

Photo: Oliver Dixon

Celebrating innovation in the energy transition

The Energy Institute's 22nd annual awards honour some of the energy industry's outstanding people and projects, highlighting the talent, innovation and expertise in a wide-ranging sector being transformed on the road to a low-carbon future.

Opening the EI Awards ceremony, Nick Wayth CEng FEL, Chief Executive, Energy Institute, said he was encouraged by the progress the energy sector has made on the road to net zero and that he was 'genuinely optimistic' about the prospects for meeting this goal given the agreements struck at COP26.

'Yes the deal could go faster and much further, but we must celebrate progress and I believe COP26 has sent signals that will filter through our industry,' he said.

'Signals that strengthen our hand to go back to our organisations, our stakeholders, our employees and our investors, to say with certainty that this is happening, change is coming fast, and we need to get out ahead of it. We need people – talented, skilled people – to deliver this change. And that is what today is all about – celebrating the very best achievements and the achievers in our field.'

Co-hosting the Awards, Stephen Holliday FREng FEL, EI President, remarked that: 'Energy professionals are pioneers and our sector's achievements to date are proof of that. However, we are facing a greater challenge than ever before – increasing global access to energy whilst at the

same time focusing on a shift to low carbon is a big task.'

'That's why it's so important we inspire the next generation to enter our industry and tackle these challenges, as well as reskill our existing talent to ensure no one is left stranded,' he continued.

'It's going to take the best and brightest to tackle these challenges and I'm proud that the EI Awards showcase exactly that.'

Here, we take a look at the initiatives and individuals that received the Energy Institute's highest honours at this year's ceremony, which was held online on 25 November 2021, sponsored by Refinitiv.

Access to Energy Award KOKO Networks – Winner

Even though energy is now benefiting the lives of more people around the world than ever, 800mn human beings still have no access to electricity and 3bn are still cooking using dirty, dangerous cooking fuels, leading to severe bronchial illness and around 4mn premature deaths each year.

Ensuring affordable, reliable, sustainable and modern energy for all is central to the UN Sustainability Goals and will require more sustained efforts worldwide.

This year's Access to Energy Award went to KOKO Networks for

its 'smart fuel ATMs' that enable ultra-clean cooking at scale in emerging market cities.

The company's innovations are driving the switch from deforestation-based charcoal cooking to a sustainable alternative that reduces carbon emissions while protecting Africa's forests.

Modern clean cooking solutions such as electricity and LPG remain too expensive and inaccessible for the majority, given the high cost of their distribution infrastructure. KOKO's low-cost, two-burner stove runs on liquid bio-ethanol, a by-product of the local sugar industry.

Some 700 KOKO fuel ATMs at shops in Nairobi dispense fuel through cashless transactions into 'smart canisters' that come with the stove, saving customers 50% versus charcoal. Some 230,000 households have already switched to using KOKO's ATM-based approach, which is claimed to lower the retail price of clean bio-ethanol fuel by as much as 50% compared to traditional ethanol cooking approaches that use single-use plastic bottles.

Energy Management Award GRAHAM – Winner

Effective energy management is crucial to ensure the efficient use of energy in domestic, commercial and industrial

settings. Investments in energy management produce a wide range of benefits, including reduced company costs, cutting greenhouse gas emissions and improving energy security.

Recognising the enormity of the challenge faced in rapidly reducing energy use and carbon emissions, and the implications for the future of the planet if the world does not move decisively enough to tackle the climate crisis, this year's winner – GRAHAM, a building, civil engineering and facilities management company – has set out a board-advocated 'Climate Action Strategy' with the ambition of achieving net zero across the company's entire value chain.

Having surpassed the company's 2020 target to reduce its carbon intensity by 25%, GRAHAM has set ambitious goals to achieve net zero Scope 1 and 2 emissions by 2030, and Scope 3 by 2045.

Among measures introduced to achieve these ambitious targets, new technologies are being used to increase energy efficiency and reduce emissions, including hybrid generators, battery banks and 'load on demand' power solutions which increase efficiency by replacing large, constantly operating generators with a group of smaller generators. Some 75% of GRAHAM's company cars are now either fully electric or plug-in hybrid, while electric vehicle

charging points have been installed at office locations to incentivise driver uptake of such vehicles.

The company has embedded a robust climate governance framework at the centre of its operations, while staff at all levels and within all roles receive energy and carbon awareness training.

Environment Award

ScottishPower Renewables – Winner

Last year, ScottishPower Renewables (SPR) completed installation of its East Anglia ONE (EAONE) offshore windfarm. A central pillar of the project was protection of the environment. An environment team was established, comprising advisors and managers, including external ecologists to provide independent advice.

