

CENERGY 2022



11 May 2022

Regulation and cost riddles for hydrogen

The cost of scaling up and regulating green hydrogen projects are the two biggest challenges to unleashing a large-scale market, All-Energy 2022 delegates will hear. **p2**



Planning needs to grasp joys of group-think

Onshore wind planning challenges will come under the spotlight this week at All-Energy with one collaborative initiative set to outline its vision for upending the traditional way of doing business. **p3**

THE INTERVIEW TO NEWS

Today, Mark Sommerfeld, head of power and flexibility at the Association for Renewable Energy and Clean Technology. **p4**

Bigger and better Glasgow gathering

A feast of familiar favourites and enticing new features are available at All-Energy and the co-located Dcarbonise, writes host Jonathan Heastie. **p5**

Complete offshore rethink vital for UK

The UK must overhaul the development process for offshore wind if it is to have any chance of delivering the government's new 50GW by 2030 target, All-Energy 2022 will hear.

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A raft of speakers will line up in Glasgow to debate how the sector can hit the accelerator on early-stage leasing and planning through to route to market, grid, procurement and construction.

Leasing in Scottish waters as well as off England and Wales will be in the crosshairs on the morning of day one when a panel of experts debate the pros and cons of



ScotWind and Round 4.

Colin Innes (*left*), partner at Shepherd & Wedderburn,

is chairing the *Offshore Wind:* Looking back to look forward session at 11:00 on day one.

Innes questioned whether the Round 4 approach, which saw developers last year pledge hundreds of millions of pounds in annual lease options to secure sites, would be the preferred model now given the push to secure as much energy as cheaply as possible. On planning, Innes said there is dissatisfaction over the length of time taken to get consent applications through the process for England and Wales.

While Scotland has got a more stable consenting system, it's not an integrated one, he added.

Work is going on to streamline consenting processes but Innes said permitting sufficient projects to hit the 50GW target, set out in last month's UK energy strategy, will be tough. "Given the scale of development it is going to be challenging," he said.

Speakers in Glasgow will also seek to establish preferred options for future Contracts for Difference rounds now the government has committed to annual

Sources said there could be new incentivised processes introduced to help minimise system costs as well as support local supply chain investments for AR6 due in 2024. Without this the acceleration of deployment could mean that the UK supply chain cannot keep up, All-Energy 2022 will hear.

ORE Catapult director of offshore wind development and operations Andrew



MacDonald (left) said an industry discussion is needed on how to

accelerate deployment while protecting cost reduction and supply chain growth.

MacDonald, who is taking part in the Offshore Wind:
Supply chain and skills — opportunities and challenges panel at 14:00 on day one, said: "The only way of solving all of those is for UK companies to improve their competitiveness so that they can win the work."

ORE Catapult's Simon



Cheesman (left), who will be chairing the marine energy TIGER session at

14:00 on day one, said next year's AR5 will be the start of the emergence of floating offshore wind at scale as this year's first floater pot is likely to attract just a handful of bids.

WEDNESDAY'S HIGHLIGHTS

Opening gambits

The first plenary session features contributions from across industry and politics. ScottishPower chief Keith Anderson chairs with Scotland's First Minister Nicola Sturgeon and COP26 President Alok Sharma due to speak.

09:00-10:30, Lomond Auditorium

Sunny Scotland

A range of experts discuss how the country can deliver between 4GW and 6GW of solar by 2030 in a session entitled *An Agenda for Change.* Watch out for the panel discussion dealing with the barriers to deployment.

11:00-12:30, Dochart

Offshore supply chain gain

Join SPR new UK sites manager Mandy Gloyer, RenewableUK deputy chief Melanie Onn and GE Renewable Energy offshore wind sales director Anne-Marie Coyle among others to discuss the opportunities and challenges for local benefit.

14:00-15:30, Lomond Auditorium

Fine tuning onshore wind

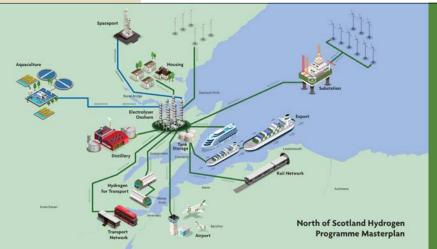
Hear how to maximise production from your onshore wind assets at this session, which will feature a case study on the Whitelee wind farm from Wood Group innovation director Alan Martimor

1600-1730, Dochart

Beside the Clyde

Enjoy the Civic Reception and huge networking evening after a busy first day. Free for All-Energy visitors.

18:00, Glasgow Science Centre



New green hydrogen plants could transform industry and transportation in the Highlands.

Find out more about the ScottishPower and Storegga partnership.



