industrial Strategy for Offshore Wind will be published in Q1 2024 and complement the suite of upcoming government policies led by the Department of Environment, Climate and Communications through the Offshore Wind Delivery Taskforce.

At today's launch, Minister Coveney said:

"Together with my colleagues across Government, I am committed to creating the environment that will allow a burgeoning Offshore Wind industry to develop and thrive. The provision of abundant, competitively priced renewable energy can be a key strategic competitive advantage for Ireland's future reflecting the ambition as set out in my Department's White Paper on Enterprise. On the path to that goal are a series of important policy, legislative, regulatory and infrastructural steps. Today marks one of those critical steps with the establishment of the Maritime Area Regulatory Authority (MARA) with its new Chief Executive Officer Laura Brien. I wish her and all her colleagues well in playing its central role for this new industry."

Ireland's swift and nature-positive transition to renewable energy has also been aided by the publication today of a detailed map and notice of intention to designate a new Special Protection Area (SPA) under the EU Birds Directive for the protection of birdlife in the North-west Irish Sea. The new North-west Irish Sea SPA covers more than 230,000 hectares of important marine waters for a range of bird species throughout the year.

LEAN BUSINESS IRELAND AWARDS

12TH | OCTOBER 2023 | CROKE PARK

The Annual Lean Business Ireland Awards Ceremony takes place in Croke Park on the 12th of October 2023

Lean Business Ireland (LBI) presents Ireland as a global exemplar in Organisational and Enterprise Excellence, and the LBI Awards Ceremony recognises and celebrates such achievements in excellence across various sectors.

The LBI Awards Ceremony is a wonderful opportunity to socialise and network with fellow Lean and Continuous Improvement colleagues from all around the country. The LBI Awards are open to entries from public and private organisations of all scales and sizes that can demonstrate the effective implementation of Lean thinking and practices in their organisational and enterprise excellence journeys.

There is no charge to submit entries for the LBI Awards, and organisations can enter up to three categories. The deadline for entries is the 18th of August 2023 so please do not delay in submitting your entry.

We wish all entrants the best of luck and we look forward to meeting you at the Annual LBI Awards Ceremony in Croke Park on the 12th of October 2023.

Categories Include

- Micro Lean Business of the Year
- Small Lean Business of the Year
- Medium Lean Business of the Year
- Large Lean Business of the Year
- Service Innovation & Improvement in Public Services
- Sustainability
- Digital Innovation & Transformation
- Lean Champion of the Year
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For Further Information Please Contact Paula@boxmedia.ie

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