The EAONE Environment Team went far beyond its statutory responsibility, putting extensive plans in place to protect the onshore area during construction, mitigating against potential damage or disruption, and helping species thrive.

Among measures adopted, a buffer zone, visual and sound barriers, and pauses in work (which caused significant impact to the project) meant marsh harriers were not only protected, but chicks have fledged beside the work site. Meanwhile, a natural drainage system created at the

substation was landscaped as a wetland habitat to encourage native species and is now home to great crested newts, dragonfly and multiple bird species. Peregrine falcons and red kites have been seen regularly, and through water monitoring, the team discovered an invertebrate not recorded in Suffolk for 100 years.

SPR's EAONE Environment Team has set the standard for enabling green energy infrastructure to work in harmony with nature, which will be replicated across future projects.

Health & Safety Award

Active Training Team – Winner

The EI's Health & Safety Award is given for projects which demonstrate best practice in safety as well as demonstrating potential to impact the energy industry's overall health and safety (H&S) record.

Active Training Team's Thrive Safety Leadership Centre in Immingham, UK, operates a one-day immersive, interactive safety programme using multimedia and experiential learning to transform behaviours and attitudes towards safety.

Although developed with Ørsted for the Hornsea Two project, the world's biggest offshore windfarm, Thrive has been designed to be relevant to renewables, ports and a range of high-risk industrial

Outstanding change-makers

Alongside winners in the EI Awards eight other project categories, two 'individual' awards – Energy Leader and Young Energy Professional of the Year – were also awarded.

Energy Leader Award

François Cazor, Co-Founder and CEO, Kpler – Winner

François' leadership at commodity data and analytics company Kpler has facilitated global energy trade by bringing real-time intelligence in traditionally opaque commodity markets. He has played a pivotal role in Kpler's growth since its foundation in 2014 – markets are now transparent, industry professionals can work more efficiently and, ultimately, a level-playing field for everyone has been enabled within commodity markets.

François has overseen Kpler's transition from a start-up to a global organisation within just seven years. Today it employs over 150 staff, across nine locations globally, working with over 600 accounts, including a number of energy industry giants. Unlike the majority of competitors within the sector, Kpler has not relied on venture capital funding to grow. The company's revenues come from clients alone and it reached the significant milestone of generating \$25mn in revenues and \$40mn in bookings last year.

Young Energy Professional of the Year Award

Jeanette Gitobu, Project Developer, Windlab – Winner

Jeanette has, and continues, to play an important role in transforming communities in Kenya while serving as a role model for other women in Africa's renewable energy sector. Among her achievements, she has overseen more than 1,700 project

area landowners sign on Africa's first sustainable renewable power project – Meru County Energy Park (MCEP). The \$150mn development combines 80 MW of wind turbines, 10 MW of solar PV technology and 10 MW of battery storage. It will produce enough clean electricity to power over 200,000 homes, providing a cheap and sustainable source of electricity to Kenyans over the next 25 years.

As a key team member, Jeanette has been responsible for devising and implementing financial modelling and procurement, spearheading the land securement strategies that will serve as the groundwork for future project developers that wish to develop similar initiatives around the world.

Anthony Wang, Senior Consultant, Guidehouse – Energy, Sustainability and Infrastructure Segment – Highly commended

Anthony has been key in positioning the European Hydrogen Backbone (EHB) initiative as a trusted partner among national and European policymakers while serving as a lead contributor to several major project workstreams. He has authored two of the initiative's flagship studies (and served as a co-author for the third), coordinated webinars with record-breaking attendance, and helped lead discussions with the Directorate-General for Energy of the European Commission.

Anthony has also made time to focus on bringing his peers together through his role as Vice Chair for the Energy Institute's Young Professionals Network (YPN), and has grown YPN's social media presence from a mailing list of 1,000 people to over 3,000 followers across various social media platforms. ●

sectors. It is a stimulating, safe space for people to practise and develop their skills, bridging the gap between theoretical learning models and the reality of the workplace.

Thrive's creative approach to safety leadership, combining interactive experiences, film, live action exercises and facilitated discussion, works by using heightened emotional and sensory experiences to embed learning, sharpen recall and influence subsequent behaviour. Some 94% of participants say they would apply what they have learned on the programme and feel more confident to challenge unsafe behaviour.

Innovative Technology Award **Aramco Services Company – Winner**

This award recognises the year's best innovative technological development with the power to become a gamechanger or disrupter in the energy sector.

Aramco Services' Sensor Ball technology represents a paradigm shift in the oil well logging and surveillance business, replacing conventional tools for temperature and pressure logging, particularly for well integrity monitoring but not limited to it.

