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JANUARY/FEBRUARY 2023

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Managing Editor: Ronan McGlade
Production/Operations: Paula Dempsey
Production: Susan Doyle
Marketing & Communications Manager: Lynn Farrell
Business Development: John McNamee
Customer Services: Shauna Clancy
Digital Marketing: Adam McGlade

Environment & Energy Management is published by BoxMedia and its Directors.
 616, Edenderry Business Campus, Edenderry, Co. Offaly

Tel: +353 46 9773434
Email: ronan@boxmedia.ie
Website: www.eandemangement.com

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Vast Majority of Young People Feel Concerned about Climate Change

• New survey by ECO-UNESCO has found

An overwhelming percentage of young people (97%) are feeling concerned about climate change according to the Youth Climate Justice Survey*, also revealing that young people are feeling anxious, angry, and fearful but also eager to act. These survey findings were presented at The Earth Gala last Friday night, which was organised by Ireland's leading environmental education and youth organisation ECO-UNESCO.

The climate justice event is part of the Youth Climate Advocate programme, a collaborative project led by ECO-UNESCO with 3 other national youth organisations – NoName Club, Feachtas and Young Irish Filmmakers - funded by the Department of Children, Equality, Disability, Integration and Youth. The event gathered passionate young people, environmental experts and policy makers to network and think of solutions to climate justice issues.

On the night ECO-UNESCO published the Youth Climate Justice Survey results collected from over 1,000 young people in Ireland aged 16-25 years old. This survey was conducted online through a collaboration between ECO-UNESCO and SpunOut.ie. The purpose of this survey is to highlight how young people in Ireland feel about climate justice issues, finding that 60% feel they have been personally impacted by climate change.

The survey also looked at the barriers to their engagement, what their knowledge is on this topic and what supports they would like. With nearly half of respondents admitting that they felt no one listens to their concerns, and over 50% asking for youth organisations to better communicate on their behalf with



decision makers.

Speaking at the Earth Gala, Elaine Nevin, National Director of ECO-UNESCO commented: "It's concerning to see that eco-anxiety is growing and how so many young people are feeling anxious and fearful over climate change, but as Ireland's leading environmental youth education organisation it is our responsibility to ensure we are giving them a platform to communicate and learn the skills so they can feel empowered to make positive environmental changes."

When young people were asked what was most important when it came to tackling climate change, their responses pointed to changes in big business and corporations as the biggest issue in the fight for climate action.

They also highlighted how they would like to learn more about the circular economy, politics and policies around climate change, and the role that businesses and corporations play.

Elaine continued: "The survey found that 32% of young people felt they did not have the skills to fight climate change, so we would like to encourage young eco-activists across Ireland to take eco-action now and apply to the 2023 Young Environmentalists Awards programme (YEAs). The YEA's are a great way for young people to learn about climate change, raise awareness and take environmental action both locally and nationally."

The YEA programme is a fun and exciting way for young people to build awareness and promote local actions and lifestyle changes to the environment. The final showcase will be held in May 2023.

Please find more information on the Youth Climate Justice Survey results here, and to register for the YEA's, please go to www.YEA.ie.



Ireland must increase offshore wind targets to 7GW by 2030

SSE Renewables also calls for stepping-stone targets from 2030 to 2050 to achieve 30GW of offshore wind capacity in Ireland.

Ireland must increase its ambition for climate action from its current 5GW target of offshore wind by 2030 to a more ambitious 7GW of indigenous and secure renewable energy in the same timeframe – that's according to SSE Renewables, Ireland's leading renewable energy developer and the company building more offshore wind in the world right now.

The call was made by SSE Renewables' Director of Offshore Wind Maria Ryan at today's Energy Ireland 2022, Ireland's Decade of Delivery conference, taking place in Croke Park, Dublin. She also called for Ireland to establish new stepping-stone or interim targets from 2030 to 2050 to encourage long term investment in the industry and achieve 30GW of offshore wind capacity in Irish waters.

Speaking at today's Energy Ireland 2022, Ireland's Decade of Delivery conference, Maria Ryan, Director of Offshore Wind at SSE Renewables, called on government not to let grid limitations limit Ireland's offshore wind potential and the achievement of more ambitious targets.

Current government policy is to progress the development of offshore wind through a series of phases. Phase 1 and 2 are being led by the developer, while Phase 3 will see the State and transmission system operator (TSO) EirGrid determine sites and grid for offshore wind farms. These phases have been introduced on the basis of the available grid capacity.

SSE Renewables' Maria Ryan said:

"We recognise the merits of delivering offshore wind on a phased basis, building towards a TSO-led approach. However we believe this approach is limiting Ireland's potential. We can't afford to wait until we have a clear sight of additional grid to adjust our ambition upwards.

"Phase 2 projects should not be used to top up the margin that remains to achieving 5GW after Phase 1 delivers. We cannot allow targets to limit our ambition. Ireland must create a long-term pipeline of projects and investment to deliver on our renewable electricity targets and support our energy security and independence. This is best secured by establishing stepping-stone targets up to 2050, leading with the delivery of an increased 7GW target by 2030, and then subsequent targets of 10GW by 2035, 15GW by 2040, 22GW by 2045, and 30GW by 2050."

Maria Ryan called on the State to resource all agencies involved in offshore wind to manage the workload associated with the expected scale of future development, and to challenge them to play their part in the delivery of increased offshore ambition for Ireland. These agencies include Government Departments, the new Maritime Area Regulatory Authority (MARA), An Bord Pleanála, and EirGrid.

Maria Ryan continued:

"Just six months on from the Glasgow agreement at COP26, energy security and affordability have come into even sharper focus, strengthening the imperative to urgently reduce fossil fuel dependency and decarbonise energy systems. Ireland, like almost all Western countries, needs to urgently end its over-reliance on fossil fuels. That's why we must urgently enhance our own energy security through the generation of indigenous



green renewable energy. Offshore wind has the greatest potential of any renewable energy technology to combat climate change, both globally and here in Ireland. And at SSE Renewables we are committed to working with Ireland's State agencies to deliver Ireland's offshore wind energy ambitions so we can harness the opportunity to transition our energy supply to indigenous and secure renewable energy."

SSE Renewables is currently progressing a 3GW pipeline of offshore wind energy for development in Irish waters by 2030. This includes the 800MW Arklow Bank Wind Park Phase 2, which is being delivered through the government's first phase of offshore wind which, under current planning timelines, is expected to deliver first power in 2028 and completion in 2029, subject to a final investment decision. The project recently secured an historic consent from An Bord Pleanála for its onshore grid infrastructure, and in addition, consent from Wicklow County Council for its Operations and Maintenance Facility in Arklow Harbour. The project has also submitted its application for a Maritime Area Consent under the recently introduced Maritime Area Planning (MAP) Act regime.

SSE Renewables is also developing 2.2GW of early-stage offshore projects including the 1GW Braymore Wind Park off the coasts of counties Louth, Dublin and Meath, and the 1.2GW Celtic Sea Array off the Waterford Estuary, both of which are targeting delivery before 2030.

COP27: Historic fund approved to compensate poorer nations for effects of climate change but no agreement on fossil fuels

For the first time, the nations of the world decided to help pay for the damage an overheating world is inflicting on poor countries, but they finished marathon climate talks on Sunday without further addressing the root cause of those disasters — the burning of fossil fuels.

The deal, gavelled around dawn in Sharm El-Sheikh in Egypt, establishes a fund for what negotiators call loss and damage.

It is a big win for poorer nations which have long called for cash — sometimes viewed as reparations — because they are often the victims of climate-worsened floods, droughts, heat waves, famines and

said: “The agreement that has been reached, on what has become the litmus test for COP27, is historic and progressive.”

“While the final text on Loss and Damage is a compromise from that originally proposed by the EU, this new agreement will now mean that millions of people, whose land, water sources, and livelihoods are being eroded every day because of the impacts of climate change, can begin to look forward to targeted and strengthened support and protection from the global community. I would like to praise the Irish team, which was centrally involved in the work to bring the agreement over the line.

protecting especially vulnerable countries and communities.”

Meanwhile, Antigua and Barbuda’s Molwyn Joseph, who chairs the organisation of small island states, described the agreement as a “win for our entire world”.

“We have shown those who have felt neglected that we hear you, we see you, and we are giving you the respect and care you deserve,” he said.

The deal followed a game of climate change chicken over fossil fuels.

Early on Sunday morning, delegates approved the compensation fund but had not dealt with the contentious issues of an overall temperature goal, emissions cutting and the desire to target all fossil fuels for phase down. Through the wee hours of the night, the European Union and other nations fought back what they considered backsliding in the Egyptian presidency’s overarching cover agreement and threatened to scuttle the rest of the process.

The package was revised again, removing most of the elements Europeans had objected to but added none of the heightened ambition they were hoping for.

“What we have in front of us is not enough of a step forward for people and planet,” a disappointed Frans Timmermans, executive vice president of the European Union, told his fellow negotiators. “It does not bring enough added efforts from major emitters to increase and accelerate their emissions cuts.

“We have all fallen short in actions to avoid and minimise loss and damage,” Mr Timmermans said. “We should have done much more.”

Germany’s foreign minister Annalena Baerbock likewise voiced frustration.

“It is more than frustrating to see overdue steps on mitigation and the phase-out of fossil energies being stonewalled by a number of large emitters and oil producers,” she said.

The agreement includes a veiled reference to the benefits of natural gas as low emission energy, despite many nations calling for a phase down of natural gas, which does contribute to climate change.

While the new agreement does not ratchet up calls for reducing emissions, it does retain



storms despite having contributed little to the pollution that heats up the globe.

It is also long been called an issue of equity for nations hit by weather extremes and small island states that face an existential threat from rising seas.

“Three long decades and we have finally delivered climate justice,” said Seve Paeniu, the finance minister of Tuvalu. “We have finally responded to the call of hundreds of millions of people across the world to help them address loss and damage.”

Pakistan’s environment minister, Sherry Rehman, said the establishment of the fund “is not about dispensing charity”.

“It is clearly a down payment on the longer investment in our joint futures,” she said, speaking for a coalition of the world’s poorest nations.

Green Party leader and Minister for the Environment, Eamon Ryan – EU lead negotiator on Loss and Damage at COP27,

“I welcome the agreed decision to establish new funding arrangements to assist developing countries that are especially vulnerable. Progress on broadening the contributor base to now include the potential for innovative sources of funding could open the way for a landmark break from traditional thinking.

“Such sources could potentially include sectors like aviation, shipping and the fossil fuel industry. There is now scope for exploring the potential for financing and debt relief for especially vulnerable countries from multilateral and development banks.”

He added: “This is not perfect. The EU would have liked it to have gone further and faster. However, what makes this a good deal is that it is an agreed deal. It is a signal of trust between the 198 parties to the UNFCCC [United Nations Framework Convention on Climate Change] that we are serious about climate change and that we are serious about

language to keep alive the global goal of limiting warming to 1.5 degrees Celsius (2.7 degrees Fahrenheit).

The Egyptian presidency kept offering proposals that harkened back to 2015 Paris language which also mentioned a looser goal of 2 degrees. The world has already warmed 1.1 degrees (2 degrees Fahrenheit) since pre-industrial times.

Nor does the deal expand on last year's call to phase down global use of "unabated coal" even though India and other countries pushed to include oil and natural gas in language from Glasgow. That too was the subject of last-minute debate, especially upsetting Europeans.

Last year's climate talks president chided the summit leadership for knocking down his efforts to do more to cut emissions with a forceful listing of what was not done.

"Clear follow through on the phase down of coal. Not in this text. A clear commitment to phase out all fossil fuels. Not in this text. And the energy text weakened in the final minutes," the United Kingdom's Alok Sharma said.

And in his remarks to negotiators, UN climate chief Simon Stiell, who hails from Grenada, called on the world "to move away from fossil fuels, including coal oil and gas".

However, that fight was overshadowed by the historic compensation fund.

"Quite a few positives to celebrate amidst the gloom and doom" of not cutting emissions fast enough to limit warming to 1.5 degrees, said climate scientist Maarten van Aalst of the Red Cross Red Crescent Climate Centre, which responds to climate disasters.

Next year's talks will also see further negotiations to work out details of the new loss and damage fund, as well as review the world's efforts to meet the goals of the Paris accord, which scientists say are slipping out of reach.

According to the agreement, the fund would initially draw on contributions from developed countries and other private and public sources such as international financial institutions.

While major emerging economies such as China would not automatically have to

contribute, that option remains on the table. This is a key demand by the European Union and the United States, who argue that China and other large polluters currently classified as developing countries have the financial clout and responsibility to pay their way.

The fund would be largely aimed at the most vulnerable nations, though there would be room for middle-income countries that are severely battered by climate disasters to get aid.

Martin Kaiser, the head of Greenpeace Germany, described the agreement on a loss and damage as a "small plaster on a huge, gaping wound".

"It's a scandal that the Egyptian Cop presidency gave petrostates such as Saudi Arabia space to torpedo effective climate protection," he said.

Many climate campaigners are concerned that pushing for strong action to end fossil fuel use will be even harder at next year's meeting, which will be hosted in Dubai, located in the oil-rich United Arab Emirates.

