Recent Energy Trends & The Year Ahead
- A Thought Leadership Series

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Introduction

Net zero emissions and the energy transition has never been more critical on the global, regional, national and local agenda. Government, businesses, and importantly, society, at large and across generations are driving new actionable momentum along this theme. This five-part Thought Leadership series takes stock of recent energy sector events and our predictions on what opportunities and challenges we can expect to see across ITPEnergised's four sectors: Offshore Renewables; Onshore Renewables & Storage; Corporate, Industrial & Manufacturing and Property this year. This series is written for developers, investment funds, utilities, network operators and owners and government. We welcome your feedback, so please reach out to us for a conversation.

Energy crisis A rally of higher energy pricing in the global markets caused by a perfect storm of post-Covid lockdown economic growth driving electricity demand, diminished storage and knock-on effects of China's cold snap have contributed to price rise levels in H2 2021. Low demand periods during Covid lockdowns combined with high wind have materially increased balancing and ancillary services markets giving an indication of net zero behaviour fast forwarded to today with existing grid infrastructure. Around 30 energy companies have gone into administration since last year with their customers depending on Ofgem to keep supplies going whilst finding another supplier.

Money back to suppliers, and therefore consumers In praise of the Contract for Difference (CfD) price stabilisation mechanism on behalf of consumers where CfD generators normally receive top up payments to their strike prices for low carbon electricity generation there has been role reversal with its two-edged sword. With Q4 2021 reconciliation, The Low Carbon Contracts Company (LCCC) shows the scheme paying back money to electricity suppliers as market prices have risen above the strike price with expected net payments to total GBP133.7 million.

PPA pricing is on the rise Amid the energy crisis, European and UK PPA (as well as N America) pricing for wind and solar PV has been disrupted and have risen double digits towards the back of 2021 compared to more stable pricing in recent years. UK and Germany have been the most impacted. The UK September 2021 wholesale price nearly reached £200/MWh, up 4x compared to the same time the previous year.

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EUETS carbon pricing has also risen to EUR60/t in September 2021 compared to EUR20/t in March 2020 (additive to the price of gas).

Rising interest in digital tools and innovative ways of solving challenges and this subject entering the agenda consistently in large conferences and companies increasingly looking to showcase and apply innovation in business as usual. Digital is increasingly the way forward in outward facing projects to improve time to value and inward facing operations to improve efficiency. ITPEnergised has now developed a powerful digital platform comprising targeted applications that augment our traditional consulting called the Net Zero Accelerator®. Please feel free to reach out to Peter Lo, Digital Strategy and Innovation Director at peter.lo@itpenergised.com for a conversation and to gain a competitive edge in the marketplace.

ScotWind surprised us with 25GW announced versus 10GW expected putting pressure on those managing grid, supply chain and human capital.

Contracts for Difference (CfD) Allocation Round 4 (AR4) has just closed for applications and we keenly await the results in Spring/ Summer this year. We welcome the return of onshore renewables to this scheme for the first time since round 1. We also welcome the recent announcement that the Contracts for Difference auctions will be held annually and that the next Contracts for Difference (CfD) round will open in March 2023.

The UK development pipeline is booming across all clean technologies and storage with material acceleration seen in the past 12 months as capital and intent move us further to support our national net zero ambitions. Battery storage schemes are really coming into their own - as a potential proportion of installed UK capacity, with both standalone and co-located plays beside both renewables and fossil fuel generation.

Rising deployment of hybrid renewables (as predicted by ITPEnergised in its Thought Leadership series last year) either as planning application to provide future real option value and start of hybrid PPA market in UK (lagging slightly behind the US). Increasing the load factor of an existing or future grid connection has the potentially to powerfully unlock economic and environmental value.

Green hydrogen momentum 2021 was a year of many project announcements and the formation of strategic alliances along the green hydrogen value chain. 2022 looks set to be the year where the emerging ecosystem of hydrogen producers and end users will start to push the first green hydrogen and additive renewable capacity projects through the consenting process, as motive and thermal applications move from the drawing board into reality. Hydrogen fuel cells will remain the standard for clean and efficient delivery of motive power, though some manufacturers (e.g. heavy plant and shipping) will continue to explore direct combustion of hydrogen and its green ammonia derivative.

ESG is even more firmly on the agenda for the UK market and globally as financial institutions increase requirements for reporting and disclosure of material aspects. COP26 shone a spotlight on the increasing risks from Climate Change and society's frustration with progress to date.

Evidence is mounting that ESG is no longer considered a fad or political buzz word and is key to building long term value creation and resilience. ESG disclosures and commitments go hand in hand with responsible investment, with a growing pool of finance specifically focused on supporting net zero.

The financial community plays a vital role to help mobilise capital to decarbonise the economy and build a resilient and sustainable future. With this brings risk as well as opportunity and is driving a growing pool of dedicated funding for net zero acceleration.

M&A sell side will increasingly sign post future real option value. Competition continues to be strong given more capital than projects.

New entrants positioning for investment in the clean energy space e.g. oil and gas under ESG and investor pressure.

Levels of sophistication in the renewables space has room to grow in a competitive market marked by new capital and new entrants. These can include more reconfiguration of assets, differentiated discount rates and future value to mirror some of the maturity that in the sunsetting fossil fuel power sector.

Grid balancing and ancillary services markets rapidly grew during Covid with the three largest markets: Constraints, Operating Reserve and Frequency Response particularly impacted. Curtailment payments reached a peak of almost 7X of normal levels to £361 million in November 2021 which are largely payments to Scottish wind farm generators – a glimpse of net zero today with high wind and low demand (Covid lockdown) on the system. Operating Reserves costs grew to around over 2X of normal levels to £41 million in October 2021. Frequency Response markets grew nearly 4X to £41 million in October 2021. Of the Frequency Response markets the Balancing Mechanism Response and Firm Frequency Response (FFR) Briding/ FFR Auction and Dynamic Containments spiked the most of all of the Response market segments. Solving legacy grid stability and balance for net zero therefore remains one of the world's greatest challenges.

Consultations and regulatory change Ofgem and BEIS continue to wrestle system wide thinking with respect to ensuring regulations are fit for purpose for net zero acceleration across several areas. Key will be market reform work being led by NGSO / CEPA and the governance around system development through FSO and DSO. Other key work streams are around system development through long term planning and RIIO and green hydrogen subsidy. Additionally, we watch with bated breath to see how the economic landscape may shift in response to reforms on both TNUoS and BSUoS grid charges; TNUoS charges being a popular service we have provided future estimates to 2050 on for the past several years based on our one-of-a-kind GB Network Digital Twin. BSUoS payments are proposed to be removed from generators from 2023.

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