

## DOCUMENTS

### 1. T&I Visit to Germany - Minister BTTE - Visit Report - September 2022 – Pages

#### REPORT OF VISIT TO GERMANY, 26-28 SEPTEMBER 2022

Minister for Business, Trade, Tourism and Enterprise

I visited Germany between the 26<sup>th</sup>-28<sup>th</sup> of September 2022, coinciding with Scottish Development International (SDI) and Scottish companies attending the Wind Energy and Hydrogen conferences in Hamburg.

My three-day visit was developed in response to an invitation to Scottish Ministers to open the hydrogen conference at WindEnergy Hamburg, to build relations with one of Scotland's priority partner states for wind and hydrogen in Germany, and to build relationships in-market with potential investors, support export opportunities and raise Scotland's profile internationally with business organisations and companies.

#### [REDACTED]

Net zero and energy, particularly offshore wind, were the key themes of this trade & investment focussed visit. I had a number of opportunities to promote Scottish sectors' strengths in Germany during the visit:

- a. at the Hydrogen Conference opening ceremony and panel session, where I gave a keynote speech outlining opportunities presented by current geopolitical situation, our green hydrogen policies and targets around the energy transition, announcing the **Scottish Hydrogen Investment Proposition**, and **inviting Hamburg to join Under2 Coalition and hydrogen taskforce**;
- b. through my participation in the live-streamed *Green plus Clean* panel session, where I summarised the scale of Scotland's ambitions and emphasised the importance of collaboration, stating we would be keen to be part of any potential future hydrogen alliance.

I heard Vice Chancellor and Federal Minister for Economic Affairs and Climate Action, Robert Habeck, speak at the political summit and engaged with **Stefan Wenzel (Parliamentary State Secretary (Minister) for Energy, Federal Ministry for Economic Affairs and Climate Action)**. A follow up meeting is being planned between Mr Matheson and this key German Federal energy Minister. We consider Germany to be our top partner in our green hydrogen ambitions – it was useful to explore our interests, reiterate Scotland's potential and agree next steps to strengthen our partnership.

Senator Jens Kerstan (Hamburg Senator for Environment, Climate, Energy and Agriculture) and I discussed Scotland's strengths in offshore wind and green hydrogen. He was keen to engage with Scotland and welcomed the idea of exploring further areas of exchange in his portfolio, like climate and agriculture.

I was also asked to share Scotland's experiences in renewable energy and build links with the Asturias delegation in conversation with Minister Dr. Rodriguez, as the region seeks to diversify from coal.

This visit provided me with opportunities to contribute to retaining the confidence of German and Spanish (Navantia) investors in Scotland. I had 1-2-1 meetings with 5 businesses active in the renewables, wind energy and hydrogen sectors, and spoke with many others during the conference, strengthening Scotland's reputation and supporting SDI work to attract investment in Scotland and Scottish supply chains. I also took the opportunity to support and speak with some of the over 30 Scottish companies who took part in the SDI trade programme during WindEnergy.

I gained valuable insights into energy and green hydrogen priorities from a Lower Saxony (LS) perspective during an engagement with the delegation led by Ralf Pospich, Head of Foreign Trade, Investment Promotion, Marketing and Trade Fairs at the LS Ministry of Economic Affairs, Employment, Transport and Digitalisation. The engagement allowed for new connections to be established and strengthened the Scottish Government Berlin Hub's and SDI's work in this region.

The visit was beneficial in underlining our commitment to Germany around trade and investment, particularly in the offshore wind and hydrogen space. It enhanced relations with the business community and federal and regional governments and made way for greater collaboration on policy and trade fronts.

## KEY OUTCOMES

- Deepened Scottish Government links with key German Federal and Regional government and business contacts.
- Promoted Scotland as a top hydrogen partner, an innovative partner and a great place to do business.
- Emphasis of Scotland's commitment to maintaining strong trade and investment relationships with Germany, despite challenges posed by Brexit.
- Important political connections and follow-up conversations with stakeholders such as State Secretary Wenzel and Senator Kerstan on German and Scottish co-operation in hydrogen are being taken forward.
- Enabled SDI to build on their rapport with important German investors to Scotland (including **[REDACTED]**, Top 50), and to raise our profile with companies and stakeholders interested in Scottish/German business relations, including Vestas.
- Explored the experience of German investors in Scotland, the challenges they face and knowledge-exchange. Identifying these challenges will enable us to make improvements to the current situation.
- New connections were established with the Lower Saxony Hydrogen Network and Port Authority, building on connections already made for a Scotland-Lower Saxony hydrogen conference in early 2023. On the back of the engagement, SG and SDI representatives were able to attend a further event on 29 September where they

met up with the hydrogen lead at Germany Trade and Invest and an influential public affairs expert for energy politics based in Berlin.