Our sponsor raises the curtain on All-Energy 2022 in Glasgow

Dear readers and visitors to All-Energy 2022, what a great pleasure to welcome you back to the first All-Energy in three years, with many changes within that time, writes Jason Welch, Deutsche Windtechnik Ltd. managing director.

The last time we met for the event in May 2019, the UK was still part of Europe, no one had heard of Covid-19 and who would have ever considered a war within Europe. Our thoughts are with the Ukrainian people.

Last October saw COP26,

which should help drive a sizeable shift

for many countries towards a greener more sustainable world. Now more than ever there needs to be continued focus of renewable energy sources.

Back in February the UK announced new targets and incentives for the industry. I can say Deutsche Windtechnik with its comprehensive service competences is certainly up for the challenge to support the UK government and our customers in achieving these. We'll achieve this through our commitment to continuous improvement, which means we are always looking for opportunities to optimise the way we approach both technical and economic challenges.

It is vitally important that we regularly evaluate how we are performing to ensure we maintain a forward thinking, multidisciplinary approach, which delivers value to the industry and our customers.

The foundations of our business are based on a proactive approach to operations and maintenance. That is the

most efficient Deutsche and effective Windtechnik way to ensure

> turbines reach and potentially exceed their life expectancy.

Over the next two days we are looking forward to the face to face contact, where we will share our ideas and vision for

Please drop by and visit us on stand G41. We will be happy to discuss O&M strategies that will help improve your wind turbine fleet's performance to ensure it delivers the value you need and

Regulation and cost riddles for hydrogen

The cost of scaling up and regulating green hydrogen projects are the two biggest challenges to unleashing a large-scale market, All-Energy 2022 delegates will hear.

DWF Law's Darren Walsh said clients are currently looking at small amounts of production with a view to expanding later due to the current costs associated with the technology.

"There isn't sufficient scale within the industry to be able to encourage significant investment in large-scale commercial operations."

The regulatory environment is also a factor as there is no gas legislation specific to hydrogen. "We are applying (existing) legislation but we are putting a square peg in a round hole at the moment," Walsh told renews ahead of the Glasgow event where he will speak on day one at the Hydrogen and Energy Storage

Operators that want to invest and co-locate with renewables sites need confidence.

"Without a specific regulatory regime that gives sponsors, developers and investors confidence, you will always have that first mover in the market who will take a bit of a gamble but I think a lot of people are still nervous," he added

Sustainability consultancy

ERM, which is developing a green hydrogen-offshore wind hybrid project, believes commercial scale will come in the second half of the 2020s.

Partner David Caine, who is speaking at the theatre during All-Energy, said: "That is where we think it is going to go and we want to be at the front of that. Marrying production with consumption and all of that moving at speed is really the challenge."

Taking the tidal temperature

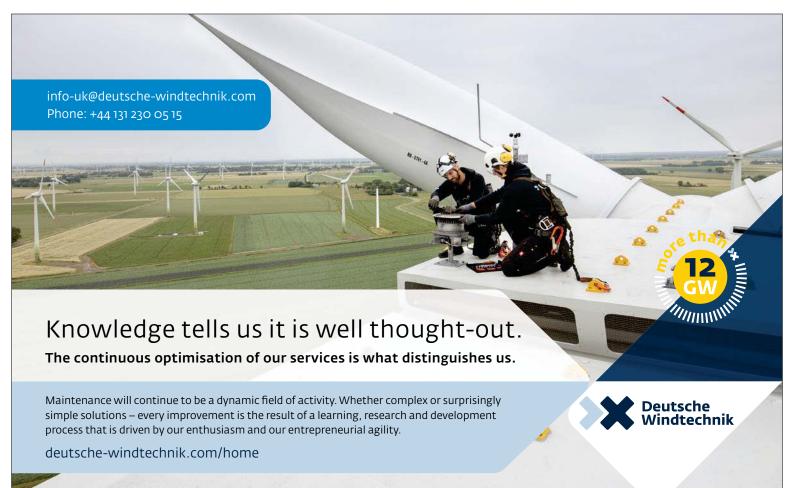
The role of tidal stream projects in the energy mix will come under the spotlight at All-Energy during a session on the TIGER project.

The Interreg-funded scheme was set up in 2020 to examine how the sector can form part of the future energy mix in the UK and France, and is due to conclude next year.

ORE Catapult sector lead for wave and tidal energy

Simon Cheesman, who is chairing the session at 14:00 on day one, said it will look at what the partners have achieved and learnt together, including a cost-reduction pathway for TIGER.

An ORE Catapult report found that by the time 1GW of tidal stream energy is deployed costs will drop to around £85 per megawatthour, less than nuclear power.



Planning needs to grasp group-thir

nshore wind planning challenges will come under the spotlight this week at All-Energy with one collaborative initiative set to outline its vision for upending the traditional way of doing business.