The miniaturised, untethered and autonomous well logging robot logs wells within a few minutes at a well site. High resolution data provides important feedback to the engineers for diagnosing problems. It also prevents the safety risks and CO₂ emissions associated with conventional wireline logging.

The palm-sized tool is deployed through a well's Christmas tree by sequentially opening and closing the well cap, and swab and master valves. The Sensor Ball falls to a programmed depth, releases a weight, becomes buoyant, and returns to the surface. Dissolvable dropped weights prevent cluttering of the wells. During its downhole trip, the robot continuously records temperature, pressure and magnetic field data in its non-volatile memory that is wirelessly retrieved after its mission is completed.

Low Carbon Award **GeoPura – Winner**

The EI's Low Carbon Award recognises schemes and projects that have made significant progress in reducing carbon emissions to help reach net zero by or before 2050.

With decarbonisation at the core of its business ethos, GeoPura has developed hydrogen power

units (HPUs) to displace diesel generators. Based on industrial fuel cells that provide 250 kW electrical output, 80 kW thermal power and 216 kWh battery storage, the HPUs can be run in parallel to deliver up to 1 MW of power. They can be used with combined heat and power systems, and can supply all standard AC loads including EV chargers.

According to GeoPura, replacing one 250 kW diesel generator with a green hydrogen-fuelled HPU saves approximately 1.5 t/y of CO₂ emissions. The company is looking to deploy 1,000 HPUs over the next five years, which will not only save more than 5mn tonnes of CO₂ over 10 years, but also cut other harmful emissions such as nitrous oxides and particulates.

Public Engagement Award **National Grid – Winner**

Effective public engagement is very often the key determinant of the success or failure of any initiative. This year's Public Engagement Award goes to National Grid's Hinkley Connection Project. (HCP).

Supporting the UK government's goal of achieving net zero carbon emissions by 2050, the HCP aims to engage the communities in which National Grid operates as it develops cleaner, more sustainable energy projects.

The programme is designed to engage the future generation of engineers by getting them excited about the energy industry, and STEM (science, technology, engineering and mathematics) subjects as a whole. The company has donated resources and facilitated fun, practical activities to educators. A vital component of the programme is making sure children from all walks of life are given the same opportunities, so 'no child is left behind'.

To date, HCP has engaged with more than 800 schools via funding/practical activities; supported over 200,000 children, more than 40,000 of which are classed as disadvantaged; donated in excess of £400,000 for STEM resources; and donated 1,000 laptops via five charities to facilitate remote-learning.

Energy Action Scotland – Highly commended

Over 250,000 households in Scotland live in extreme fuel poverty, spending over 20% of their income on energy, or simply having to ration or self-disconnect from supplies as they struggle to make tough choices between heating or eating.

Energy Action Scotland wanted to raise awareness of fuel poverty and the impact that the COVID-19 pandemic has had, while providing positive and practical support that could make a difference.

It established a public facing fundraising campaign during November 2020, with the ambition to raise £2,000 and show the value to the Scottish government of investing in low energy appliances to help fuel poor households. To date, over £12,000 has been raised and more than 160 appliances and food packs for meals have been given to households.

Talent Development and Learning Award **TNB Integrated Learning Solution – Winner**

This award recognises work undertaken to bring new talent into the energy sector, as well as the provision of continuing professional development (CPD) schemes, innovative learning solutions and collaboration between industry, academia and other partners.

Tenaga Nasional Berhad (TNB) is the leading power utility provider in Malaysia and the largest public-listed power company in south-east Asia. Aspiring to be a leading provider of sustainable energy solutions nationally and internationally, TNB's Centre of Excellence for Solar Energy provides experiential learning in green technology to foster awareness and nurture new talent into the industry.

The Centre is a collaborative venture between TNB subsidiaries, the Solar Energy Provider (TRE) and the Energy Learning Centre (ILSAS). To date, some 2,733 participants have embarked on green technology-related courses.

University of Hull – Highly commended

The University of Hull aims to support innovation in the global energy industry while providing a talented and diverse pipeline to fill the skills gap.

Close consultation with energy businesses ensures that its programmes meet industry needs, combining classroom and laboratory learning with hands-on industry experience.

The university is also involved in the Aura Centre for Doctoral Training (CDT), a collaboration with Durham, Newcastle and Sheffield universities and over 20 industry stakeholders that offers 75 funded PhD scholarships to address specific industry needs. ●

For more about the EI Awards 2021 and if you'd like to enter next year, please go to <https://energyinst.org/whats-on/search/ei-awards>