### GOVERNMENT MEETINGS

- Informal Meeting with **Stefan Wenzel**, Parliamentary State Secretary (Minister) for Energy, Federal Ministry for Economic Affairs and Climate Action, and **Senator Jens Kerstan**, Hamburg Senator for Environment, Climate, Energy and Agriculture
- Meeting with **Minister Dr. Rodriguez**, Asturias, Spain

### OTHER ENGAGEMENTS, VISITS AND MEETINGS

- **[REDACTED]**
- Attendance at Wind Energy VIP Reception
- Meeting with Deutsche Windtechnik
- Opening speech and participation at Hydrogen Conference panel session on “Safe Energy Supply and Geopolitics”
- Meeting with BayWa r.e.
- Meeting with EnBW
- **[REDACTED]**
- Meeting with North2Sea Hydrogen Farm
- Meeting with Navantia
- Meeting with Scottish companies attending WindEnergy
- Informal Meetings with Lhyfe, Elogen and ENGIE
- Engagement with CEOs of key potential Scotwind supply chain inward investor Vestas.
- Participation at live-streamed *Green plus Clean* panel session on “Does Northern Europe need a Hanseatic Hydrogen Alliance?”
- Engagement with Lower Saxony delegation
- Local media interviews – City of Hamburg and Wind Energy

## ANNEX A: Proposed copy list

Proposed copy List	For Action	For Comments	For Information		
			Portfolio Interest	Constit Interest	General Awareness
First Minister			X		X
Deputy First Minister			X		X
Cabinet Secretary for Culture, Tourism and External Affairs			X		X
<p>Cabinet Secretary for Finance and the Economy  Cabinet Secretary for Net Zero, Energy and Transport</p> <p>Communications Finance and Economy  DG Constitution and External Affairs  DG Economy  Catriona Matheson, Special Adviser</p> <p>Richard Rollison, Director for International Trade and Investment  James McLellan, Trade &amp; Investment Delivery Deputy Director  <b>[REDACTED]</b>, Head of Trade Promotion  <b>[REDACTED]</b>, Trade Promotion Team Leader  <b>[REDACTED]</b>, Trade Promotion Team Leader  <b>[REDACTED]</b>, Trade Promotion Policy Officer  <b>[REDACTED]</b>, Head of Inward Investment  <b>[REDACTED]</b>, Inward Investment Team Leader  <b>[REDACTED]</b>, Inward Investment Team Leader  <b>[REDACTED]</b>, Head of Trade Support  <b>[REDACTED]</b>, Trade Support Team Leader  <b>[REDACTED]</b>, Trade Support Team Leader  David Barnes, Trade Policy Deputy Director  <b>[REDACTED]</b>, Head of Trade Strategy  <b>[REDACTED]</b>, Climate &amp; Sustainability Team Leader  Philip Thomas, Investment Finance Deputy Director  <b>[REDACTED]</b>, Head of Capital Investment Policy and Pipeline  <b>[REDACTED]</b>, People and Communication</p> <p>Scott Wightman, Director for External Affairs  Frank Strang, European Relations Deputy Director  <b>[REDACTED]</b>, Head of European Engagement  <b>[REDACTED]</b>, Deputy Head European Engagement  <b>[REDACTED]</b>, Head of SG Office Paris  <b>[REDACTED]</b>, Senior Policy Adviser – France and Germany  <b>[REDACTED]</b>, Head of Strategic Communications – External Affairs  <b>[REDACTED]</b>, Deputy Head International Communications</p> <p>Colin Cook, Director for Economic Development  Andrew Hogg, Energy Industries Deputy Director  <b>[REDACTED]</b>, Head of Offshore Renewables Policy &amp; Supply Chain  Stuart Greig, Director of Low Carbon Economy  Kersti Berge, Director of Energy and Climate Change</p>					