Air pollution causes chess players to make more mistakes, study finds

Co-author of paper says results have implications for anyone who to think hard in polluted areas

Chess experts make more mistakes when air pollution is high, a study has found. Experts used computer models to analyse the quality of games played and found that with a modest increase in fine particulate matter, the probability that chess players would make an error increased by 2.1 percentage points, and the magnitude of those errors increased by 10.8%.

The paper, published in the journal *Management Science*, studied the performance of 121 chess players in three seven-round tournaments in Germany in 2017, 2018, and 2019, comprising more than 30,000 chess moves. The researchers compared the actual moves the players made against the optimal moves determined by the powerful chess engine Stockfish.

In the tournament venues, the researchers attached three web-connected air quality sensors to measure carbon dioxide, PM2.5 concentrations, and temperature. Each tournament lasted eight weeks, meaning players faced a variety of air conditions.

Fine particulate matter, or PM2.5, refers to tiny particles 2.5 microns or less in diameter, which are often expelled by burning matter such as that from car engines, coal plants, forest fires, and wood burners.



Magnus Carlsen of Norway ponders a move at a chess tournament in the Netherlands at the weekend. Photograph: Jeroen Jumelet/EPA

"We find that when individuals are exposed to higher levels of air pollution, they make more mistakes, and they make larger mistakes," said Juan Palacios, an economist at the Massachusetts Institute of Technology's Sustainable Urbanization Lab and a co-author of the paper.

Researchers looked at historical data to see if their findings were replicated, using data from 20 years of games from the first division of the German chess league. After accounting for other causes such as noise, temperature changes and carbon dioxide concentrations, they found air pollution accounted for dips in player performance.

"It's pure random exposure to air pollution that is driving these people's performance,"

Palacios said. "Against comparable opponents in the same tournament round, being exposed to different levels of air quality makes a difference for move quality and decision quality."

Chess.com's Leon Watson said that professional players were already monitoring air quality while they played: "Cognition is obviously incredibly important in chess and already some of the top players like Magnus Carlsen and Anish Giri have cottoned on to how important air quality is."

"When competing from home in the big Champions Chess Tour events, players now routinely monitor their CO2 and particulate matter levels using [air monitors] and use the data to create the perfect environment to play in ... like in any sport, fine margins are important. The difference may be marginal, but players will inevitably try to eliminate any competitive disadvantages."

Though the study focused on chess players, the authors said it had implications for anyone who had to think hard at work in polluted areas, and it could have an economic cost to society.

Palacios said: "The idea is to provide accurate estimates to policymakers who are making difficult decisions about cleaning up the environment."

‘Farewell to flying and no more eating meat’ – young people willing to make big sacrifices to cut emissions

Young people in Ireland are willing to forego flying and eating meat to help reduce greenhouse gas emissions, a major new study on attitudes to climate change has found.

They show strong support for bans, penalties and taxes on high-emission activities, and say government action is more effective than leaving it to individuals to make changes.

The study by the Economic and Social Research Institute (ESRI) compiled the views of 16 to 24-year-olds from all walks of life. Across the board they show a high level of concern for the environment and the need to reduce the impacts of climate change.

Most say they will avoid future behaviour that makes climate change worse, with half intending to cut back on eating meat and taking flights.

A majority favour banning non-essential domestic flights and implementing car-free zones in towns and cities.

They want industry held to account, with fines for exceeding emissions targets.

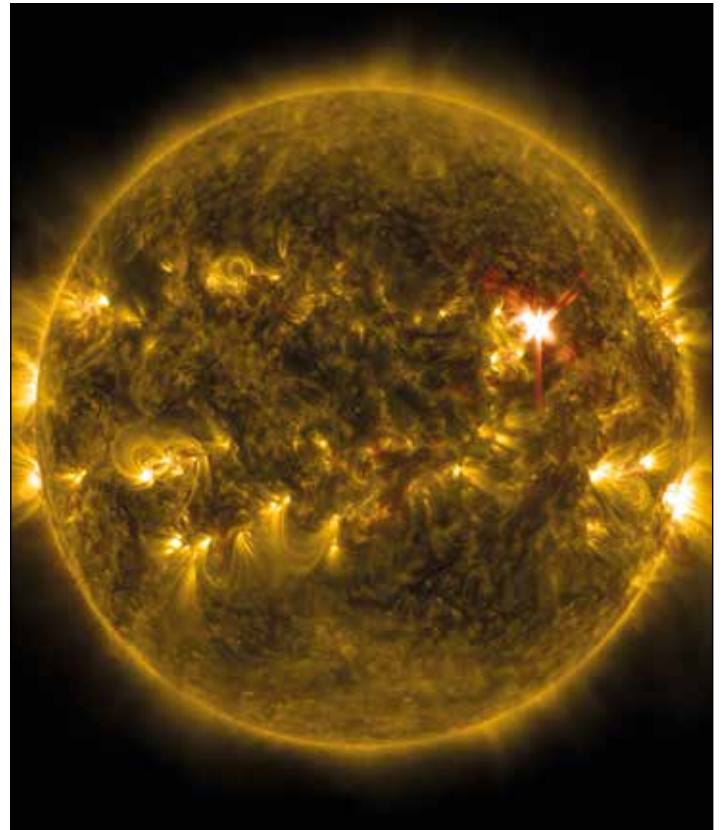
Most also back the idea of mandatory renewable energy use even if more expensive than other forms, and banning harmful subsidies even if that makes products dearer.

In the long-term, around one in three intend adopting a fully plant-based diet, avoiding flying and living without a car.

“These figures are much higher than the proportion of those aged over 25 that currently engage in these behaviours,” the study says.

It adds, however: “There is of course no guarantee that the expectations and intentions of the present cohort of young will be matched by their subsequent behaviour.”

Professor Pete Lunn, head of behavioural research at the ESRI



and one of the study’s authors, said the uncertainty over future behaviour did not take away from the significance of the findings.

The study showed young people were taking climate change much more seriously than their predecessors and would likely accept more radical climate action policies from government, he said.

“They’re signalling an intention to change and to be different from the older generation,” said Prof Lunn.

“Whether they do so or not, we don’t know. There’s no guarantee that behaviour follows intent.

“But I think what these intentions that we’re measuring are telling us is that if there was a more radical policy which limited some of these high-emission activities, they would be on board with it.

“So if you were, for example, to subsidise sail-rail options while taxing flying – those kind of more radical policies – it looks like young people would support that.”

Attitudes by socio-economic group or between urban and rural dwellers varied little but a gender divide emerged with females more likely to be active on climate and more willing to give up meat and change consumption habits.

One issue of concern arose where respondents credited activities such as recycling and avoiding littering with more climate action impact than they actually have had, while underestimating the impact of limiting flights and changing diets.

Dr Eimear Cotter of the Environmental Protection Agency, which funded the study, said the agency felt an urgency now to engage with young people to improve understanding of the issues.

Fuel and power price hikes push huge proportion of Irish households into energy poverty

Surge in number of customers affected in past five months

Two in every five households are classed as being in energy poverty because of continued electricity and fuel price hikes.

That is a 10pc increase in the number affected in just five months.

However, experts warn the full scale of the problem is unknown because the main measure of energy poverty is based on the proportion of income spent on energy.

They say some households have probably stopped spending more because they cannot afford to and are going without instead.

The Economic and Social Research Institute (ESRI) and the Department of the Environment have teamed up to find better ways of more accurately tracking energy poverty. They say clearer information is needed to ensure that policies and financial supports reach those who need them most. A standard definition of energy poverty is that it applies where 10pc or more of a household's disposable income goes on heating and electricity. On that basis, 29pc of households were in energy poverty, according to the last assessment carried out during the summer. That was a record high, but the ESRI says price increases since then have pushed the proportion affected up to around 40pc. But its researchers say that does not give a clear picture of what is happening behind closed doors. They



say renters and apartment dwellers are hit hardest by energy price hikes but that may not be reflected in an income measurement approach. Using the fuel allowance or other social welfare payments as a guide to energy poverty excludes people who have high energy costs but low incomes that are just above the payment thresholds. "When you base your approach on expenditure, we see that low-income people that have low energy efficiency levels tend to consume less energy," said the ESRI's Dr Miguel Tovar Reanos. "That will be captured as if they

don't have high expenditure but in reality they are depriving themselves because they cannot afford it. So energy deprivation has to be assessed as well." Energy deprivation is sometimes used in research but it is based on households' own assessments, so the results alone are less scientific. One of the models being considered is that used in the UK where energy poverty is calculated using a combination of high expenditure and low energy efficiency. Panels of householders in many different settings and housing types were involved in showing how their homes used energy and what decisions they had to take as a result. Dr Muireann Lynch said the ESRI had done some work on correlating energy expenditure and BER ratings in Ireland but much more data was needed. "In an ideal world, you would have a census of every dwelling in the country," she said. The issue has become urgent over the past year which saw huge increases in prices and the Government scrambling to assist households with their rising bills. A series of electricity credits was praised for being a speedy response but criticised for not being targeted towards those who need it most. Green Party TD Neasa Hourigan, chair of the Oireachtas Committee on Budgetary Oversight which is examining welfare supports, said relying on temporary reliefs – whether for energy costs or other challenges – left too much uncertainty for the most vulnerable in society.



Ryanair boss Michael O'Leary accuses Eamon Ryan of 'running around like a drunken tourist' in row over climate taxes

RYANAIR chief executive Michael O'Leary has accused Minister Eamon Ryan of "running around Sharm El-Sheikh like a drunken tourist" with his proposal to increase climate taxes on flying.

The airline boss said it was a remarkable proposal from a transport minister of an island when the only way off it was by plane.

Mr O'Leary is pushing EU ministers, who are meeting next week, to agree to spread the pain of climate taxes evenly.

Flights out and in of the EU, and transfers using EU airports, are exempt from the EU's Emissions Trading Scheme (ETS) while flights within Europe carry the full burden.

Mr O'Leary said he believed no minister could justify the current imbalance in the ETS and he took particular aim at Eamon Ryan, who holds the transport, environment and climate action portfolios.

Mr Ryan attended the Cop27 climate summit in Egypt last month where he said aviation and other high carbon polluting industries should be levied to help pay for climate-related disasters in poor countries.

The idea influenced the final agreement on loss and damage at the summit which emphasises finding innovative ways of generating finance for vulnerable nations.

Mr O'Leary told a press conference yesterday, however, that the Minister should be doing more to protect European airlines.

"Eamon Ryan doesn't speak to us. He is our minister for transport but his last contribution in this debate was in Sharm El-Sheikh two weeks ago where he was running around like a drunken tourist calling for higher levies on aviation," he said.

"For a minister for transport of an island on the periphery of Europe [that] is remarkable.

"We don't expect him to be running around Sharm El-Sheikh calling for exemptions for aviation - we expect to pay our fair share.

"But the minimum we think he should be doing is calling for the extension of ETS to long-haul flights and to the transfer traffic around Europe so that all European citizens and the very rich visitors we welcome here from the Middle Eastern airlines and from America are making a fair contribution."

However a spokesperson for Minister Ryan last night said that he



had met with company representatives just yesterday to hear their concerns.

The press conference was held jointly with Brussels-based climate campaign group, Transport & Environment, which with Mr O'Leary acknowledged he usually disagreed.

The group, however, is firmly behind a move by the European Parliament to make long-haul flight operators pay up under the ETS.

It is calling for the Council of Ministers and European Commission, which have resisted the proposal, to agree to it when they meet with European Parliament members in 'trilogue' talks next week.

"We think our transport minister here in Ireland should be joining forces with Ryanair, with Transport & Environment at next week's trilogue instead of wittering on about more levies on aviation, particularly when the only way to get off the island is aviation," Mr O'Leary said.

It was pointed out to him that global climate campaigner and chair of The Elders, former Irish president Mary Robinson, a major presence at the summit, kickstarted the discussion on aviation levies there.

"To be fair to her, she is largely retired. I'd rather address my comments to the minister for transport," he said.

Mr Ryan declined to comment on O'Leary's remarks about his work at Sharm El-Sheikh.

Regarding his position on extending the ETS to long-haul flights, his spokesperson said aviation emissions were a global problem and the EU was working on finding "an effective global solution".

International flights were currently part of the separate CORSIA scheme aimed at reducing airline emissions and most EU member states were in favour of that arrangement.

However, the spokesperson added: "The scope of ETS forms part of the trilogue negotiations which are ongoing."

Earlier yesterday Ryanair announced an agreement with oil and gas company Shell to speed up the development and production of sustainable aviation fuel (SAF) for the company's fleet.

Mr O'Leary said his aim was to have 12.5pc of airline fuel needs met by SAF by 2030 and for the company to be carbon neutral by 2050.



Double Awards Success for RiverRidge

WASTE and resource management company, RiverRidge has achieved double awards success at the recent Plant and Civil Engineer Awards, winning the coveted Waste Management and Environmental Excellence award, in addition to the Excellence in Customer Service award.

The Waste Management and Environmental Excellence award, sponsored by RMP Hire, recognises individual excellence within the waste and resource management industry, through best practice and innovation across a range of commercial and public sectors.