A cluster of 11 wind farms — including operational and in-development as well as permitted sites — around the Hagshaw Hill area in South Lanarkshire are involved in a NatureScot-led scheme where



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ISSN 1478-307X

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Landscape would be a major beneficiary of move away from the existing piecemeal approach to designing and consenting wind farms, writes **Andrew Fawthrop**

for three years developers have been pooling data, insights and community investments to smooth planning processes and take a joined-up approach to the evolution of their sites.

Collectively, the cluster has a capacity of around 585MW although this could be doubled via future repowering and extension works.

ScottishPower Renewables, Energiekontor and BayWa r.e. are among the developers taking part, working alongside South Lanarkshire and East Ayrshire councils.

"We all co-habit in this sometimes quite antagonistic planning system and have a somewhat ugly, difficult planning process to go through," said Brendan Turvey, low-carbon project manager at NatureScot, who

is heading the scheme and will speak on the topic at Onshore Wind: The Landscapes Of The Future on day one.

"But if we collaborate, we can make that process much easier. It's a big move away from the oldfashioned system but it's a potentially very fruitful one. The developers we've been working with see that opportunity to do something quite different and are supportive of that."

There's "high potential" to replicate the approach across Scotland if the right resources can be found for future projects. Discussions about this with the Holyrood government are ongoing.

It is an approach that could also influence the landscape design of future onshore developments, moving away

from the "jumbled" collection of individual projects that has arisen from two decades of sites being planned in isolation.

Holyrood wants to more than double installed onshore wind capacity in Scotland by 2030, targeting up to 12GW of new additions in a recent policy redraft. With so much capacity to come online, there will be a focus on how projects can be designed and consented with as little friction as possible.

Turvey said: "We have never really had a planned approach to onshore wind in Scotland. The planning system has guided projects away from sensitive locations but it's never really given developers a steer as to what we want and where.

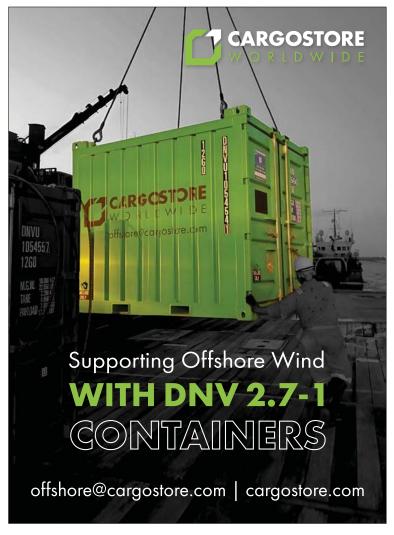
"We have got 20 years"

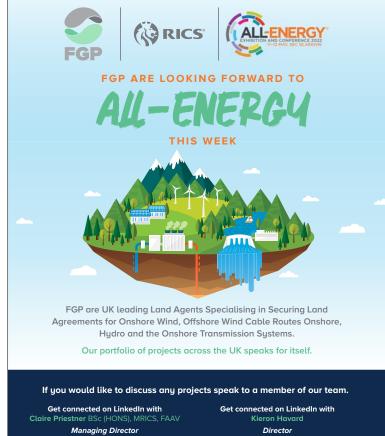
experience of building onshore wind farms but largely they have been planned, conceived, designed and delivered as independent projects."

Landscape design issues are on the agenda at All-Energy. Panellist Marc van Grieken of landscape architect MVGLA thinks much more can be done by his profession to be "proactive and daring" when designing the wind farms of the future.

He envisions much taller onshore turbines than are used today, reaching as high as 350 metres, where "the blades are so high above us that they interact with the clouds". The idea is to create "awe-inspiring" features of the landscape that are more than just functional power generators.

"People focus on turbine height," he said, "but it doesn't matter how many metres it is; it's about how it will be seen and how it sits, not fits, into the landscape.





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THE INTERVIEW TO THE IN



Mark Sommerfeld (left), head of power and flexibility at the Association for Renewable Energy and Clean Technology (REA), puts the case for under-appreciated bioenergy sector

This week you are speaking on a panel asking whether bioenergy is the 'unsung hero' in the energy transition. Why does the sector struggle with its image compared to other technologies?

A Bioenergy's role in decarbonisation continues to be under-appreciated. This is as true within the broader environmental movement and decarboniation industries as it is for the general public. There remains a general lack of awareness that bioenergy, today, is the largest contributor to decarbonisation in the UK when considered across power, heat and transport. As a sector, we also need to be better at highlighting the critical role to be played by bioenergy in getting to net zero, as repeatedly spelt out by the scenarios produced by bodies including the IPCC, the Climate Change Committee, and the International Energy Agency.

What can bioenergy developers and operators do to change minds and boost a positive perception of their industry?

