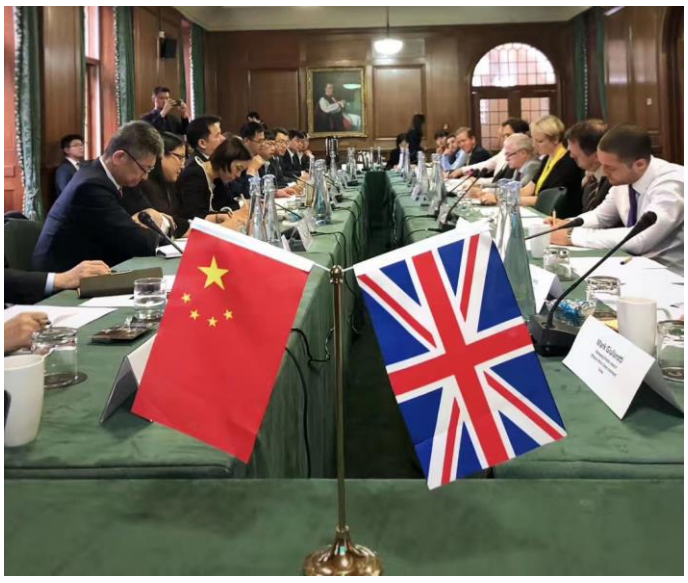
News & Updates from the UK-China Offshore Wind Industry Advisory Group (IAG)

Newsletter No.1, May 2021

A partnership between Chinese Renewable Energy Industries Association (CREIA) and the Offshore Renewable Energy (ORE) Catapult, supported by the British Embassy in Beijing and Chinese Renewable Energy Engineering Institute (CREEI)

Overview



The IAG was established at the 2015 UK-China Energy Dialogue. Hosted by the Chinese Renewable Energy Industries Association (CREIA) and the UK's Offshore Renewable Energy (ORE) Catapult, the IAG provides an important platform for discussing opportunities and challenges for policy and commercial cooperation in the Chinese and UK offshore wind markets. The platform is supported by the Chinese Renewable Energy Engineering Institute (CREEI), the UK's Department for International Trade (DIT) and the Foreign, Commonwealth and Development Office (FCDO).

To find out more or to subscribe please get in touch at ChinaRenewablesTeam@fco.gov.uk

Market Updates

China's offshore wind capacity reached 9GW at end of 2020

According to the data released by China's National Energy Administration (NEA), in 2020 China's newly installed offshore wind power capacity was 3.06GW, taking total installed capacity of offshore wind power to around 9GW by the end of 2020. Against the background of China's recent Carbon Neutral 2060 announcement, and driven by a "double carbon" policy, the offshore wind power industry has received increased policy attention from local governments. Guangdong, Jiangsu, Zhejiang and other coastal provinces have issued 14th Five Year Plan for the 2021-25 period, including active plans for development of offshore wind industry and clear ambitions to expand installed capacity. Data suggests that China's offshore wind power installed capacity will exceed 30GW in the next five years. According to the Global Wind Energy Council (GWEC) China will add a further 52 GW of offshore wind capacity by 2030, becoming the world's largest market with a total of 58.7 GW.

4C Offshore: 2021 construction update

According to 4C Offshore, as of 1st March 2021, China had 7.6 GW fully commissioned and 18.2 GW projects under construction or partial generation, accounting for 24% and 74% of the global capacity, respectively. At the end 2020, Guangdong province issued a consultation draft of the country's first local subsidy plan to replace the central subsidy to be phased-out from 2022. According to 4C Offshore, the effect of this new local subsidy is similar to a 5-10% reduction in project capital expenditure (CAPEX). It is not as beneficial as central subsidies, but it can still mobilise the enthusiasm of developers. Coming next, Zhejiang and Jiangsu provinces are most likely to release their local subsidy plans. Get in touch with 4C Offshore to fully understand offshore wind China (Sonny Zou, Xiangning.Zou@4coffshore.net)

Construction of the largest offshore wind power project in northern China begins

On March 24, the Huaneng Dalian Zhuanghe IV site officially started, marking beginning of construction of the largest single offshore wind farm by capacity in the northern sea area of China. The site, located in the East Sea area of Shicheng Island, Zhuanghe City, Liaoning Province, will have an installed capacity of 350MW and total investment of 5.96 billion yuan (average water depth of 30m, 35.2 km from the offshore of the site center, planning area 55.8 square km). The project will install 25 6.2 MW wind turbines and 26 7.5 MW wind turbines and build a 220 kV offshore booster station with upper module steel structure weight of more than 3900 tons. The project is invested and constructed by the Northeast company of Huaneng Group, with EPC provided by China Railway Construction port and waterway administration group. It is another large-scale offshore wind power project implemented by China Railway Construction in Liaoning Province after the Huaneng Dalian Zhuanghe II site (300 MW). The project will promote transformation of the local energy structure, as part of Liaoning's "megawatt" offshore wind power base and revitalisation of its northeast old industrial zone.