Recognised as one of the leading waste and resource management companies in the region, RiverRidge has been at the forefront of change and innovation since its establishment. The awards judges said they were particularly impressed with the wide range of initiatives employed by the company across the full spectrum of waste management, stating it is “a company that is not afraid to innovate in the drive to become more sustainable.”

The company's recent ESG strategy entitled 'Rethinking Our Future' is at the heart of its new sustainable roadmap. Its core principles include leading the way as a responsible and sustainable business, as well as looking after its people, its customers and the community that they work in, along with protecting the environment and driving the circular economy through innovation.

One example of innovation includes the development of a unique process to



Waste and resource management company, RiverRidge achieved double awards success at the recent Plant and Civil Engineer Awards, winning the coveted Waste Management and Environmental and Excellence in Customer Service awards. Pictured (L-R) are Adrian Logan, compere for the evening; Danny McErlain, RiverRidge; Ray Vaughan; RMP Hire.

convert black bin waste into green energy. Through substantial investment in research and development, RiverRidge has designed a unique process based on a wash plant technology and anaerobic digestion (AD) process, which takes the organic and fibre material from waste streams and creates biomethane. This will then be used to generate green electricity, heat and also replace diesel fuel in the company's transport fleet.

With over 10,000 customers and servicing 95% of Northern Ireland's postcodes, RiverRidge realises the importance of excellence in customer service, and this has become a fundamental part of its mission statement. The company was delighted to be recognised for its efforts at the awards by winning the Excellence in Customer Service

Award sponsored by Dennison JCB.

Commenting on RiverRidge's high level of customer care and support, the judges added, “The processes in place at this company focus on looking after people, customers, and the communities in which they work. Their customer care team obviously goes above and beyond what would be considered normal daily routines.”

RiverRidge is one of the only waste management organisations in Northern Ireland that offers a dedicated customer care team and has invested heavily in fully integrated software platforms that can record, monitor and respond quickly to any and all service-related disruptions.

Billy Thompson, Business Improvement Manager at RiverRidge spoke about the company's success at the awards, saying, “We were delighted to be shortlisted in three award categories at this year's Plant and Civil Engineer awards, but to win both the Waste Management and Environmental Excellence, and the Excellence in Customer Service awards, is a fantastic achievement for our team. It is testament to each employee's hard work and dedication. We pride ourselves on our customer-centric culture, and place customer satisfaction, in addition to continued employee engagement, at the heart of all that we do. We will continue to be innovative to ensure continued excellence in our service going forward.”

The company was also shortlisted as a finalist in the Health and Safety Award category at the awards ceremony which took place on Thursday 1st December at the Crowne Plaza Hotel in Belfast. The awards, organised by 4SM (NI) Ltd, recognise those companies that are excelling in the plant, construction, quarrying, civil engineering and waste recycling industries in Ireland.



Waste and resource management company, RiverRidge achieved double awards success at the recent Plant and Civil Engineer Awards, winning the coveted Waste Management and Environmental and Excellence in Customer Service awards. Pictured (L-R) are Adrian Logan, compere for the evening; Billy Thompson, RiverRidge; Ian Calderwood, Dennison JCB.

Hines APG Tops Out New Apartment Building at Cherrywood and Celebrates Top European Sustainability Award

Hines, the global real estate investment, development and property manager, today marked the official topping out of its newest 317-unit apartment block which is under construction at Cherrywood Town Centre, with a visit to the site by the Cathaoirleach of Dun Laoghaire Rathdown County Council, Councillor Mary Hanafin.

Cherrywood Town Centre is a 1,270-unit mixed-use development located in the new Town Centre area adjacent to the Luas Green Line at Cherrywood and Bride's Glen. The first families began moving into the Cherrywood Town Centre apartments in June this year, and it is now officially home to 800 residents.

This newest 317-unit residential block currently under construction is directly adjacent to Cherrywood Luas stop and when completed will comprise 3 separate buildings – Tully Building will have 146 residential units; Talbot Building will have 110 residential units and the Bridget Building will include 61 residential units.

Today's event was also to mark the recent award to Cherrywood by GRESB (Global

Real Estate Sustainability Benchmark) of its top European ranking, declaring it "Global Sector Leader" for the third year running. Already one of the largest urban developments in Ireland, Cherrywood is also emerging as one of the most sustainable urban projects in Ireland and across Europe.

Managing Director of Hines APG, Gary Corrigan, said "We are very proud to be building one of the most sustainable developments in Ireland today. Our newest apartment block at Cherrywood which we are topping out today, will see a further 317 high spec units added to our award-winning portfolio over the next 12 months. For Hines APG to recently win the top GRESB score in Europe for Cherrywood is not just a huge win for the team working on the project but is also testament once again to Hines' global commitment to deliver developments of excellence. Cherrywood's success stems from strong collaboration amongst multiple stakeholders, including some of the top architecture design teams in Ireland. Our vision has been not just to deliver best-in-class residential housing but also to create a truly sustainable community to benefit

from it. The wider Cherrywood masterplan is delivering unprecedented levels of amenity, sporting and recreational facilities underscoring its status as a European and world class development."

Cathaoirleach of Dun Laoghaire Rathdown County Council, Mary Hanafin, said – "I am delighted to recognise the achievements of Hines APG in winning this prestigious European sustainability award for its Cherrywood development and to mark today's topping out ceremony, which will soon see a further 317 residential units coming on stream here in the Town Centre area. We are seeing a huge transformation this year with the country's newest town and the arrival of its first new residents. The masterplan process for the Cherrywood SDZ has seen the front-loaded delivery of key infrastructure such as the three new parks, roads and cycle infrastructure and greenways. I also welcome the fact that Cherrywood Educate Together - recently moved into their brand-new school building and thank Hines for contributing the land to enable this important educational initiative to progress."



Cathaoirleach of Dun Laoghaire Rathdown County Council, Mary Hanafin, in Cherrywood today to mark the topping out of the latest 317-unit apartment block under construction by Hines APG and Conack Construction and the award by Global Real Estate Sustainability Benchmark (GRESB) of Global Sector Leader for the third year running to Cherrywood. Pictured (L-R) - Malcolm McCabe, Hines, Leo Hertog, Senior Portfolio Manager APG, Gary Corrigan, MD Hines APG; Cathaoirleach, Mary Hanafin; Jack Healy, Hines; Alieh Kazemi, APG; Councillor Jim Gildea.

Veolia exceeds target savings for first CEF energy contract in Ireland

Results from first full year of operation of the energy efficiency measures yield an additional €44k of savings

Global resource management company Veolia has exceeded the target savings for Dublin's Mater Misericordiae University Hospital following the first year of operations. The results, including an additional €44k of savings, were achieved after the extensive energy efficiency upgrades completed under the the first Carbon Energy Fund, CEF, contract for a hospital in Ireland.

The 15 year Energy Infrastructure Project Agreement will reduce the hospital's carbon footprint by approximately 72,000 tonnes, cut imported electricity from the national grid by 77%, and deliver €26 million in guaranteed energy and operational savings. At the end of Year 1, the data indicates savings of €1,565,759 have been achieved against planned guaranteed savings of €1,521,868, resulting in additional savings of €43,891. By 2025, the Mater Hospital is aiming to have moved energy efficiency gains from the current 37.2%, ahead of the 33% target set by the Government, to over 50%.

A secure and cost efficient energy supply is essential to maintain a modern patient care environment for the Hospital which has more than 600 beds and treats over 360,000 patients each year. To meet the energy demand and achieve carbon savings of 35% Veolia's specialist energy teams managed a wide range of energy efficiency



projects covering the design, delivery, installation, commissioning of a range of energy upgrades. These included installation of 2,600m² of double-glazed windows, fitting 3,800 new energy efficient light fittings and a new 2MWe Combined Heat and Power (CHP) plant to generate around 13.8 GWh of electricity a year. Supporting these measures is an upgraded Building Management System (BMS) covering the energy installations on the site, and managing the heat distribution through the 1.7km of installed district heating network that delivers heat to nine existing boiler houses across the campus.

To ensure patient care could be maintained during the lighting and window upgrade projects, the renovation of each ward was delivered with a 5-6 week turnaround per ward, and a decant or "floating" ward was created to enable patients to be transferred during the upgrades. While the energy infrastructure was being upgraded the hospital also took the opportunity to carry out other work including replacing floors and ceilings as well as redesigning wards to provide, for example, new nursing stations and improved bathrooms. This gave the hospital a unique opportunity to fully

renovate a 40 year old building, and once the renovation work was completed the wards were cleaned and sterilised to infection control standards and patients returned back to the refurbished wards.

Alan Sharp, CEO Mater Hospital said "The energy project has delivered more than the savings we expected based on its current performance. We're extremely thankful we took the decision to start this project, especially with concerns over energy supply and the increasing cost of energy."

Fergus Elebert, Regional Director, Veolia Ireland added "This project highlights the success of this approach for decarbonising the healthcare sector. A major element that contributed to the success of the infrastructure upgrades was the high level of teamwork between the Hospital's facilities team, the medical teams, Veolia and the contractors and suppliers. We look forward to extending this success at the Mater as we move towards achieving a net zero goal."

With a track record spanning 84 years in delivering energy management to healthcare, Veolia currently provides the energy services for around 110 hospitals across Ireland and the UK that support the care for nearly 10 million inpatients each year.

About Veolia

Veolia group aims to be the benchmark company for ecological transformation. In 2022, with nearly 220,000 employees worldwide, the Group designs and provides game-changing solutions that are both useful and practical for water, waste and energy management. Through its three complementary business activities, Veolia helps to develop access to resources, preserve available resources, and replenish them. In 2021, the Veolia group supplied 79 million people with drinking water and 61 million people with wastewater service, produced nearly 48 million megawatt hours of energy and treated 48 million metric tons of waste. Veolia Environnement (Paris Euronext: VIE) generated consolidated revenue of €28.508 billion in 2021. www.veolia.com ■



Veolia's teams will extend savings and carbon reductions for Mater Hospital.

Iarnród Éireann and Alstom sign contract for 90 additional battery-electric carriages, following Government funding approval

More capacity, improved accessibility, lower emissions

Following the Cabinet decision earlier this week, and final formal funding approval from the National Transport Authority, Iarnród Éireann and Alstom today signed the contract for 90 additional battery-electric carriages for the rail company's fleet. The accelerated investment will enable Iarnród Éireann to deliver more capacity and decarbonisation benefits in advance of electrification of the extended DART+ network.

This order of 90 carriages, a project investment of €179 million, brings to 185 DART+ carriages ordered from Alstom over the past 12 months, from a framework agreement for the largest and most sustainable ever order of fleet for Ireland's public transport network, which will allow up to 750 carriages to be ordered over the coming decade.

The new carriages will significantly enhance Ireland's rail transport capacity, particularly to the expanding DART

system in the Greater Dublin Area and Eastern region. The carriages will facilitate the wider DART+ Programme which is expanding the existing DART service from Dublin City Centre to Drogheda to the north, Maynooth/M3 Parkway to the west, Celbridge/Hazelhatch to the south-west. The DART+ Programme will dramatically increase the number of people that can avail of a frequent, high-capacity rail service, increasing the number of people living within 1km of a DART station from circa 250,000 at present to 600,000 in future.

The adaptable nature of the carriages means there is also potential to use them at some stage in the future between Greystones and Wicklow and/or for Cork Area Commuter Rail, serving communities between Mallow, Cork, Cobh and Midleton, subject to available funding for necessary infrastructure.

The BEMUs can operate in electric-only mode using overhead electric wires

or, through the use of batteries, in battery-electric operation in other parts of the rail network, maximising flexibility and capacity, and helping to replace and decarbonise existing diesel-fleet operations.

IE, supported by the NTA, and Alstom entered into a framework agreement in December 2021 allowing for up to 750 new DART carriages to be ordered over a 10-year period. Today's funding allows the second tranche of carriages to be ordered, bringing to 185 the number ordered to date.

Alstom is one of the largest global suppliers of trains, and is well known to Irish transport users as the supplier of the LUAS tram fleet, and globally as the manufacturer of TGV high-speed trains. Alstom will deliver the new DART+ fleet as an energy efficient suburban transport solution from its proven X'Trapolis family of trains, with over 2,000 of these already in service in more than 10 countries, but with bespoke refinements to meet the needs of Iarnród Éireann, including



Jim Meade, Chief Executive, Iarnród Éireann and Alstom UK & Ireland Managing Director Nick Crossfield sign a contract for 90 new battery-electric carriages, joined by National Transport Authority Chief Executive, Anne Graham.



Ireland's specific track gauge.