A Pretty much all operators in the bioenergy sector have independently verified and high-quality certifications or standards which demonstrate their sustainability credentials.

However, it is important to recognise the need to go beyond just displaying a certification logo. As a sector, we need to get better at demonstrating what these practices are delivering, which means being highly transparent about where feedstocks originate from and the environmental health status of these sources. It also remains the case that bioenergy largely remains an unidentifiable 'international' industry for much of the public. Whereas other renewables have clear images, such as wind turbines or solar panels, it is commonplace for the bioenergy sector to be represented in the media by pictures of felled trees in foreign countries, with the actual UK based energy production being underrepresented.

Many biomass plant operators were faced with new challenges during the pandemic amid an initial drop in power prices and a tightening of feedstock supply. What lessons can be learned to ensure a continued resilient sector?

Overall, the sector has fared comparatively well through two very challenging years of the pandemic with companies moving fast to adapt supply chains and outputs where needed. In many cases, this has been of great benefit to the country

with the sector showing flexibility to be able to step in to provide essential services when other industries have been forced to falter. With the energy crisis now also impacting the country, and supply chains being impacted by terrible events in Ukraine, these lessons of flexibility and being able to quickly react to changing circumstances are crucial for what looks to be a further challenging couple of years.

Could the UK be doing more to incentivise the use of bioenergy in heat decarbonisation?

A Yes, certainly. Biomass heat, biogas and biofuels are currently the largest contributor to heat decarbonisation in the UK today. While electrification, using heat pumps, will no doubt have a very major role to play it is important to recognise there will be circumstances where bioenergy provides the most effective solution to decarbonise both homes and businesses. This is especially true in off-gas grid areas or industrial applications requiring high process heat loads. The government's focus needs to be on delivering the right technology for the right situation. This includes mechanisms that support a wide variety of heat decarbonisation technologies, rather than the current 'electrification first' approach.



Bigger and better Glasgow gathering

he 21st anniversary edition of All-Energy, the meeting place for the renewable and low carbon energy community, is the first major UK event to run post-COP26 in the same venue that just six months ago saw almost 200 countries coming together to commit to take action on climate change and forge the Glasgow Climate

We are thrilled to be back delivering this legacy event face-to-face after the challenges of the past couple of years, and to do so knowing that this year's event is bigger and better than ever before. We are looking forward to welcoming thousands of visitors and hundreds of exhibitors, many from overseas, and at least 75 new ones exhibiting with us for the first time

The combined All-Energy and Dcarbonise conference programme provides a myriad of star conference speakers, including a

Feast of familiar favourites and enticing new features at All-Energy and the co-located Dcarbonise, writes host Jonathan Heastie

message from COP26 President Alok Sharma, who continues to travel, encouraging governments and organisations to make sure they deliver on the Glasgow agreement, turning momentum into action.

'Action' is the watchword here at All-Energy and the

co-located Dcarbonise. The

latter is dedicated to ensuring

that private and public sector

energy end-users gain access

to advice and technology

decarbonisation plans and

government and Energy

is supported by the Scottish

to assist them in their

Saving Trust. I urge visitors to get involved in every aspect of the duo of events to gain maximum benefit from them, whether it is hunting out innovative solutions, gaining knowledge in the conference and show floor theatres from over 450 speakers helping you catch up on their sector's

activities, or making new connections at the Civic Reception and Giant Networking Evening at

the Glasgow Science Centre.

We have features in plenty, old favourites that have returned and new ones too, one of which strikes a particular chord with me.

First, some of the returning features: 'Meet the Developer' offering 1-2-1 meetings to

help suppliers of renewable energy solutions meet organisations actively looking to expand their supply chains.

Hosted within the Power Club, make your booking now online here with any of the 11 specialists from nine organisations (eight of them offshore wind developers) eager to hear what you can offer. Those developers and investors use the Power Club as their meeting area.

Show floor theatre programmes (all 10 of them in eight theatres) provide bitesize chunks of free learning while you do business on the busy exhibition floor. Add to them the zones for hydrogen, low carbon transport, and those for heat and energy efficiency technologies as part of Dcarbonise. There's plenty with which to engage.

What's new? The Future

Talent Hub is in the similarly new Innovation Zone (home to Innovate UK, the Canada stand, the Research & Innovation Hub, Greenbackers and their startup/scale-up companies).

I am particularly excited that thanks to BP's sponsorship and support from Skills Development Scotland we have been able to add this pearl to our already magnificent offering.

Future Talent is hugely important to all of us as we strive towards meeting our net zero ambitions. The Hub boasts a programme of sessions focused around attracting new and re-skilled resource and talent to power an accelerated net zero future

Demonstrations in the Green Skills for a Net Zero Future co-ordinated by the Energy Skills Partnership complement all that is happening in the Hub.

We look forward to welcoming you!



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