Neil Francis, SDI, Interim Managing Director, [REDACTED]@scotent.co.uk  
Jan Robertson, SDI, Interim Director Global Trade, [REDACTED]@scotent.co.uk  
Mark Hallan, SDI, Director Global Investment, [REDACTED]@scotent.co.uk  
[REDACTED], SDI, Team Leader International Visits, [REDACTED]@scotent.co.uk  
[REDACTED], SDI, International Visits, [REDACTED]@scotent.co.uk  
[REDACTED], [REDACTED]@scotent.co.uk  
[REDACTED], [REDACTED]@scotent.co.uk  
Adrian Gillespie, CEO Scottish Enterprise, [REDACTED]@scotent.co.uk

## 2. Overseas Visits - T&I Visit to Germany - Notes - September 2022

### HAMBURG

#### MEETING 2: 121 Meeting with Deutsche Windtechnik

DATE	27 September 2022, 10:00-10:45
ATTENDEES	Carl Rasmus Richardsen, Chief Executive Officer Rosie Beevor, Country Manager UK
NOTES	<ul style="list-style-type: none"> <li>Deutsche Windtechnik (DW) starting offshore operations this year, but not in Scotland.</li> </ul> <p><b>Education</b></p> <ul style="list-style-type: none"> <li>Education important, they have an apprenticeship model in Germany and starting to look into UK training. [REDACTED]</li> <li>Skills for Energy centres in Scotland would be great. Keen to partner with colleges e.g. experienced techs teach at college in winter. <ul style="list-style-type: none"> <li>[REDACTED] We need to distinguish their needs for talent for onshore wind business and new developments on offshore.</li> </ul> </li> </ul> <p><b>Access to people</b></p> <ul style="list-style-type: none"> <li>Field is very competitive, plenty applications to vacancies. Developing people is better for retention, but contractor market is still large.</li> </ul> <p><b>Pressures</b></p> <ul style="list-style-type: none"> <li>Material shortages and cost pressures rising. Brexit made it more difficult too, lots of time added to projects (customs, visas, etc.) Visa rules keep changing and finding a UK source on this is not easy.</li> </ul> <p><b>Market Growth</b></p> <ul style="list-style-type: none"> <li>DW are Independent service providers. Design scope specific to client's needs.</li> <li>Huge numbers of freelancers are driving day prices down, but offer lower quality (even higher impacts now in cost crisis) and shorter contracts.</li> <li>Germany has clear contracts – better for workers so they can plan their lives.</li> <li>Rise of freelance due to changes in structures – companies shifting from player to player. DW would like to have <math>\geq 5</math> year contracts for their employees.</li> </ul> <p><b>Offshore Business Operations</b> – approx. 5 years until DW gain momentum</p> <ul style="list-style-type: none"> <li>[REDACTED]</li> </ul> <p><b>Component Recycling</b></p> <ul style="list-style-type: none"> <li>Refurbishment always has been a topic, quite a lot happening. Can consider what is possible in UK around investment in circular manufacturing. Potential future opportunities.</li> </ul> <p><b>INTOG</b></p> <ul style="list-style-type: none"> <li>DW had enquiries from companies for repowering turbines, Hydrogen generation projects needing electricity. Usually smaller / independent businesses.</li> </ul>
[REDACTED]	<ul style="list-style-type: none"> <li>[REDACTED]</li> </ul>

### MEETING 3: Political Summit and VIP Tour of Trade Fair

DATE	27 September 2022, 12:30-13:30
ATTENDEES	<p>- Stefan Wenzel, Parliamentary State Secretary (Minister) for Energy, Federal Ministry for Economic Affairs and Climate Action</p> <p>- Martha Ekkert, Onshore Wind Energy and EEH Committee on Cooperation, Federal Ministry for Economic Affairs and Climate Action</p> <p>- Senator Jens Kerstan, Hamburg Senator for Environment, Climate, Energy and Agriculture</p>
NOTES	<p>Keynote speeches at the political summit were delivered by</p> <ul style="list-style-type: none"> <li>• Robert Habeck, German Vice Chancellor and Federal Minister for Economic Affairs and Climate Action;</li> <li>• Fatih Dönmez, Turkish Minister of Energy &amp; Natural Resources; and</li> <li>• Andreas Bjelland Eriksen, State Secretary at the Norwegian Ministry of Petroleum and Energy; and</li> <li>• Lord Callanan, BEIS Parliamentary Under Secretary of State</li> </ul> <p>After Habeck had to leave on urgent business, State Secretary Wenzel took his place at the VIP tour. On being introduced, Wenzel immediately said that Germany wished to speak with Scotland about green hydrogen. [REDACTED]</p> <p>The tour also provided opportunity to follow up in person on Scotland’s Hydrogen MOU with the state of Hamburg. Whilst the Economy Ministry (Senator Westhagemann, SPD) officially hosts the hydrogen team (Wasserstoffstabstelle) and sponsors the Hamburg renewable energy cluster, energy and climate policy officially sit with Senator Kerstan. Kerstan was keen to engage further with Scotland and welcomed the idea of exploring further areas of exchange in his portfolio.</p> <p>Companies visited included Enercon, Vestas, Max Bögl and Siemens Gamessa.</p> <ul style="list-style-type: none"> <li>• Siemens Gamessa was of particular note since the company has developed a recyclable wind turbine blade – the last stage in making wind turbines fully recyclable. Their straightforward process requires the blade to be cut up and immersed for four hours in an acid bath. This can be done on site, with no requirement for large-scale transportation of individual blades.</li> </ul> <p>[REDACTED]</p>
[REDACTED]	<ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul>