The fleet will:

- Consist of 5-carriage train sets (equivalent in length to the 4-carriage train sets in the current DART fleet) providing high capacity with wide gangways between carriages. This will allow customers to freely circulate throughout the full length of 5-carriage trains, creating a more open and spacious environment and enhancing security. A 10-carriage train, made up of two 5-carriage train sets joined, will be the longest train size operable by the new fleet on current infrastructure, and will have capacity for at least 1,100 customers.
- Prioritise independent access, with each of the low-height doorway thresholds being equipped with an automatic retractable step and offering the potential for unassisted level access from suitable platforms, aligned with platform enhancements.
- Include improved facilities for families and for cyclists, with dedicated family and bicycle storage areas, and charging facilities for everything from mobile phones to e-bikes and e-scooters.
- Provide transformed customer information on-board, with large, high-resolution onboard displays having the ability to provide real-time updates, including information from other public transport systems in the Transport for Ireland network, and other features designed for the needs of sensory impaired customers
- Be designed for reduced energy consumption, enhancing further rail's advantage in sustainable mobility for land transport.
- Be equipped with an advanced CCTV system with cameras throughout every carriage, to enhance safety and security for customers and employees.
- Be designed to meet the expectations of customers and to deliver an ergonomic design for drivers – research with customer and driver groups is well advanced to ensure the needs of all on board are integral to design.
- Deliver off-wire operation through

the incorporation of battery-electric technology, enabling new services and new capacity to be provided in the Greater Dublin area in advance of electrification. Energy stored in the battery system will be replenished via fast charging stations at chosen terminus locations and by recovering braking energy while the new battery-electric trainsets are on the move.

Today's 90-carriage order will benefit:

- Maynooth/M3 Parkway and Kildare line services, delivering more capacity for commuters in advance of electrification.
- Subject to funding for necessary infrastructure, they can also be deployed elsewhere on the network, such as in the enhanced Cork area commuter network, or to extend the DART to Wicklow.
- Introduction of the new fleet will also free up existing carriages to increase capacity on other Commuter and Intercity services.
- In addition to the fleet, Alstom will provide a range of supports, including a Technical Support and Spares Supply agreement for the first 15 years of the fleet's operation, and provision of three train simulators to support driver training.

Alstom UK & Ireland Managing Director Nick Crossfield and Alstom Ireland Managing Director Piers Wood joined Chief Executive of the National Transport Authority, Anne Graham and Iarnród

Éireann's Chief Executive, Jim Meade at IE's Connolly Station headquarters on Friday morning to formally sign the new order.

Anne Graham, CEO of the NTA, said: "I have no doubt that the DART+ as a programme of projects will prove to be transformative for the entire region, and work is already proceeding well on progressing the infrastructure schemes.

The procurement of these battery-electric carriages is indicative of the urgency that is being shown when it comes to providing sustainable accessible transport alternatives for communities along these lines and beyond.

In the draft GDA Transport Strategy 2022-2042, we announced that Public Service Obligation bus and commuter rail fleet in the Dublin Metropolitan Area will be 100% electric and zero-emission by 2035. Today's contract marks a significant step towards that objective."

Jim Meade, CEO of Iarnród Éireann, welcomed the Cabinet's decision: "The funding for 90 additional battery-electric carriages for DART+ is hugely welcome, as it will enable us to bring capacity and emission benefits to current and future commuters in advance of electrification. Additionally, the benefits will be felt nationwide, as existing Intercity and Commuter carriages are freed up for use around the national network for more frequent services and more capacity on a range of routes."

"As the world's leading innovator and supplier of green mobility technologies, Alstom is here for the long-term to support Ireland in delivering transformative change to its citizens through sustainable rail travel," said Nick Crossfield, Managing Director, UK and Ireland. "This further order of X'tropolis trains signals Iarnród Éireann's intent to move quickly in greening the Greater Dublin commuter network, Ireland's most populated commuter belt as a first step in that national transformation."



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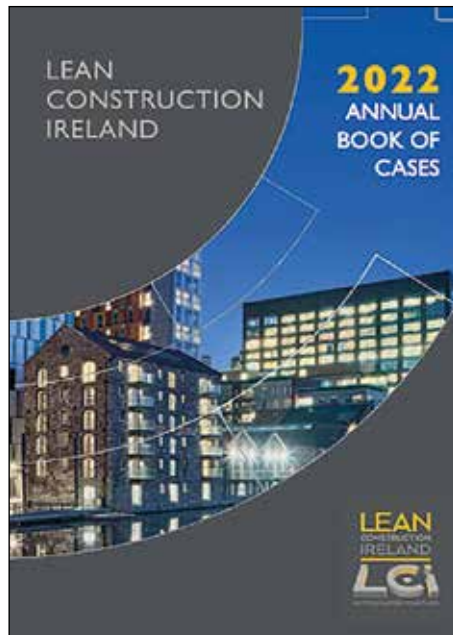
Lean Construction Ireland, with over 1,700 members, continues to deliver practical support and knowledge to the Irish construction industry as more and more companies embrace Lean thinking and practices to deliver efficiencies within their projects as well as to achieve operational improvements within their organisations.

Lean Construction Ireland (LCi) is a not-for-profit, membership-based organisation with a vision to transform the Irish construction sector through the adoption of Lean thinking and practices as part of the design and construction process, and move the industry towards more efficient, cost effective and collaborative approaches where projects are Delivered Better, Faster and Together

It is with great pleasure that Lean Construction Ireland would like to announce the launch of its 5th annual publication – Lean Construction Ireland Book of Cases 2022.

The latest edition of the annual Book of Cases provides examples from across the Irish Construction sector where organisations and companies, both public and private, have delivered real tangible value and benefits by adopting Lean thinking and practices as part of the project delivery process. The key themes which have emerged from this year's cases include Integrated Project Delivery, Operational Excellence, Digitisation, Modern Methods of Construction and resource management.

Each case describes the project where Lean was adopted, the challenge or opportunity that led to Lean thinking and practice being implemented, and describes how this



Front cover of the Lean Construction Ireland 2022 Book of Cases.

Head of Department of Civil Engineering and Construction at ATU Sligo was the editor and said; "It was a pleasure to work with all the organisations highlighted in this year's Book of Cases. I was extremely impressed with the depth and breadth of Lean knowledge companies showed while delivering construction projects. The approach to continuous improvement and the high level of commitment companies are adopting in the area Lean principles and thinking, highlights the appetite and drive within the industry to deliver quality projects Better, Faster and Together. I would like to sincerely thank all companies who have shared their experiences through case studies this year. Collectively, the cases are an invaluable learning aid for both students and companies to get insights into the significant benefits of lean thinking."

The Book of Cases was launched on the 2nd of November in Croke Park Stadium



Lean Construction Ireland Directors at the launch of the Book of Cases. From left; Dr. Derek Sinnott, Kevin White, Eibhlín O'Connor, Trevor McSharry & Richard Fitzpatrick.



Trevor McSharry launches Lean Construction Ireland 2022 Book of Cases.

has resulted in efficiency gains, successful outcomes and value for all stakeholders.

These Book of Cases have become a hugely valuable resource and reference for the Construction sector, both nationally and internationally by providing detailed practical examples of Lean being implemented within the sector. The Cases demonstrate best practices in lean adoption and are a reference and inspiration to individuals seeking to develop their knowledge and understand of Lean.

Trevor McSharry, Director with LCI and

during the Lean Construction Ireland national conference. Attending delegates had the opportunity to meet with and speak to the companies highlighted in the Book and the Editor Trevor McSharry.

For further information on how to get your copy of the Lean Construction Ireland Book of Cases 2022 please visit; www.leanconstructionireland.ie or contact info@leanconstructionireland.ie + 353 46 9773434. A digital copy will be available shortly.

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An effective ESG framework in construction will seek to identify and measure such factors so that it can improve environmental awareness throughout the industry and encourage more sustainable design and operational choices. Environmental, social, and governance (ESG) metrics are shaping the development and operation of businesses around the world. The business community is increasingly challenged by regulatory, reporting, and customer demands on the societal impact of their operations across multiple dimensions, and the construction industry is not exempt from this trend.

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Citizens' Assembly seek referendum to give nature rights to be protected

THE Citizens' Assembly on Biodiversity Loss is recommending that the Government hold a referendum to include protection for biodiversity in the Constitution.

A 83pc majority of the 99 members voted in favour of the proposal which is one of dozens that will be in a formal report to the Government on the assembly's work.

No precise wording is recommended but a majority voted in favour of a wide-ranging referendum that would both protect people's rights to a healthy environment and grant nature its own right to be protected.

Those rights would be both 'substantive' and 'procedural', meaning there would be a strong statement of the rights and also access to information, the courts and decision-making procedures to enable those rights to be vindicated.

Assembly chair, Dr Aoibhinn Ní Shúilleabháin, said the decision was momentous and the 83 to 17 vote could be prescient.

She noted that when the Citizens' Assembly on repealing the eighth amendment on abortion voted, the percentage of members in favour of the referendum almost exactly matched the percentage of the public at large who voted in favour when the poll was eventually held.

"We're making a recommendation as an

assembly that could potentially change the Constitution and no less than every other Citizens' Assembly that's been had so far, major societal change can come from it," she said.

"I think the Citizens' Assembly is a good temperature check and, if this the case, this is very much a resounding yes in this room."

The assembly, comprised of randomly selected members of society from a broad range of backgrounds, was scheduled to finish on Sunday after six months of discussions but it has run overtime.

Members rejected a suggestion that they continue their work behind the scenes and vote online on the remaining proposals.

They will now formally request a time extension from the Government but have already set January 21 next year as their next and final meeting day.

In the meantime, they will submit a list of the 66 recommendations they have already agreed which include calls for a fundamental overhaul of the way biodiversity is managed, monitored, protected and funded.

The first agreed recommendation says: "The State must take prompt, decisive and urgent action to address biodiversity loss and restoration and must provide leadership in protecting Ireland's biodiversity for future generations."

Another says: "The Assembly believes

that the State has comprehensively failed to adequately fund, implement and enforce existing national legislation, national policies, EU biodiversity laws and directives related to biodiversity. This must change."

Other recommendations still to be discussed look at specific sectors such as agriculture, peatlands, forestry, the marine and urban and built environments.

The citizens' assembly is the first in the world to consider biodiversity loss. Despite the Oireachtas declaring a climate and biodiversity emergency in 2019, focus to date has been on the former.

Over the course of the proceedings, the assembly heard presentations on 75 submissions from conservation experts, farming and food interests, industry and community groups.

They also received 250 proposals from the wider public and whittled those down to 160 for further discussion.

Dr Ní Shúilleabháin advised the members to be aware that they may be the target of lobbyists between now and their final meeting next year.

She said conversations about their work were fine but added: "Our recommendations should be governed by the submissions and not conversations."



Assembly chair, Dr Aoibhinn Ní Shúilleabháin, said the decision was momentous.

New EU rules on fuel use by ships won't have dramatic effect on economy, conference hears

Saving the planet doesn't have to be expensive, as EU regulations on low carbon fuel use by ships will have a "moderate" but not "dramatic" effect on the Irish economy, University of Galway economist and economic adviser to the Taoiseach, Professor Alan Ahearne has forecast.

Research due to be published by Prof Ahearne and Daniel Cassidy has found marine fuel prices will continue to rise due to the drive toward more sustainable energy sources.

However, the impact of ships switching from fossil fuels to more expensive renewable and low carbon alternatives will not have any major effect until 2050. The research, funded by the Marine Institute, calculates that by then it will reduce gross value added (GVA) economic productivity by almost 8pc.

The costs of consumer goods are also expected to rise by just over 1pc by 2040 and by nearly 2pc by 2050 as a result of the marine fuel regulations, Prof Ahearne said. As an island, Ireland is one of the most heavily dependent economies globally on maritime transport, Prof Ahearne explained at the Navigating to 2050 conference hosted by Irish Lights in Dublin Castle last week.

A total of 90pc of Irish imports and exports transit on ships through Irish ports, and any change in marine fuel prices is bound to have



Professor Alan Ahearne has forecast a 'moderate' effect.

a knock-on effect. As part of the European Green Deal, a new FuelEU Maritime regulation seeks to steer the EU maritime sector towards decarbonisation. This is in line with the EU's 'Fit for 55' target which aims to reduce net greenhouse gas emissions by at least 55pc by 2030.

The regulation sets a fuel standard for ships, and includes a requirement for the most polluting ship types to use onshore electricity when at berth. It also places the responsibility for compliance on shipping companies.

"If you are going to add extra costs to shipping, it may also affect the overall Irish economy, and so we tried to quantify the impact of Fit for 55 to see if it is going to add extra costs to trade," Prof Ahearne said.

"The GVA impact of switching to renewables is calculated at -1.56pc by 2030, but this grows to -8pc by 2050.

"Our exports are going to grow quite robustly anyway in the next 25 years, so there will be moderate effects on the overall economy.

"When we were worried about a hard Brexit, with very high tariffs, research produced much bigger numbers which could have had a very significant impact on our economy.

"By comparison, these figures are quite moderate. You also have to calculate the impact of not doing anything in terms of more sustainable fuel use, and the resulting cost of destruction of the planet," he said.

The paper by Prof Ahearne and Mr Cassidy is one of a series documenting research carried out over the past four years. Prof Ahearne said he did not want to comment on the cost-of-living crisis, or the impact of recent tech job losses on the Irish economy as this related to "policy areas" which are part of his Government remit.

Dutch shipping expert Carien Droppers told the conference Ireland should take into account navigational hazards posed by offshore wind farms in marine planning. Her work involves drawing up safety regimes for offshore wind development in the North Sea, one of the busiest maritime zones in the world with over 50 wind farms.