Nantong, Jiangsu province builds first offshore wind intelligent supervision platform in China

Nantong has developed and successfully operated the first intelligent supervision platform for offshore wind power in China. The platform allows real-time remote monitoring of wind farms in the jurisdiction, such as for tracking ships entering the site. Driven by the increasing pace of offshore wind power growth,

ports are playing an important role in promoting the integration of industrial chain, as well as supporting the trend towards deep-sea installation. Coastal provinces such as Guangdong, Zhejiang, Jiangsu, Shandong and Yantai are developing offshore wind ports along the coastline, aiming to develop world-leading infrastructure. The conditions for building wind power ports are not only limited to the geographical "hard conditions" such as geographical location, port water depth, ocean current flow direction and navigation time, and also have very high requirements for the offshore wind power industry chain in the area where the wind power home port is located. Port construction and planning is required to align closely with development of the wider industrial chain.

Policy Developments

Carbon Neutral 2060 announcement positive signal for China's wind sector

During the Climate Ambition Summit hosted by the UK, France and UN on Saturday 12 December, President Xi Jinping made a video statement on China's ambitions for 2030. At the Summit, President Xi pledged that China will aim to increase consumption of non-fossil fuel energy to 25% of primary energy by 2030 (up from a previous target of 20%) and reach a gross installed capacity for wind and solar power of 1200GW. In order to achieve these capacity targets, China will need to effectively triple its current installed capacity (approximately install at least 75GW of wind and solar per year from now to 2030).

New energy to play central role in China's energy development

During a high-level meeting of the Central Financial and Economic Commission in March, the central role new energy in the future power system was clarified for the first time. A series of measures also further clarified the direction of China's energy development. On February 22, the State Council issued guiding opinions on accelerating the establishment and improvement of green, low-carbon and circular economic system. The "opinions" proposed included increasing the proportion of renewable energy utilisation, promoting the development of wind and photovoltaic power generation, and developing marine energy, hydrogen energy and other energy sources.

Guangdong announces 2030 offshore wind target, issues guidelines on local offshore wind subsidies

Guangdong province has set a target to build 30GW of offshore wind by 2030, the most ambitious for all provinces in China. To support this ambition the Guangdong Provincial Energy Bureau issued draft guidance on promoting development of offshore wind power in December 2020, indicating a goal of reaching 4GW total installed capacity by end of 2021 and 15GW by end of 2025. The document also specifies the local subsidy standard for Guangdong offshore wind power following cancellation of central government subsidies from the beginning of 2022. According to the guidelines, projects connected to the grid in 2022 and 2023 within the provincial sea area will qualify for subsidy. For projects fully grid connected in 2022, the developer is entitled to receive a lump-sum subsidy of 1,500 RMB/kW (~£165/kW), and 1,000 RMB/kW (£110/kW) for connection in 2023. This is equivalent to a 'one-time subsidy' for supporting construction costs, which would equate to 1.5bn RMB (~£165mn) lump sum for a 1GW project connected in 2022. The total installed capacity to be subsidised is not to exceed 4.5GW, where 2.1GW will be covered in 2022 and 2.4GW in 2023. No subsidy will be provided for the projects to be fully commissioned starting from 2024. A number of offshore sites along the coast including Yangjiang, Zhuhai, Shantou and other areas in Guangdong Province are under construction. From 2020 to the end of February this year Guangdong had put into operation a total of 1.132GW of offshore wind, with an existing in-construction scale of over 8GW.

Offshore wind to play key role in Jiangsu province 14th Five Year Plan (14FYP)

The draft 14FYP for renewable energy development disclosed by Jiangsu Province clearly states that during the five year period Jiangsu Province will steadily promote the development of wind power. By 2025, Jiangsu Province will add about 11GW of total wind power with new investment of about 120bn yuan, of which offshore wind will account for 8GW (100bn yuan new investment). In terms of project planning, Jiangsu Province will accelerate the construction of existing offshore wind power projects in Yancheng, Nantong and Lianyungang. By the end of 2021, the province will strive to realise grid connection of the total capacity of main existing offshore wind power projects in these areas, aiming to form an offshore wind power base of 10GW. By the end of 2025, installed capacity of offshore wind in the province should reach at least 14GW, with ambitions to reach 15GW.