**MEETING 4: 121 Meeting with BayWa r.e.**

DATE	27 September 2022, 16:00-16:45
ATTENDEES	Felipe Cornago (Commercial Director Offshore Wind) Daniel Hölder (Head of Global Policy & Markets) Stuart Davidson (Head of Wind Development UK- based in Scotland) Ricardo Rocha (Offshore Wind Technical Director)
NOTES	<ul style="list-style-type: none"> <li>• Scotland/UK presence – Offices in Edinburgh (operational), Glasgow (development) and Milton Keynes. Tend to operate their own projects.</li> <li>• Continue growing, last year was their best yet. Central team supports the 10-person team in Edinburgh, [REDACTED]</li> <li>• [REDACTED]</li> </ul> <p>[REDACTED]</p> <p><b>INTOG / H2 Projects</b></p> <ul style="list-style-type: none"> <li>• Involved in conversations with O&amp;G supply chain. Offshore wind has to create its own route.</li> <li>• Hydrogen projects depend on scale and existing supply chain. Likely to do onshore, but offshore too complex. [REDACTED]</li> <li>• [REDACTED]</li> </ul>
[REDACTED]	<ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul>



## MEETING 5: 121 Meeting with EnBW

DATE	27 September 2022, 17:00-17:45
ATTENDEES	Stefan Kansy, Director New Projects Holger Grubel, Head of Portfolio Development Offshore Wind Céline Combé, Project Director, Offshore Wind UK
NOTES	<ul style="list-style-type: none"> <li>• Reasons why they are in Scotland 1) It's discrimination-free, 2) Trust in administration and convincing decision-makers when you win a project, 3) Makes sense geographically as they partner BP.</li> <li>• [REDACTED]</li> <li>• Decision-makers need to be comfortable with risk. Only some elements can be influenced (regulations, relationship with government, etc.)</li> <li>• Appreciate the engagement with Scotland – particularly good [REDACTED] whole handling.</li> </ul> <p><b>ScotWind</b></p> <ul style="list-style-type: none"> <li>• True sense of collaboration in Scotland, feel heard – not “us” vs “them”. Unique, personal application process – got them thinking outside the box with their bid.</li> <li>• Common goal of SG with projects needs spelled out.</li> <li>• Leasing process – envisages fierce competition around supply chain; de-risking by securing crucial elements.</li> <li>• [REDACTED]</li> </ul> <p><b>Moving forward</b></p> <ul style="list-style-type: none"> <li>• Projects need to happen, supply to start – sustainable pipeline. 28GW pipeline is a strong incentive. <ul style="list-style-type: none"> <li>○ [REDACTED]</li> </ul> </li> <li>• Collaborative Framework / Strategic Investment Forum feels right. Projects well-chosen to serve each other and transparency on where things are going, but flex for developers to push certain things.</li> <li>• Local ship-building [REDACTED] needs a few projects. Well positioned to bring developers together.</li> <li>• Supply chain webinar (3 weeks ago) – platform for SMEs, teamed up with other East Coast developers. Good to do Meet the Buyer events, ensure long-term engagement.</li> </ul> <p><b>Hydrogen</b></p> <ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul>
[REDACTED]	<ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul>