Sodexo reports carbon emissions cut by a third

Sodexo UK & Ireland has today announced that it has seen a 33% reduction in its scope 1, 2 and 3 greenhouse gas (GHG) emissions since its baseline year of 2017, equating to over 300,000 tCO₂e.

The reduction in GHG emissions has been achieved by implementing a continuous improvement strategy including the designing and introduction of a carbon trajectory tool to support the analysis of Sodexo's GHG emissions and identifying key actions and reduction levers to reach its climate goals.

As part of this strategy Sodexo reviewed its 2017 baseline – a practice recommended by SBTi. Re-baselining gives a more accurate picture of a company's carbon footprint, and Sodexo urges other businesses to continuously review their baseline to make sure it's accurate and relevant for comparing current activities against. This supports transparency, authenticity and rigor.

As knowledge and systems evolve, Sodexo's understanding of the data and how it is used has improved. This, coupled with changes in the organisational structure, have led to a revised total baseline figure of 928,160 tCO₂e.

This 928,160 tCO₂e represents the amount by which Sodexo needs to reduce its emissions to reach net zero.

Sodexo is on track to meet its near-term target.

By the end of its fiscal year 2022, Sodexo had reduced its emissions by one-third against the revised 2017 baseline. There was an expected dip of emissions during the pandemic and an increase of emissions since fiscal year 2021 as the organisation transitions post-pandemic. By using its data, Sodexo has determined that the energy used on client sites to deliver its services, its supply chain and employee commuting are where the majority of emissions are generated.

The following decarbonisation measures and projects have contributed to reduce Sodexo's emissions:

- Sodexo joined the Climate Group's RE100 initiative and committed to switching to 100% renewable electricity globally by 2025 at its directly controlled sites. In the UK&I, 92% of electricity was procured from renewable sources in FY22.
- In November 2021, Sodexo launched a 100% hybrid and electric vehicle company car policy across the UK. All

diesel and petrol cars have been replaced with electric and hybrid alternatives.

- Sodexo continues to deploy its food waste prevention programme, WasteWatch, to reduce food waste by 50% by 2025, five years ahead of the UN Sustainable Development Goal 12.3.
- Sodexo undertook a net zero survey with its supply chain to understand the climate strategies and progress to date of our key suppliers (including SMEs) to inform its wider net zero supply chain engagement strategy.

Sodexo's next key milestone in the UK & Ireland will be to reduce its GHG emissions by 55% against the 2017 baseline year across all three scopes by 2030*.

Claire Atkins Morris, Director of Corporate Responsibility at Sodexo UK & Ireland, said: "Sodexo is committed to reducing our impact; and data is fundamental to this. We are continuously looking at ways to improve how we calculate and measure our data so that we have a clear picture of our emissions and impact."

"Despite the progress we have undoubtedly made, we know there is a way to go and that it is not about mitigation, it's about adaptation – organisations need to consider how they do business to be able to meet their commitments and make an impact."

Sean Haley, CEO of Sodexo UK & Ireland, added: "These figures show that we are moving in the right direction toward a significant reduction in our carbon emissions. This progress is of course, in part down to the work of our team of sustainability experts whose dedication to developing and

measuring our detailed action plan has kept us on course to meet our commitments. But their efforts would be for nothing if the changes and improvements being made throughout the business were not being taken up and activated by our 30,000 plus colleagues – net zero is a collective task, for which we are all responsible. It is this combined effort that enables us to live up to our social impact commitments and make a positive contribution to the communities in which we live, work, and serve."

In May 2022, SBTi approved Sodexo's long-term science-based target, making the organisation one of the first to have a validated net-zero science-based target. SBTi had already approved Sodexo's near-term target in 2021. Setting science-based targets ensures its net zero strategy is aligned with climate science and on a pathway for limiting global warming to 1.5°C above pre-industrial levels

In November 2022, Sodexo Group announced as part of its Capital Market's Day a commitment to reach net zero by 2040. Sodexo UK & Ireland has adjusted its roadmap and brought forward its net zero target by five years to 2040 and is currently updating this new target with the SBTi.

** Sodexo Limited commits to reduce absolute scope 1, 2 and 3 GHG emissions 55% by FY2030 from a FY2017 base year.*

*** Sodexo Limited commits to reduce absolute scope 1, 2, and 3 GHG emissions 90% by FY2040 from a FY2017 base year.*



Addressing hydrogen efficiency challenges with plasma

Introducing a competitive, efficient, low environmental impact way to produce green hydrogen

There's a greater sense of urgency than ever to find more sustainable, secure, cost effective and ethical ways to source and store energy. As we look to replace fossil fuels, renewable sources like solar, wind, hydro, tidal and hydrogen have taken centre stage. But the perceived volatility of these sources, and the time taken for them to come onstream, is driving some decision makers to consider the backward step of drilling, mining and fracking for carbon-intensive, fossil fuels. With sustainable, secure and cost-effective new energy sources within our reach, governments and businesses are looking to increase the ease, reliability and efficiency of energy generation and so reject any calls for the protracted reliance on fossil fuels.



Author: Peter Keeley-Lopez, Senior Process Applications Engineer, Tetronics.

The hydrogen rainbow

For some time, hydrogen has been seen as a key part of the solution. After all, it is the most abundant chemical element and accounts for around 75% of the mass of the universe. Hydrogen atoms are found in water, plants, animals and natural gas, but it rarely exists on its own as a gas. It needs some form of extraction process to produce sufficient quantities to fuel industry, vehicles or homes. Most processes used to manufacture hydrogen involve some level of carbon – in terms of both input and output. This has given rise to the idea of the 'hydrogen rainbow' which uses a colour code to differentiate the different manufacturing methods by their carbon intensity. At the current count there are at least ten shades in an increasingly crowded rainbow, but the three that most people will be familiar with are a more muted palette of grey, blue and green.

- Grey hydrogen – extracted from fossil gas with CO₂ released into the air.
- Blue hydrogen – extracted from fossil gas with CO₂ emissions captured and stored.
- Green hydrogen – extracted from water using renewable electricity with oxygen released into the air.

Clearly, as it emits zero carbon and uses energy from renewable sources, green hydrogen is most likely to deliver decarbonisation targets, and also protect against the supply volatility of the current fossil dependent energy markets.

The hunt for hydrogen efficiency

Compared to traditional batteries, hydrogen stores energy much more densely and can refuel faster, but historically it has proved quite inefficient to produce, store and transport. A kilogram of hydrogen holds



"Plasma occurs naturally in lightning, sparks from static electricity and the aurora borealis".

39 kWh of energy, the thermodynamic minimum net energy required to form hydrogen from water. However, the actual amount of energy needed to create that kilo varies by manufacturing process and is typically higher.

Conventional thermochemical processes for manufacturing hydrogen require very high temperatures of between 500° to 2,000°C. This itself requires a great deal of energy and the processes are less energy-efficient than other processes like electrolysis.

Electrolysis uses electricity to split water into hydrogen and oxygen inside an electrolyser unit, of which there are different types that operate in different ways. These include Polymer Electrolyte Membrane (PEM), Alkaline and Solid Oxide electrolysers. Despite being more efficient than other thermodynamic processes, at 70-80% efficiency, electrolysis still loses between 20-30% of the energy used during the conversion. So, there is an ever-increasing need for new technology to improve efficiency. That's where plasma comes in.

The plasma effect

First of all, let's remind ourselves what

Plasma is. It is an electrically charged – or ionised – gas, which is sometimes described as the fourth state of matter. Plasma occurs naturally in lightning, sparks from static electricity and the aurora borealis. Plasma is used in television and display screens, fluorescent lighting and even arc welding.

Green hydrogen production from applying the 'plasma effect' is the core feature of an innovative UK-developed technology: Tetronics Hydrogen Plasmolysis (THP).

THP involves applying highly concentrated electrical energy to water under the high temperature and pressure gradients arising from the plasma arc.

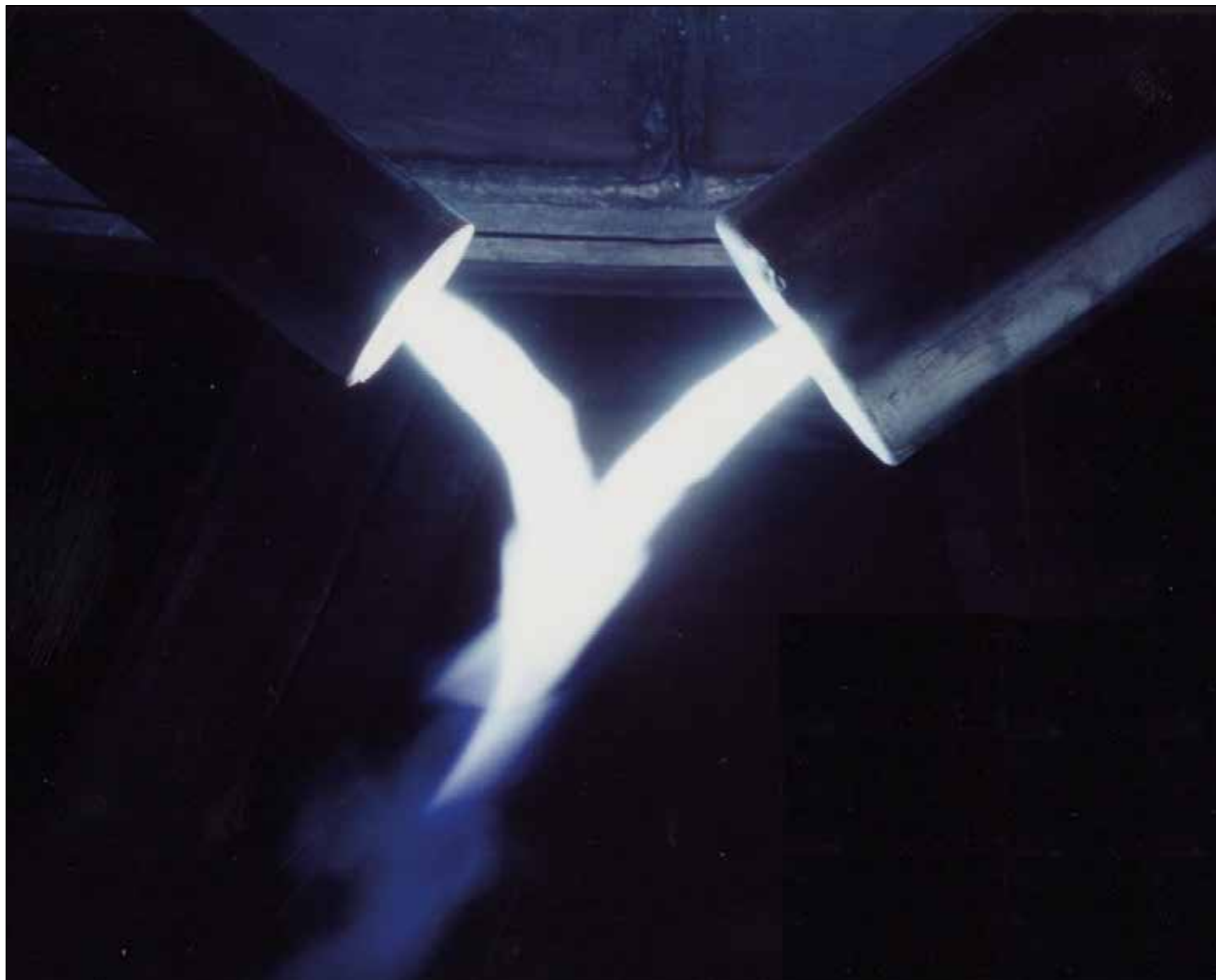
Compared with current benchmark electrolysis technologies including PEM cells, THP offers a step-change in performance and delivers considerable energy efficiency improvements in terms of kWh per kg of hydrogen.

Over the summer of 2022, Tetronics built a first-of-its-kind THP system and ran a series of hydrogen production trials funded by BEIS. The system took plasma-based hydrogen production beyond the scale achieved by previous laboratory researchers; thanks to the integration of its patented plasma torch technology. The

work demonstrated the benefits of plasma-assisted hydrogen production by achieving high hydrogen yields with a lower electricity demand than comparable electrolysis systems.

The feasibility test showed that a specific gross energy requirement of 36 - 40 kWh/kg H₂ was achieved using a water-based electrolyte. This is approximately a 10% improvement in efficiency beyond the theoretical minimum and as much as a 40% improvement over the reported commercial performance of PEM fuel cells.

This snapshot of the efficiency advantages THP technology has over other hydrogen production methods points to a competitive, energy efficient, green hydrogen supply solution; based on a unique and inventive assembly of proven technologies. What's more, THP has the advantage of being scalable – requiring a smaller footprint than other electrolysis plants – and is suitable for remote, off-grid locations, which in turn reduces transportation costs and losses that might occur. It promises to make a major contribution to reducing our dependency on fossil fuels.



"Patented plasma torch technology takes hydrogen production beyond the scale achieved by previous laboratory research".

Significant energy upgrades to designated older persons accommodation in Dún Laoghaire-Rathdown

Eighty-two designated older persons homes in Dún Laoghaire-Rathdown County Council's housing stock have received significant energy upgrades under the Energy Efficiency Retrofitting Programme for social housing.