Zhejiang Province to introduce local subsidy system for offshore wind power

Following Guangdong Province announcement of local subsidy policy, Zhejiang province has outlined its own intentions. In its 14th Five Year Plan draft all new wind capacity will be offshore wind, with aims to add 4.5GW over the period to 2025. Priorities in the plan include promoting sustainable development of offshore wind power, accelerating establishment of a provincial financial subsidy system, and introducing competitive allocation of projects. The plan also outlines ambition to build combined demonstration projects for sources including offshore wind power, marine energy, energy storage, and hydrogen production. Compared with other coastal provinces and cities the cost of offshore wind power in Zhejiang is relatively high, so there is need for supporting policies that can relieve pressure on developers.

UK-China Case Studies

Carbon Trust and its partners support of Guangdong province's offshore wind policy and industrial chain development

As one of the key provinces in China in developing offshore wind power, Guangdong has set its ambitious goal of putting 30GW offshore wind installed capacity into operation by the end of 2030. To achieve this goal in an efficient and cost-effective way Carbon Trust together with Guangdong Electric Power Design Institute (GEDI) and China Renewable Engineering Institute (CREEI) have closely collaborated on a project supported by the CELCEP Programme, aiming to engage with local government to provide practical and long-term effective suggestions for Guangdong's offshore wind development.

To maximize the influence of this project, main outputs and experiences will be shared with relevant national departments, other provinces and cities. Large scale development of offshore wind power is vital to realize the goal of limiting the global temperature rise to 1.5℃ higher than the pre-industrialization level agreed in the Paris Agreement. With China's offshore wind market in a critical transitional stage, short-term decisions is crucial to shape the industry's prospects. It is expected that this project can contribute to the long-term development of China offshore wind industry. To find out more about Carbon Trust's work in China check out their website.

ImPG CROWD Project.

The ImPG-CROWD (Improved Practice Guidelines for Cost Reduction for Offshore Wind Deployments) project is led by the National Ocean Technology Centre (NOTC) and includes the Offshore Renewable Energy (ORE) Catapult, Shanghai Investigation, Design & Research Institute (SIDRI) and University of Exeter. Funded by the UK Prosperity Fund China Energy and Low Carbon Economy Programme (CELCEP), the project aims to develop a set of best practice guidelines to support cost reduction in offshore wind with reference to international perspectives and expertise by sharing knowledge and industrial experience between the UK and China through the research partnership, international industrial advisory group, and a series of industry engagement workshops. The project team have assembled a panel of Chinese and International experts representing all aspects of the offshore wind supply chain including representatives from leading project and technology developers, and policy experts. The initial meeting of the expert panel, that was was held online on the 10th of March, provided an opportunity to introduce the project activities, aims and objectives, as well as introducing the expert panel members. The second half of the meeting was opened for general discussion around several key questions including which aspects offered the best scope for cost reduction, significant areas of divergence between the Chinese and international Offshore Wind sectors, and suitable areas for future UK-China collaboration.

Energy Technology Platform (ETP) and TORC partner to promote UK tech in China

In November 2020 the UK Energy Technology Platform (ETP) and TUS-ORE Catapult Research Centre (TORC) collaboration was officially launched. Technology Catalogue, UK ETP and UK Partner Carjon-NRG Ltd have agreed to collaborate with TORC on promoting UK Technologies in China and Chinese Technologies in the UK. Companies interested in working in China will now have the opportunity to be promoted directly through ETP's platform. TORC is now included on the UK ETP website as a UK ETP Platform Partner, helping to increase the visibility of UK-based technology in China and furthering TORC's offering to UK businesses. For more information visit the ETP website.

TUS-ORE Catapult Research Centre (TORC), Yantai, Shandong Province

In March 2019 the TUS-ORE Catapult Research Centre (TORC), a UK-China offshore wind research centre, opened in Yantai City, Shandong Province, China. TORC is a joint venture company established by ORE Catapult Development Services Ltd (located in Northumberland, UK), TUS Wind Technology Co Ltd (located in Beijing, China) and TUS Mingshi Science and Innovation Co Ltd (based in Yantai, China). Its main office is located in the Yantai Hi-Tech Development Zone in the coastal city of Yantai, in the Shandong Province in China. The venture acts as a bridge between China and the UK for promoting offshore wind power collaboration, introducing advanced technologies and services from the UK to support meeting the huge demand of China's offshore wind power market.