## MEETING 6: 121 Meeting with North2Sea Hydrogen Farm

DATE	28 September 2022, 09:00-09:45
ATTENDEES	Andreas Wellbrock, Managing Partner
NOTES	<ul style="list-style-type: none"> <li>• <b>Consortium made up of family-owned businesses. Started working together early and partnered on the project.</b></li> </ul> <p><b>Partnership</b></p> <ul style="list-style-type: none"> <li>• [REDACTED]</li> <li>• Speaking to German companies working on O&amp;G to see how they're preparing for H2. Liquefied H2 and methanol are favourites.</li> <li>• Potential partner to Scottish companies looking for off-grid solutions (grid can be separate). [REDACTED]</li> </ul> <p><b>Production</b></p> <ul style="list-style-type: none"> <li>• Focus on Hydrogen transport, offtake and generation [REDACTED]</li> <li>• Platforms – consider storage, filling stations for ships, etc. More efficient if there is a centralised system [REDACTED]</li> </ul> <p><b>Cost competitiveness – [REDACTED]</b></p>
[REDACTED]	<ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul>

## MEETING 7: Meeting with Minister Dr. Rodriguez, Asturias, Spain

DATE	28 September 2022, 10:00-10:30
ATTENDEES	<p>Minister Dr. Enrique Fernandez Rodriguez, Minister for Industry, Employment and Economic Promotion</p> <p>Mrs. M<sup>a</sup> Belarmina Díaz (Director of Energy, Asturias)</p> <p>Mr. Juan Carlos Aguilera (Director of Industry, Asturias)</p> <p>Eva Pando Iglesias, Managing Director, Asturias Economic Development Agency</p> <p>[REDACTED], Investment Promotion, Asturias Economic Development Agency</p>
NOTES	<ul style="list-style-type: none"> <li>• Asturias is interested in Scottish experience in renewable energy, especially offshore wind, as it transitions from coal – responding to Scotland’s reputation as a pioneer and our presence as neighbours in the same Celtic region. It particularly wishes to develop diversified sources for reasons of security of supply. It is currently developing its opportunities in offshore wind, with three major sites earmarked for development, though it is not sure which it will take forward. There are no planning permissions yet, and they are hoping to start their first pilot project soon. It is likely that the auction process will take place at national level, with the national government providing permits. At the same time, they want to maximize the importance of the value chain for their region, and to ensure shared use of the sea.</li> <li>• Keen to hear Scotland’s experiences on building and maintaining relationships, e.g. with fishermen, and interested in any studies we could share with them.</li> <li>• Mr McKee outlined Scotland’s advantages in terms of natural resources (wind and deep waters) and 50 years’ of experience in offshore energy as many companies transitioned out of oil and gas. He noted that the Scottish Government had received positive feedback from developers and he that he would be happy to share experiences from recent Scotwind round. He advised on the importance of engaging other users of the sea positively from outset, making them feel involved and building trust.</li> <li>• Asturias keen to build relationships between our universities and research centres in the field of renewables. Keen to deepen communication through common mechanisms such as Vanguard, and cited presence of Asturian students at the University of Strathclyde. Mr McKee agreed on the importance of Vanguard, and additionally invited Asturias to visit Scotland, together with a business delegation. He noted the importance of innovation; of complementary elements, for example the robotics expertise at Edinburgh University; of securing jobs through the transition by working e.g. with equipment manufacturers; and of transitioning organisations, such as OGTC to the NZTC.</li> <li>• Minister McKee gave overview of Scotland’s future plans for offshore wind and hydrogen, noting our future to floating offshore which would enable us to use deeper waters and increase generation. By contrast with Scotland, Asturias envisages a maximum distance from shore of 25km. In particular it will need energy for industrial purposes – for its cement, paper, chemical and maritime industries, which all grew up around the coal industry, as well as heavy transport. It noted its strength in manufacturing electrolysers, with some companies working with Iberdrola, and the fact that it had won a major IPCEI project to produce renewable energy from biomass and waste for steel manufacture at AcelorMittal. Mr McKee noted the potential to store large amounts of CO2 in the North Sea, and that there were already licenses in place for this. He offered to establish contact with Storegga, and finally updated Asturai on INTOG, the Scottish Innovation and</li> </ul>

	Targeted Oil and Gas leasing round for offshore wind projects that will reduce emissions from oil and gas production, due to go live in a couple of weeks.
[REDACTED]	• [REDACTED]