Speaking at an event in Beaufort to mark the completion of the 2022 programme of works, Councillor Mary Hanafin, Cathaoirleach of Dún Laoghaire-Rathdown County Council, said:

"I am pleased to see the Council is continuing to upgrade the condition and energy performance of our housing stock and the particular focus on the homes of our older tenants. Through projects like this, we are providing warm, energy efficient homes that improve the quality of life of our most vulnerable tenants and help protect them from increasing energy costs."

The upgrade works carried out on each property included external insulation, new doors and windows, solar panels, heating system upgrades and attic insulation. Prior to the energy upgrades, the properties had BER ratings as low as F and G. With the works now complete, 63 of the properties have achieved an A rating with the other 19 achieving a B rating.

Frank Curran, Chief Executive of Dún Laoghaire-Rathdown County Council, said:

"I am proud to see Dún Laoghaire-Rathdown County Council again lead by example in the delivery of climate friendly projects. Not only has the Council overachieved on our targets in 2022, we have also delivered additional energy efficiencies and savings through the installation of the district heating system in Beaufort."

With all 82 properties achieving the

minimum requirement of a B2 BER under the Energy Efficiency Retrofitting Programme, the Council has exceeded the target of 68 set for us by the Department of Housing, Local Government and Heritage for 2022.

The majority (58) of the older persons homes upgraded under this programme of works are in the Beaufort development in Glasthule. A significant piece of the work carried out in Beaufort was the installation of a new district heating system containing eight air to water heat pumps. This is the first district heating system installed under the national Energy Efficiency Retrofitting Programme for social housing with the works approved on a pilot basis by the Department of Housing, Local Government and Heritage.



Frank Curran, Chief Executive, Dún Laoghaire-Rathdown County Council; Catherine Keenan, Director of Housing, Dún Laoghaire-Rathdown County Council; Councillor Mary Hanafin, Cathaoirleach, Dún Laoghaire-Rathdown County Council.

Bureau Veritas announces Prestigious Contract with SSE Renewables for Offshore Wind Park Certification

Renewable Energy specialists Bureau Veritas is pleased to announce its partnership with SSE Renewables to its growing Renewable Energy division client portfolio.

Following a competitive tender process, the team at Bureau Veritas has been awarded the Project Certification of Arklow Bank Wind Park Phase 2, off the East coast of Ireland at Arklow, Co. Wicklow.

Leading renewable developer, owner and operator SSE Renewables will invest up to €2.5 billion to deliver the project which is targeting operation in 2028.

Up to 62 wind turbines and two offshore substation platforms will be developed as part of the project.

Once operational, it will generate up to 800MW of electricity, enough to power almost 850,000 homes with green energy. The wind park will also offset around 830 million kilos of harmful carbon emissions annually.

Bureau Veritas will be responsible for providing project certification during the design phase covering the wind turbines, foundations, towers and sub-stations according to the international standards.

Building on to its 100+ year history in the power sector and more than 25 years expertise in wind and solar, Head of Renewable Energy at Bureau Veritas, Mauricio Pereira, is exhilarated by the collaboration with SSE Renewables: "It's an exciting time for our renewables team as we are continually working hard to grow and develop our leading division. We are thrilled to be working with SSE Renewables to help ensure the safety, quality and performance of Arklow Bank Wind Farm Phase 2 through our trusted certification process.

"We have a specialist team of offshore wind professionals with vast experience and leading knowledge of regulatory



John O'Sullivan.

requirements, who are looking forward imparting their expertise across every aspect of the design, construction and operation of Arklow Bank Wind Park Phase 2."

The UK and Ireland's clean energy champion, SSE Renewables awarded the contract to Bureau Veritas.

John, O'Sullivan, Project Manager, SSE Renewables said: "We are delighted to partner with Bureau Veritas who will manage Project Certification during the development phase of the project. Safety is a core value at SSE Renewables and it is critical that the highest standards are met and maintained in line with all regulatory



requirements."

Delivery of the Arklow Bank Wind Park Phase 2 project will make a significant contribution to the Irish Government's climate action target of 7GW of offshore wind by 2030. The project which is one of the first tranche of Irish projects to be developed was recently awarded a Maritime Area Consent (MAC).

The project also holds consents for its Onshore Grid Infrastructure (OGI) and Operations and Maintenance Facility (OMF) at South Dock, Arklow Harbour.

Bureau Veritas has a track record of more than 250 Gigawatt (GW) in Offshore and Onshore wind and solar and supports major power companies globally. To find out more about Bureau Veritas' services or to discuss individual requirements with a member of the team, call 0345 600 1828 or visit www.bureauveritas.co.uk

About Bureau Veritas

Created in 1828, Bureau Veritas is a global leader in Testing, Inspection and Certification (TIC), delivering high-quality services to help clients meet the growing challenges of quality, safety, environmental protection, and social responsibility. As a trusted partner, Bureau Veritas offers innovative solutions that go beyond simple compliance with regulations and standards, reducing risk, improving performance and promoting sustainable development. Bureau Veritas is recognised and accredited by major national and international organisations and works across a wide range of industries worldwide. The company has 78,000 employees worldwide, with more than 1,500 offices and laboratories, in 140 countries. Bureau Veritas is listed on the Euronext Paris Stock Exchange (stock symbol: BVI). www.bureauveritas.co.uk



Irish based Power Capital Renewable Energy (PCRE) close Multimillion Euro Deal to commence the build of over 1.2GW of Solar Assets in Ireland

€240,000,000 financing has been secured by Irish solar developer Power Capital Renewable Energy from an Eiffel Investment Group led set of investors to construct over 1.2 GW of solar assets in Ireland and expand internationally.

Dublin and Paris, 16th of January 2023: Power Capital Renewable Energy, Ireland's leading solar Independent Power Producer (IPP), today announced the closing of an up to €240,000,000 construction equity facility with a consortium of lenders managed by Eiffel Investment Group, including Belgian insurance company Ethias and the European Investment Bank.

The facility will support the IPP's plans to bring 1.2GW of solar projects to operation by 2025. The facility has an initial tranche of €100,000,000. Part of this initial tranche will be used to build assets benefitting from signed Power Purchase Agreements (PPAs) with Microsoft and another undisclosed technology company, with the remainder for assets having been awarded tariffs in the Irish



Justin Brown of PCRE.

RESS2 auction.

A further €100,000,000 may be made available through an additional tranche to build more assets in Power Capital's pipeline, while up to €40,000,000 may be made available for international expansion.

Irish Minister for the Environment, Climate and Communications Eamon Ryan said; "This new European support for 1.2GW of solar power investment across Ireland is a vote of confidence for Irish renewables. It will enable solar electricity to replace fossil fuel usage to power Ireland on sunny days and contribute to our target of up to 5GW of solar energy by 2025."

Power Capital was acquired by Omnes Capital in 2020, who have since repositioned the Irish solar developer to become an IPP and the company is looking now to expand internationally. It has secured its reputation as Ireland's leading IPP through securing a portfolio PPA with Microsoft, and one of the highest amounts of MWs in the RESS -2 auctions for any Irish company.

As Power Capital looks to construct their portfolio and expand overseas, the backing of €240,000,000 financing facility secured by Irish solar developer Power Capital Renewable Energy from an Eiffel Investment Group led set of investors, to construct over 1.2 GW of solar assets in Ireland and expand internationally.

Eiffel Investment Group, Ethias, and the EIB shows the confidence that leading private and public lenders have in their

strategy and capabilities.

Pierre-Antoine Machelon, Head of Infrastructure at Eiffel Investment Group, and Roman Londner, Vice-President in the Infrastructure team, said: "We are very excited about this partnership with Power Capital Renewable Energy. We are convinced by the operational excellence of Power Capital's team and its promising and diversified portfolio of projects. Providing financing for these Irish renewable energy projects is of absolute necessity to reach our common energy transition objectives in

About Power Capital Renewable Energy

Power Capital Renewable Energy is an Independent Power Producer (IPP) established in Ireland in 2011. The company has been developing a solar portfolio of over 1200MW in Ireland and has also been growing its international presence. In 2020 Omnes Capital made a strategic investment in the company and since then the company has been transitioning to becoming an IPP.

The Dublin based office has a growing team spread across engineering, finance, legal, environmental planning, and construction. The company is continuing to develop solar projects in Ireland and is also developing grid scale battery storage sites. Power Capital is currently constructing 230MW of solar farms across Wexford, Cork, Meath and Louth under Corporate Power Purchase Agreements. Power Capital was also successful with over 300MW in RESS 2 which will also commence construction in H2 2023. www.powercapital.ie ■

About Eiffel Investment Group

Eiffel Investment Group is an asset manager with ca. € 5 billion under management (data as of end of 2022, including undrawn commitments). Eiffel Investment Group's clients are large institutional investors (insurers, mutual funds, pension funds, banks, large family offices, and public investors) as well as individuals, through intermediary distribution. Eiffel Investment Group cultivates a strong industrial expertise, particularly in the field of energy transition, but also in health, agri-food and digital. It finances companies and their assets through four main strategies: private debt, energy transition infrastructure, private equity, and listed equities and credit. Eiffel Investment Group's mission is to invest for a sustainable world. Its investment strategies aim to generate not only a strong financial performance but also a positive impact on the environment and society. The Eiffel Investment Group team has approximately 80 talented employees, mainly in Paris, with presence in Amsterdam, Warsaw, and New York. The Eiffel Transition Infrastructure fund is exclusively reserved for professional clients. www.eiffel-ig.com/en ■

Europe.”

Irish based Justin Brown and Peter Duff, both Co-CEOs and Co-Founders of Power Capital Renewable Energy, said: “It is fantastic to attract a club of such significant investors into the Irish solar sector. We have already commenced construction and expect 230MW to be completed by late this year across counties Cork, Wexford, Louth and Meath. Having the support from Eiffel Investment Group, EIB and Ethias will allow us to rapidly expand our construction roll out over the next years.”

Christian Kettel Thomsen, Vice President of the European Investment Bank, said: “The European Investment Bank is pleased to back one of the largest ever investments in solar energy in Ireland. This new initiative will strengthen domestic renewable power generation and cut carbon emissions and shows how European partners are supporting the energy transition.”

Michael Pollan, Managing Partner at Omnes said: “This partnership will allow Power Capital to accelerate its transformation into Ireland’s leading solar IPP at a time when the country is signalling for an increasing need for renewable energy”.

oris Laenen, Chief Investment And Life Officer at Ethias, said: In line with our ESG engagement and after having recently joined the Science Based Targets Initiative,



Ethias is pursuing with this new investment its support to the energy transition. It fits perfectly with our strategy to reposition our investment portfolio into less carbon intensive sectors, while obtaining geographic diversification next to our core direct investments in Belgium”.

Afiereos Capital acted as sole bookrunner,

structurer and exclusive debt advisor to Power Capital and also acted as an exclusive financial advisor to Power Capital on the PPA with Microsoft. Power Capital were advised by Arthur Cox and Philip Lee (legal) while Eiffel Investment Group were advised by Eversheds Sutherland.

Survey reveals most investors now reward ethical practices

Investors are increasingly using financial incentives to encourage sustainable and ethical business practices, a new report has found

A survey of major real estate investors found that 55% are incentivising staff to pursue better environmental, social and governance (ESG) practices, a 12% increase on last year.

The annual Insights Into Real Estate Investment Sustainability Survey (IRIS), conducted by climate risk company Evora Global, also found that the biggest property investors were the most advanced at incentivising ESG.

Sonny Masero, chief strategy officer at Evora Global, said that ESG analysis and data is on the rise across the investment world and that he expects the trend to continue.

“ESG has become a hot topic that no investor can possibly ignore and so it’s not surprising that they are incentivising their teams to pursue more ethical practices,” said Masero.

“Climate risk is real and legislators are responding with laws designed to push investors towards more sustainable investing and greater accountability.

“These moves are having an impact as we are seeing more investors put their money



Sonny Masero.

where their mouths are and incentivise staff to do the right thing.

“There’s also a greater demand for ESG-related data and analysis of the threat posed

to assets from climate change, all of which is welcome.”

The IRIS report, which examined the views of 102 investors responsible for \$3.3trn (£2.6trn) of assets globally, also found that the world’s biggest investors are the most likely to be incentivising ethical practices. The report found that 57% of investors with over \$5 billion of assets under management (AUM) use incentives linked to ESG performance, compared to just 29% of investors with between \$1bn and \$5bn.

The report also found that investors with less than \$1bn of assets were the least likely to use ESG incentives, with just 14% responding that they did so.

“Those with the most to lose appear to be the most concerned,” added Masero.

“The world’s biggest asset owners now want to understand how exposed they are to climate risks.

“We are seeing a much greater use of environmental and climate risk data in the world’s largest property and investment companies. This means the majority of the market has now started to bring ESG risk into their investment decisions.

“I would expect this trend to continue in the future and our hope is that sustainability will become a key part of investing in the very near future.”

Over 200 million electrical items diverted from landfill - new figures

Over 200 million electrical items have been diverted from landfill during an 18-year partnership between Ireland's largest e-waste recycling scheme and a family-owned recycling firm, new data shows.