TORC
TUS-ORE CATAPULT RESEARCH CENTRE
启迪中英海洋科技研究院

The Centre is working with Chinese and British enterprises to carry out cooperative research programs, support entry to the Chinese market, and provide services for Chinese offshore wind power developers. TORC has made a number of notable developments and is progressing in its aims of providing strategy and support services for UK companies looking to enter the Chinese market and in initiating collaborative research projects. The Centre has engaged with over 30 UK companies to date and this is increasing as more UK companies seek promotional, agency, collaborative research or joint venture based agreements. There are currently plans for TORC to open several new offices in China, including a large office space in Qingdao, a collaboration with TUS Guangdong in the south and possible new centres in Weihai and Dongying. Chinese and UK facing websites are under development to co-ordinate company engagement and market promotion activities.

Recent Activities

Workshop: How Green Finance Can Boost the Development of China's Renewable Energy Sector?

On 2nd March the British Embassy Beijing hosted a workshop focused on exploring answers to this question, titled "China's Renewable Energy Financing Challenges under the Carbon Neutral Goal -- Seminar on How Green Finance Can Boost the Development in China's Renewable Energy Sector." Co-organised by the Chinese Renewable Energy Industries Association (CREIA) and Institute of Finance and Sustainability (IFS), the seminar brought together key Chinese renewable developers and green financiers to identify opportunities and challenges for green finance to support long-term investment in China's renewable energy sector.

Carbon Trust hold two Guangdong Offshore Wind Development Workshops

As part of their CELCEP project focused on Guangdong offshore wind, the Carbon Trust and partners GEDI delivered two workshops in the first quarter of 2021. The first of these workshops, titled 'Guangdong Offshore Wind Development Workshop' was held in January 2021. During the discussion, the project team shared the UK offshore wind sector's experience of subsidy support policy, changes in policy, and effect on cost reduction at various stages of the offshore wind industry's development. In addition, experts from GEDI and CREEI outlined and shared their opinions on Guangdong current local policy, existing difficulties, and shared challenges with the UK. In March 2021, during the 'Guangdong Offshore Wind Supply Chain Workshop', Carbon Trust experts summarised the main gaps, constraints, potential risks and opportunities facing Guangdong's current offshore wind supply chain, and introduced ideas and directions for policy interventions. In addition, offshore wind supply chain enterprises from China and the UK enhanced communication and cooperation by sharing their products details and market experiences.

Scottish Development International (SDI) Webinar Series: Floating Wind – Project Design & Development in Kincardine Project

On 13th April the first of Scottish-Jiangsu offshore wind webinar series, 'Floating Wind Project Design and Development - Kincardine Case Study', was successfully held with 150 attendees real-time online. It was jointly organised by Scotland International Development (SDI) and Jiangsu Renewable Energy Industry Association (JSREA) to promote Scotland's offshore wind supply chain capabilities and seek cooperation opportunity in China offshore wind market. At the webinar, the two speakers talked through their experience and reflection in designing the innovative substructure and project development. Tim Sawyer from Flotation Energy provided an overview of their achievements and progress in floating wind development globally particularly on Kincardine project. Mike Wilson from Ecosse IP introduced their innovative design for a tension leg platform. They both shared the views on some of the most concerned issues such as technical reliability, cost control, and risk management.

Upcoming Activities

Global Offshore Wind Summit (GOWS) China, July 7-9 2021, Nanning, Guangxi Province

Hosted by the Chinese Renewable Energy Industries Association (CREIA), Chinese Wind Energy Association (CWEA) and the Global Wind Energy Council (GWEC) the Global Offshore Wind Summit (GOWS) will come together for its 6th edition in July in Nanning, Guangxi Province. This year's summit will explore the role of offshore wind in supporting international climate change action. If you are interested in joining the summit please get in touch at ChinaRenewablesTeam@fco.gov.uk

UK-China Offshore Wind IAG 7th Annual Meeting (Beijing, Date TBC)

Held during the annual UK-China Energy Dialogue, the annual meeting will bring together UK and Chinese offshore wind industry and policymakers to share latest updates on respective markets, discuss areas for closer commercial collaboration and present on key aspects critical to future industry growth. The last annual meeting was held in August 2020 during the Global Offshore Wind Summit (GOWS) China in Jinan, Shandong province.

SDI Offshore Wind Webinar Series

SDI are planning a series of webinars focused on offshore wind over the coming months. More details will be shared via our Wechat platform later, please see the planned dates and topics below:

13.07.2021	Floating Wind Construction and Installation
12.10.2021	Cost Reduction in Offshore wind – Technology Innovation
11.01.2020	Cost Efficiency in Offshore Wind O&M

Partners and Supporting Organisations

CREIA 中国循环经济协会可再生能源专业委员会
中国能源研究会可再生能源专业委员会
Chinese Renewable Energy Industry Association

CATAPULT Offshore Renewable Energy

CREEI 水电水利规划设计总院
China Renewable Energy Engineering Institute

British Embassy Beijing