### MEETING 8: 121 Meeting with Navantia

DATE	28 September 2022, 10:45-11:30
ATTENDEES	Javier Herrador del Rio, Navantia SEANERGIES, Vice President [REDACTED], Navantia SEANERGIES, Commercial and BD Director [REDACTED], Offshore Wind Commercial Manager (Jackets & Floating)
NOTES	<ul style="list-style-type: none"> <li>• Navantia have been collaborating with Harland &amp; Wolff, helping them to deliver on their projects.</li> <li>• They are prepared to establish in UK – speaking to ports over the UK and considering development in Scotland but finding a local developer is difficult (<i>costs issues</i>).</li> <li>• They would prefer a site with 8 hectares available, and ideally more – they have 11 hectares in Brest, France. <ul style="list-style-type: none"> <li>○ Minister flagged SDI can help understand ecosystem / provide any introductions. Recently met Harland &amp; Wolff.</li> </ul> </li> <li>• Navantia want to expand – considering locations, ideally onshore facility next to port. [REDACTED]</li> <li>• Consenting process is causing uncertainty.</li> <li>• Option to start work in Spain and finish in Scotland.</li> <li>• Navantia explained that they believed that local content should be enforced, otherwise companies will not feel obliged to deliver it.</li> <li>• They mentioned that they would be receiving an award at the UK Embassy on the 17<sup>th</sup> of October along with Harland &amp; Wolff</li> </ul>
[REDACTED]	• [REDACTED]

### MEETING 9: Individual Tour of Companies / Organisations

DATE	28 September 2022, 11:45-13:00
ATTENDEES	Delegations from Lhyfe, Elogen and ENGIE
NOTES	<p><b>Lhyfe</b></p> <ul style="list-style-type: none"> <li>• [REDACTED], who is originally from Sweden but knows UK operations well, although relatively new to the company. [REDACTED] from Project Development was also present.</li> <li>• [REDACTED] highlighted how quickly they are growing in size.</li> <li>• [REDACTED] referred to their [REDACTED] [REDACTED]operation in Newcastle and was keen to get them over to Scotland to understand opps better.</li> </ul> <p><b>Elogen GmbH</b></p> <ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul> <p><b>ENGIE Energy Management Solutions</b></p> <ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul>
[REDACTED]	• [REDACTED]

### MEETING 10: Engagement with Lower Saxony

DATE	15:00-15:30
ATTENDEES	<p>[REDACTED], Head of Foreign Trade, Investment Promotion, Marketing and Trade Fairs, Niedersachsen Ministry of Economic Affairs, Employment, Transport and Digitalisation;</p> <p>[REDACTED], Head of Energy &amp; Environment Investment Promotion at the above;</p> <p>[REDACTED], Senior Manager Marketing and Sales, Niedersachsen Ports;</p> <p>[REDACTED], UVN (Lower Saxony Business Associations) Project Manager for the Lower Saxony Hydrogen Network</p>
NOTES	<p>Following introductory comments from Mr McKee, [REDACTED], [REDACTED] and [REDACTED] for Scotland and Lower Saxony about the importance of our respective offshore wind and hydrogen sectors, and of partnership in developing the hydrogen sector, this business-to-business matchmaking event offered the opportunity for businesses on both sides to introduce themselves to the group and then network. New connections were established with the Lower Saxony Hydrogen Network and Lower Saxony Port Authority, building on connections already made for a Scotland-Lower Saxony hydrogen conference in early 2023. SDI had long discussions with hydrogen network representatives, and Aventus AI productive discussions with the port authority. [REDACTED]</p>
[REDACTED]	<ul style="list-style-type: none"><li>• [REDACTED]</li></ul>