WEEE Ireland and KMK Metals Recycling in Co Offaly have collected and recycled more than half a million tonnes of electrical waste since 2005 – the equivalent of 69 Eiffel Towers.

The vital materials recovered from the end-of-life items are available for reuse in manufacturing, resulting in less mining for new materials.

Steel, plastic and glass make up the top three materials extracted, with over 20,000 tonnes recovered annually through KMK's specialised recycling processes in Offaly and Westmeath.

Other valuable and scarce precious metals derived include aluminium, copper and zinc.

Ministers Ossian Smyth and Pippa Hackett visited the KMK Metals Recycling plants in Tullamore and Kilbeggan to witness

About WEEE Ireland

WEEE Ireland (Waste, Electrical and Electronic Equipment) is a not-for-profit organisation, founded by Producers of electrical and electronic appliances to help them comply with the legal obligations imposed by the EU Battery Directive 2006/66/EC and WEEE Directive 2012/19/EU. WEEE Ireland manages the collection of household e-waste, lighting and batteries from authorised collection points for recycling, on behalf of its 1,300 producer members. WEEE Ireland's objective is to provide cost effective quality compliance for producers to meet the requirements of the regulations whilst minimising the cost to the consumer. WEEE Ireland supports indigenous recycling facilities with WEEELABEX/EN50625 (European quality recycling standards) certified recycling partnerships. There are a number of recycling operators certified to the WEEELABEX standard on the Island of Ireland: KMK Metals Recycling Tullamore, Irish Lamp Recycling Athy, ENVA Toomebridge fridge recycling in Northern Ireland and Wisetek in Cork.



(Above): Kurt Kyck, managing director of KMK Metals, Minister of State Ossian Smyth, Minister of State Pippa Hackett with Leo Donovan, CEO, WEEE Ireland pictured today during a tour of the KMK Metals Recycling facilities in Tullamore and Kilbeggan, to mark the 18-year partnership between the family-run company and WEEE Ireland, the country's largest e-waste recycling scheme. To date, WEEE Ireland and KMK Metals have diverted more than 200 million electrical items from landfill at the EPA-licensed Midlands facilities. Picture: Conor McCabe Photography.

how the collaboration has successfully steered millions of pieces of e-waste away from landfill.

"The scale and sophistication of treatment here is truly impressive. It is vital that these resources are captured and the critical raw materials reused," said Minister of State Smyth, who has responsibility for Public Procurement, eGovernment and the Circular Economy.

"However, the volume of waste material here shows the massive opportunities that we have to become much more circular. I want to see Ireland making much more of our electronics and electrical appliances before they become waste.

"Through repair and reuse, we can keep these assets in use for much longer and reduce the waste we need to process.

"This keeps costs down for everyone. Longer lived products also means we extract fewer raw materials from the environment and enhance the security of supply chains."

Leo Donovan, CEO of WEEE Ireland, said old electronics are "an incredibly rich source of precious metals and other raw materials" that are often very difficult to extract from the earth.

"Since 2005, KMK's recycling facilities have been the anchor point for our successful Irish WEEE management system across the

About KMK Metals Recycling

KMK Metals Recycling Ltd. provides for the environmentally sound management of waste metal in all its forms and collects 80% of Ireland's waste electrical and electronic equipment (WEEE), bringing it to two state-of-the-art facilities in Tullamore, Co. Offaly (1.29 hectares) and Kilbeggan, Co. Westmeath (1.7 hectares), where it is processed by a team of highly qualified staff using the best available technology. Waste appliances are broken down and segregated into single stream materials, ready for recycling and refining and ultimately reuse, following the circular economy model. Metals and plastic resources are safely packed and shipped to compliant dedicated facilities across Europe for further treatment. KMK Metals Recycling employs approximately 150 staff across its operations, managing more than 48,000 tonnes of material and serving over 2500 sites including civic amenity sites, electrical retailers and Irish businesses. Established in 1979 the family-run company, led by father and son team, Kurt and Max Kyck has been in business for over 40 years. In 2019, Kurt Kyck was elected as President of the European Electronics Recyclers Association (EERA). KMK Metals Recycling is now a super-contractor for Ireland's largest compliance scheme, WEEE Ireland.

country.

“Through hard work and extensive investment, together we have developed a national recycling and material recovery infrastructure, giving us world-class EN 50625 certified e-waste facilities in Ireland.”

According to the 2021 annual reports of both companies, the top three categories of e-waste recycled through KMK were large household appliances (16,000 tonnes), small appliances (11,000 tonnes) and TVs/monitors (3,000 tonnes).

These were collected through a diverse network of retail collection points, civic amenity sites and WEEE Ireland free public collection events.

As the only dedicated waste battery sorting and management facility in Ireland, KMK also collected and segregated over 18,000 tonnes - the equivalent to nearly a billion AA batteries - on behalf of WEEE Ireland since they began working together under the European Battery Directive obligations in 2008.

Minister of State with responsibility for Land Use and Biodiversity, Pippa Hackett said “This is a great example of how companies working together can achieve positive results. They have embraced the green transition and have also provided stable, secure employment in the Midlands.”

“KMK Metals Recycling are at the forefront in ensuring that the valuable raw



Leo Donovan, CEO, WEEE Ireland with Minister of State Ossian Smyth - Department of Environment, Climate and Communications pictured today during a tour of the KMK Metals Recycling facilities in Tullamore and Kilbeggan, to mark the 18-year partnership between the family-run company and WEEE Ireland, the country's largest e-waste recycling scheme. To date, WEEE Ireland and KMK Metals have diverted more than 200 million electrical items from landfill at the EPA-licensed Midlands facilities. Picture: Conor McCabe Photography.

materials used in the production of electrical goods are being recycled and given a new lease of life supporting a more circular economy,” said Kurt Kyck, MD of KMK Metals Recycling.

“Hazardous materials, particularly in older

appliance types, need safe environmental depollution.

“And this must be carried out in EPA-licensed specialist recycling plants and not in general metal shredding facilities.”

Reliance on hi-tech solutions to climate crisis perpetuates racism, says UN official

Rapporteur Tendayi Achiume says projects are at expense of marginalised groups and Indigenous peoples

The world's reliance on hi-tech capitalist solutions to the climate and ecological crises is perpetuating racism, the outgoing UN racism rapporteur has warned.

Green solutions including electric cars, renewable energy and the rewilding of vast tracts of land are being implemented at the expense of racially and ethnically marginalised groups and Indigenous peoples, Tendayi Achiume told the Guardian in an interview.

In a last intervention before the end of her tenure, Achiume said meaningful solutions to the ecological crisis were not possible without tackling racism. But in a bleak assessment of the prospects for the future of humanity, she admitted it was “difficult to imagine” how that message could be made to resonate with people holding power.

“You can't think that you solve the climate crisis and then attend to racial justice or



Tendayi Achiume said the same structures that created ecological inequality were being relied on to solve the problem. Photograph: Mike Corder/AP.

racial discrimination,” Achiume said.

“What you have to realise is that every action that is taken in relation to ecological

crisis – environmental, climate and otherwise – has racial justice implications, and so every action becomes a site of undoing racial subordination.”

Achiume, a professor of law at the University of California, Los Angeles, was appointed as the UN's special rapporteur on contemporary forms of racism, racial discrimination, xenophobia and related intolerance in 2017, becoming the first woman and the first person from southern Africa to fill the role.

Her public comments have often been deemed controversial. On her first country visit as rapporteur, to the UK, she provoked the fury of the right by warning of a Brexit-related rise in bigotry and calling for a repeal of “hostile environment” immigration policies. She went on to deliver similarly strong comments to the governments of Morocco, the Netherlands and Qatar,

(Continued overleaf)

(Continued)

decrying the latter for operating a “de facto caste system based on national origin”.

In her reports, she has outlined how the extraction of natural resources, emerging digital technologies, and even global development frameworks were fuelling racial injustices, and the need for reparations for slavery and colonialism.

In her final report to the UN general assembly in October, she tackled the relationship between racism and the climate and ecological crises. It was, she said, an issue that had been raised from the very beginning of her tenure as one of the most important global factors in racial injustice.

“The global ecological crisis is simultaneously a racial justice crisis,” she wrote in the report. “The devastating effects of ecological crisis are disproportionately borne by racially, ethnically and nationally marginalised groups ... Across nations, these groups overwhelmingly comprise the residents of the areas hardest hit by pollution, biodiversity loss and climate change.”

This climate justice-oriented perspective demands antiracist solutions, Achiume said. But the very same structures that created racial inequalities were now being relied upon to solve the environmental crisis, leading to a “doubling down on racial inequality and injustice”.

The rush towards sustainable alternatives to fossil fuels, including electric cars and renewable energy, was creating what Achiume described as “green sacrifice zones”, where already marginalised groups were exposed to environmental harms from the extraction of the very minerals needed for green tech.

The transition to electric cars, for example, implied a one-to-one substitution of vehicles “without accounting for the environmental impact of electric vehicles, and where the minerals and all of the materials that are required to produce electric vehicles are coming from,” she told the Guardian.

“Indigenous communities and racially marginalised communities are being displaced by innovations that are supposed to be leading us towards clean energy,” she added. “And there you see how a green transition, unless it explicitly centres racial justice, can come at the expense of and reproduce these sorts of racial injustices.”



These problems were being caused by an approach that thinks the solution to the environmental crisis could simply be “a more concerted application of the global capitalist framework”, Achiume said. This meant that the very companies that had built their wealth from the destruction of the environment and from racial injustices were now being relied on to try to reverse the damage.

“We’re basically again trying to profit our way out of a crisis that is defined by an approach that thinks that profiting out of crisis is sustainable,” she said.

After Achiume’s final report was filed to the UN general assembly in October, delegates at the Cop27 climate change summit in Egypt agreed to a loss and damage fund

to help underdeveloped countries adapt to climate-related disasters. These provisions were a positive step, and even “a way of forcing some engagement with reparations”, Achiume said.

“I see it as a wedge, you know, a way in the door, and a way to create space, for accountability for the historic injustice that brings us to this moment of the climate crisis.”

But, she added: “I worry that the way that that loss and damage fund will be set up will actually be done to [undermine] what is actually required and what is being demanded by the countries that are pushing for a loss and damage framework.”

“So the danger here is that we’ll see what we’ve seen in the past, a gain is made and then that gain becomes a site for a doubling



down on the mechanisms that actually keep us trapped in the problem, rather than moving us forward.”

Such groups are already suffering the brunt of climate breakdown and environmental harms, she said. Now they have been left the passive recipients of whatever solutions have been decided on by leaders from the global north.

“In consultations with Indigenous groups, and also with racially and ethnically marginalised groups, they talk about how they are takers rather than makers of the environmental and climate policies that affect their day to day,” Achiume said.

Dithering over offshore wind leaves State open to being sued – expert

'This is a car crash' warns Attracta Uí Bhroin

Ireland's effort to develop offshore wind farms, before deciding which parts of the sea should be off-limits to development equates to a car crash, politicians have heard.

They were told the State could end up being sued by wind project developers, the European Commission, or both.

"I think we are going to end up with a very serious mess," environmental lawyer, Attracta Uí Bhroin, of the Irish Environmental Network said.

"This is a car crash."

Legislation is being drafted for the designation of Marine Protected Areas (MPAs) but the process, which is already overdue, will take some time.

In the meantime, several very large offshore wind projects intend to apply for planning permission before the end of this year after years of preparation. Ms Uí Bhroin told the Oireachtas Housing Committee, which is holding hearings on the legislation, that developers could potentially sue the State for losses. They have invested heavily in designs, plans and site surveys and several have been granted Marine Area Consents, which clears them to apply for contracts for supply of electricity and to submit planning applications.

The concept of legitimate expectation could apply, where a developer had a level of assurance that their project had a chance of success whereas they would have known

they had little chance if seeking to build in an MPA.

An alternative scenario could see the European Commission prosecute Ireland for allowing wind farms to be built in areas retrospectively found to warrant being designated MPAs, resulting in massive fines and orders to remove the structures.

A precedent had been set with the Derrybrien wind farm in Co Galway where the State failed to adequately consider environmental impacts.

More than €22m in fines have accumulated, with the total rising daily, and huge costs lie ahead for the removal of the



Attracta Uí Bhroin.



turbines and reinstatement of the site.

There is no agreed definition yet of what kinds of development should or should not be allowed within Irish MPAs and Niall Goodwin of industry body, Wind Energy Ireland, said he believed wind farms could co-exist with MPA designations.

He cited examples abroad where turbines had helped with the regrowth of reefs and provided other protections for biodiversity.

Pádraic Fogarty of the Irish Wildlife Trust said, however, he was inclined towards the guidance set down by the International Union for the Conservation of Nature.

It stated that: "Any industrial activities and infrastructural developments are not compatible with MPAs."

It also states that the fact that some infrastructure might incidentally protect some forms of marine life was not sufficient reason to allow it in an MPA.

Sinéad Loughran of BirdWatch Ireland told the hearing she did not believe offshore renewable energy could be consistent with MPAs.

The meeting heard that clarity on the issue was crucial. A number of proposed offshore projects are earmarked for sites that marine experts working with NGOs have recommended should be designated MPAs.

The committee is holding further hearings on the legislation and is to finalise its recommendations for the Government before the end of this month.



New report claims cities need to plant trees to reduce deaths from hot summer temperatures – here's why

Premature deaths attributable to higher temperatures in European cities, including Dublin, during the summer of 2015 could have been prevented by increasing urban tree cover to 30pc, a study in the Lancet reveals today.

The modelling study also found that tree cover reduced urban temperatures by an average of 0.4 degrees during the summer.

Tamara Iugman, ISGlobal researcher and author of the study said: "Dublin has an heat island of 1.9C, which is quite high and it perfectly correlates with a low percentage of tree coverage (7.4pc).

"However, in terms of health impacts they are not as high as expected, probably mostly due to overall mild temperatures during the summer.

"We estimated that two deaths per 100,000 inhabitants could be attributable to the urban heat island in Dublin, which corresponds with almost 1pc of the summer mortality. We also estimated that if increasing to 30pc the tree coverage, 53pc of

these impacts could be avoided.

"We encourage the city to take actions in order to green the city and obtain many other health benefits associated with the urban green infrastructure."

In total, 6,700 premature deaths could be attributed to hotter urban temperatures during the summer months, accounting for 4.3pc of summer mortality and 1.8pc of year-round mortality.

One in three of these deaths – 2,644 in total – could have been prevented by increasing tree cover up to 30pc, and therefore reducing temperatures.

Ms Iugman, of the Barcelona Institute for Global Health, said: "We already know that high temperatures in urban environments are associated with negative health outcomes, such as cardiorespiratory failure, hospital admission, and premature death.

"This study is the largest of its kind, and the first to specifically look at premature mortality caused by higher temperatures in cities and the number of deaths that could

be prevented by tree cover."

Urban environments record higher temperatures than the surrounding countryside generally referred to as "urban heat islands".

This difference is caused by human modification of landscapes, such as removal of vegetation, the presence of asphalt and use of building materials that absorb heat.

As emissions continue to exacerbate climate change and global heating, increased temperatures in cities are predicted to become more intense, resulting in an increasingly urgent need for cities to adapt to improve health outcomes.

The population-weighted city average daily temperature difference between cities and countryside from June to August 2015 was 1.5C warmer than the surrounding countryside, with the maximum temperature difference measured at 4.1C hotter in Cluj-Napoca in Romania.



Hitachi Energy: The future is electric

Hitachi Energy is championing the urgency of this clean energy transition and serving customers in Ireland with innovative solutions and services across the electrification value chain.

The energy transition is crucial to achieving a sustainable future, from a social, environmental, and economic perspective. Society must now move towards a carbon-neutral energy future to cope with the challenges of climate change. Climate targets have been set across all continents. In Ireland alone the Government Climate Action Plan 2021 target is to increase the proportion of renewable electricity to up to 80 per cent by 2030 and achieve net zero emissions by 2050.

The electrification of energy, transport, and infrastructure will be crucial to achieving these ambitions. Electricity has improved standards of living since its invention more than two hundred years ago. However, the transformative changes that increased levels of electrification will bring over the next 30 years will go beyond anything we have seen before. Analysis comparing recent studies of the evolution of the total world energy system shows that global electricity consumption will more than double from 20 per cent (today) to over 40 per cent of total energy demand by 2050.

Three building blocks required to deliver a carbon-neutral electric future are:

- connecting larger volumes of renewables such as wind, solar and hydro;
- electrifying the world's transportation, building and industrial sectors; and
- where direct electrification is either not efficient or impossible, introducing complementary and sustainable energy carriers, such as green hydrogen.

Hitachi Energy is a global technology leader championing the urgency of this clean energy transition. We are advancing the world's energy system to become more sustainable, flexible, and secure whilst balancing social, environmental, and economic value.

Here in Ireland, Hitachi Energy serves customers in the utility, industry, transport and infrastructure sectors with innovative solutions and services across the electrification value chain.

To deliver maximum value, we have organised our operations around four business units:

Grid automation: Our grid automation hardware, software and services portfolio unites deep domain knowledge and innovative technologies that enable customers across the globe to optimise the critical systems that power, move, and connect us. Our digitalisation solutions

are cost effective, agile, and innovative, delivering control, visibility, and stability for increasingly complex systems.

Grid integration: Our grid integration portfolio spans a wide range of transmission and substation applications, which facilitate reliable and efficient system integration of the future digital electric network with minimum environmental impact. We incorporate the integrated systems, solutions and services of our business's DC and AC fields, including HVDC, substations, FACTS, offshore wind connections, semiconductors, and power consulting, for utility and industrial grid applications, and electrification of transportation solutions.

- High voltage products: We are a leader in high-voltage technology, offering a wide range of products up to 1,200 kV. We help to enhance the safety, reliability and efficiency of power networks while minimizing environmental impact. Our technology leadership continues to facilitate innovations in areas such as ultra-high-voltage power transmission, enabling smart grids and enhancing eco-efficiency.

"The transformative changes that increased levels of electrification will bring over the next 30 years will go beyond anything we have seen before."

- Transformers: We offer liquid-filled and dry-type transformers, as well as services for complete life-cycle support, including replacement parts and components.
- Service and consulting: We offer an array of services, from traditional to advanced, for our products and systems that are offered a-la-carte or within an agreement.

Solutions supporting energy transition

Hitachi Energy believes it has a responsibility to support customers and other key stakeholders to accelerate the energy transition and deliver solutions which help to reduce their overall carbon footprint. Our solutions enable the safe, reliable, and efficient integration, transmission and distribution of bulk and distributed energy generated from conventional and renewable sources.

Two examples of pioneering technologies introduced by Hitachi Energy, include.

- HVDC Light®: Hitachi Energy pioneered commercial HVDC technology more than 65 years ago.

HVDC has been a breakthrough in connecting remote regions with grids, efficiently transmitting large amounts of electricity, with a significantly smaller environmental and carbon footprint through the integration of renewable energy into the grid and its transmission with extremely low losses. HVDC has been recognised as a key technology for enabling the clean energy transition, contributing to the SDG 7: increasing access to affordable, reliable, sustainable, and modern energy for all. HVDC Light® is a highly efficient alternative to alternating current (AC) for transmitting large amounts of electricity with higher efficiency, over longer distances, and with lower electrical losses. HVDC Light contributes to the secure and stable transmission of power across networks that operate on different voltages and frequencies. This makes the technology suitable for many key power applications, enabling the integration of renewable energy such as offshore wind farms and interconnecting and strengthening AC networks.

- EconiQ is Hitachi Energy's eco-efficient portfolio of products, solutions and services which are scientifically proven to deliver an exceptional environment performance. With EconiQ, customers can further reduce carbon emissions across the lifecycle.

Sustainability 2030

Hitachi Energy has its own Sustainability 2030 strategic plan which summarises the company's main commitments to act and drive business in a sustainable way. Based around four pillars: planet; people; peace and partnerships, the strategy draws from the UN's Sustainable Development Goals (SDGs), where each pillar has corresponding targets that drive our business to contribute social value, environmental value and economic value.

Our first-step target, the use of 100 per cent fossil-free electricity in our own operations, has been achieved. Through this achievement, Hitachi Energy has reduced its CO2 equivalent emissions by over 50 per cent compared to 2019. This will amount to approximately 175 kilo tonnes of CO2e per year, equivalent to removing over 35,000 passenger cars from the road.

IRISH COMPANY SOLAR ADTEK DELIVER SUSTAINABLE LIGHTING FOR IKEA BILLBOARDS

New Outdoor Lighting Solution Reduces Cost by over 65%

Over 65% energy cost and carbon reduction savings. Return on investment in less than 3 years. Lighting designed and manufactured in Ireland with special lens optics. New bespoke lighting delivers fresh, vibrant displays. Removes ongoing maintenance costs.

Irish based and owned, Solar AdTek were delighted to work with the sustainability and marketing teams at IKEA Ireland to develop a bespoke LED lighting solution for the advertising billboards at their Dublin store. The project involved evaluating the lighting on car park billboards and offering an improved, more cost-effective solution.

Solar AdTek designed new luminaire prototypes which were then evaluated and approved by the Irish and Swedish teams from Ikea. To date over 100 new LED luminaires have been produced and installed for the advertising billboards in their car parks.

The new LED lighting provides energy and carbon emissions savings and eliminates maintenance costs. The luminaires were designed to be compatible with the existing fittings to simplify the installation and result in significantly enhanced illumination of the displays.

Commenting on the project, Andrias O'Shaughnessy from Ikea

stated, "IKEA has a firm focus on offering affordable, resource and energy efficient products to our clients, and are also committed to our own sustainability strategy. The lighting project carried out by Solar AdTek on our outdoor advertising displays has delivered on all the agreed objectives including energy and cost savings and superior illumination. So, from the customers arrival at our premises to the moment when they leave, their journey has been enhanced."

Eoin O'Broin, CEO Solar AdTek, commented, "We are delighted to be working with IKEA to develop and deliver these bespoke lighting solutions. The improvement in the advertising illumination as well as the energy cost savings have had a positive impact on Ikea revenue streams and the delivery on their sustainability goals. The success of this project for Solar AdTek has already secured new business opportunities with Ikea internationally."

Overall, the project delivered energy cost and carbon reductions of more than 65%. There are no ongoing maintenance requirements. The return on investment is less than 3 years. In addition, the bright, uniformly lit displays are more attention-grabbing and provide an improved customer experience.



IFA and Bord Gáis Energy launch new solar energy partnership

The Irish Farmer's Association (IFA) and Bord Gáis Energy, building on their long-standing relationship, have launched a new partnership which will offer solar solutions to Irish farmers.

Together IFA and Bord Gáis Energy identified, based on IFA member feedback, that farmers across all sectors were seeking a solution around

renewable energy due to rising input costs along with the added environmental benefits.

The launch follows a pilot project undertaken by IFA and Bord Gáis Energy to establish the commercial feasibility of the installation of roof top solar technology on Irish farms. The pilot worked closely with farmers from different sectors, sizes and geographies and clearly and objectively established the benefits of solar for all farmers involved. The results of the pilot demonstrate the support that IFA and Bord Gáis Energy can provide to help maximise the benefits of rooftop solar for farmers. It also helped identify the barriers to entry and, by working together, how to overcome them.

At the launch, James Kelly, IFA's Director of Organisation said: "Our partnership with Bord Gáis Energy will provide a reliable and affordable solar solution. As the largest energy services business in Ireland, Bord Gáis Energy has the technical and engineering capacity to deliver high class solar solutions for farmers. Together, we also have the ability to provide a reliable customer experience with ongoing support. Each farm is unique and we will provide a comprehensive renewables offering for farmers including a detailed assessment of the viability, design and installation of a rooftop solar. We will also provide guidance on available supports,



expected system performance, payback periods and ongoing support in the form of data analysis to help farmers on this journey."

Teresa Purtill, Director of Services and Solutions, Bord Gáis Energy added: "Over the next 5 years, Bord Gáis Energy is committed to becoming the market leading net-zero solutions provider in Ireland and to helping all of our customers transition affordably to a lower carbon future. Working with our long-term partner IFA, we're extremely proud to offer affordable and innovative solar solutions for Irish farmers helping them decarbonise their energy usage across rural Ireland. We look forward to developing out further renewable solutions for Irish farmers, both for their businesses and homes, as we continue the journey to net zero."

Martin Stapleton, Chair of IFA Member Services added: "The current conditions combined with rising energy prices, makes it feasible for all farmers across all sectors from north to south to avail of solar. This is a new technology that farmers are coming to terms with. An installation by IFA and Bord Gáis Energy offers a renewables solution from a trusted and credible partner – something that we know farmers really need right now." Bord Gáis Energy and IFA will begin installation in the early spring but encourage interested parties to register interest and request further details. Visit ifa.ie/solar, or call 0818 989 498.



Pictured are Teresa Purtill, Director of Services and Solutions, Bord Gáis Energy, James Kelly, IFA's Director of Organisation and Martin Stapleton, Chair of IFA Member Services at the announcement of Bord Gáis Energy and IFA Solar Energy Partnership.

AEE Ireland Conference 2023

14th September - SETU Arena, Waterford
www.aeeconference.ie



Transforming the Irish Energy Sector Through Innovation, Imagination & Creativity

The AEE Ireland Chapter is pleased to announce the date for our 2023 conference, which will take place in the SETU Sports Arena on the 14th September. The event theme will be “Transforming the Irish Energy Sector Through Innovation, Imagination & Creativity”. Irish industry and business is in crisis due to climbing energy costs – with Irish manufacturing experiencing increases of over 30% in the last 12-months. Something has to change! Project return on investment (ROI), which was once not viable, are now back on the Board Room agenda – energy efficiency has now become a line item which cannot be ignored.

• Stream 1:

Security & Resilience of Energy Supply

• Stream 2:

Structured Energy Solutions & Resource Management

• Stream 3:

Meeting the Challenges of a Clean Energy Future

• Stream 4:

Finance Solutions & ROI

• Stream 5:

Latest Technologies & Future Solutions

• Stream 6:

Climate Change & Carbon Reduction

TO LEARN MORE, PLEASE VISIT: www.aeeconference.ie