### 3. Overseas Visits - Min BTTE - Germany - September 2022 - Briefing Pack - MASTER COPY

#### MINISTERIAL ENGAGEMENT BRIEFING: IVAN McKEE

<b>Engagement title</b>	Trade and Investment Visit to Germany
<b>Engagement timings</b>	Sunday 25 to Wednesday 28 September 2022 <i>See Section 1 – Programme Schedule</i>
<b>Accommodation</b>	<i>See Section 1 – Programme Schedule</i>
<b>Venue and full address</b>	<i>See Section 1 – Programme Schedule</i>
<b>Background/Purpose (including invitation history)</b>	<p>This ministerial visit programme was developed in response to an invitation to Scottish Ministers to open the hydrogen conference at WindEnergy Hamburg, to build relations with one of Scotland’s priority partner states for wind and hydrogen in Germany, and to build relationships in-market with potential investors, support export opportunities and raise Scotland’s profile internationally with business organisations and companies.</p> <p>The main thematic T&amp;I focus is on net zero / energy, most notably offshore and hydrogen. Please see the programme in Annex A for objectives of individual engagements.</p>
<b>Key Messages</b>	<ul style="list-style-type: none"> <li>• Scotland is an outward-facing European nation, has a strong relationship with Germany, and is committed to continuing to develop our economic, political and cultural connections.</li> <li>• There are substantial opportunities to grow international trade and investment between Scotland and Germany across a range of sectors and industries.</li> </ul>
<b>Relevance to core script</b>	<ul style="list-style-type: none"> <li>• Germany is a Priority 1 market in <i>A Trading Nation</i> and was ranked as Scotland’s 4<sup>th</sup> largest export destination in 2019, with exports worth £2.37 billion.</li> <li>• In terms of FDI, there were 190 German-owned businesses in Scotland, with a total reported turnover of £5.2 billion (as of March 2021).</li> <li>• Scotland has a hydrogen MOU with Hamburg since Nov 2021, based on sector development and future import/export.</li> </ul>
<b>Meeting attendees</b>	<i>See Section 1 – Programme Schedule</i>
<b>Comms handling</b>	@ScotGovGermany @ScotGovEconomy @ScotGovNetZero @ScotGovInter @HH_BWI @hamburg_de @ErneuerbareEHH @Hamburg_News_En
<b>Official support and mobile no.</b>	<i>See Section 1 – Programme Schedule</i>
<b>Ministerial car details</b>	<i>See Section 1 – Programme Schedule</i>

## SECTION 2 – MEETING BRIEFS

### BRIEFING NOTE 2: WIND ENERGY HAMBURG

<b>Engagement title / Organisation</b>	Attendance at Wind Energy Hamburg	
<b>Engagement timings</b>	26-28 September 2022	
<b>Venue and full address</b>	CCH-Congress, Center Hamburg Congressplatz 1, Hamburg	<b>Postcode</b> 20355
<b>Background/Purpose</b>	<ul style="list-style-type: none"> <li>• WindEnergy Hamburg is organised by Hamburg Messe and Congress GmbH, and hosts more than 1,400 exhibitors annually, attracting 35,000 visitors from 48 countries.</li> <li>• WindEnergy Hamburg focuses on addressing the major issues facing the international wind energy sector, providing a platform for planners, manufacturers, equipment suppliers, financiers and services providers to present innovative solutions in wind energy.</li> <li>• The H2 Expo &amp; Conference is being held in parallel with WindEnergy Hamburg on the same site, with both events forming an important meeting point for industry.</li> <li>• Dr Robert Habeck, German Vice Chancellor and Federal Minister for Economic Affairs and Climate Action, will open this year's WindEnergy Hamburg and H2 Expo &amp; Conference.</li> <li>• Mr McKee will provide a 15-minute speech, moderated by alongside Jürgen Pfeiffer on 27 September 2022, at 14:00.</li> </ul>	
<b>Briefing contents</b>		
Annex A – Biographies of potential attendees		

## ANNEX A

### BIOGRAPHIES OF POTENTIAL ATTENDEES

The below list includes key attendees you are likely to meet over the course of the three days at Wind Energy Hamburg.



**Till Mansmann** has served as Innovation Commissioner for Green Hydrogen at the German Federal Ministry of Education and Research (BMBF) since 10 August 2022. The position was created as part of the National Hydrogen Strategy of 2020. Till is responsible for directing the focus of the BMBF's relevant research, development and transfer activities. He cooperates with key stakeholders in politics, industry and science and contributes new ideas to public discourse. Before becoming a member of the Bundestag in 2017, Till worked as an editor at a medium-sized specialist publisher. Till is married and has a daughter.





**Patrick Graichen** has been the State Secretary at the Federal Ministry for Economic Affairs and Climate Action since 15 December 2021. From 2014 to 2021, Patrick was Executive Director and Managing Director of energy think tank Agora Energiewende. Patrick studied economics and political science, earning a Ph.D. on the topic of municipal energy policy at the University of Heidelberg.



**Stefan Wenzel** Stefan was appointed Parliamentary State Secretary to the Federal Minister for Economic Affairs and Climate Action on 14 June 2022. He has been a Member of the German Bundestag since 2021 (constituency: Cuxhaven-Stade II, near Hamburg). Prior to this, the agricultural economist was a member of the Landtag of Lower Saxony from and Lower Saxony's Environment Minister from 2013 to 2017.



**Jens Kerstan** has been Hamburg state Senator for Environment, Climate, Energy and Agriculture since 2020, having previously been Senator for Environment and Energy since 2015.

From 2008 to 2015 Kerstan was chairman of the Green parliamentary group in the Hamburg State Parliament, and group spokesman for environment, energy and climate issues, as well as for budget and economy issues. An economist by profession, he was marketing project manager for a global supplier of technologies and consultancy services prior to joining the parliament in 2002. From 1995 to 2011 he was also chairman of a nature conservation organization in Hamburg.



**Dr. Carsten Rolle**, met with Mr McKee during COP26 in Glasgow. Dr. Rolle is Head of Climate and Energy Policy at the Bundesverband der Deutschen Industrie (BDI, **Federation of German Industry** and Chair of German chapter of the World Energy Council. Dr. Rolle is a key advisor to the German Government on Hydrogen and will be visiting the WEC in Aberdeen 11-13 October 2022.



**Mairi Kusch** is Head of Office at World Energy Council Germany with a focus on the global hydrogen market, on national hydrogen strategies, and on global hydrogen partnerships. Previously, Mairi was a Senior Consultant for energy, environment and mobility at the EPA European Berlin Brüssel Political Affairs GmbH, a strategic consultancy based in Berlin. Mairi has also worked as a Policy Advisor for Matthias Groote, MEP, in the Committee on the Environment of the European Parliament in Brussels and Strasbourg.



**Jan Rispens** - MD of EEHH ((Erneuerbare Energien Hamburg / Hamburg Renewable Energy Cluster) since its inception ten years ago - responsible for the Hamburg cluster strategy, representation (including at national level), political engagement and networking.

The renewable energy cluster brings together more than 190 renewable energy companies, research facilities and institutions from the Hamburg metropolitan region. Over the past three years it has extended its original focus on (offshore) wind to include hydrogen. Jan signed an MOU with the Scottish Hydrogen and Fuel Cell Association (SHFCA) on behalf of EEHH in April 2022

**[REDACTED]**

Two people whom you may additionally wish to pull into conversations throughout the three days who have detailed knowledge of the hydrogen and offshore wind sectors in Scotland would be:

**[REDACTED]**

**[REDACTED]**

### BRIEFING NOTE 3: EVENING VIP RECEPTION

<b>Engagement title / Organisation</b>	WindEnergy Hamburg Welcome Reception	
<b>Engagement timings</b>	26 September 2022 18:30 Admission 19:00 Welcome addresses & show followed by networking	
<b>Venue and full address</b>	CCH-Congress, Center Hamburg Congressplatz 1, 20355 Hamburg	20355 Hamburg
<b>Background/Purpose</b> (including invitation history)	<p>Welcome reception on the eve of the trade fair to celebrate the return of WindEnergy Hamburg post-pandemic.</p> <p>Opportunity to hear key messages from Hamburg and to meet other attendees, including key hydrogen contacts.</p> <p>Event will also feature as its Show Act the renowned Catalan theatre group 'La Fura dels Baus'</p> <p>This will also be an opportunity to engage with Vice Chair of California Energy Commission (CEC), Siva Gunda.</p>	
<b>Meeting attendees</b>	<p><b>Speakers are:</b></p> <ul style="list-style-type: none"> <li>- Bernd Aufderheide – President &amp; CEO, Hamburg Messe</li> <li>- First Mayor Dr Peter Tschentscher – President of the Senate of the Free and Hanseatic City of Hamburg</li> <li>- Hugo Buis – Vice-President Offshore Wind EMEA, Shell</li> </ul> <p>Other attendees are likely to include:</p> <ul style="list-style-type: none"> <li>- Hamburg Environment Minister Senator Kerstan</li> <li>- Representatives from other German states, federal German state secretaries and international ministers</li> <li>- German Commissioner for Green Hydrogen Till Mansmann</li> <li>- [REDACTED] and colleagues from the Bundesverband der Deutschen Industrie and the World Energy Council.</li> </ul> <p>Scottish attendees will include:</p> <ul style="list-style-type: none"> <li>- [REDACTED]– Head of SG Hub in Germany</li> <li>- [REDACTED]– SDI Global Business Development Specialist</li> <li>- [REDACTED]– SDI Regional Manager &amp; Head of Energy Trade EMEA</li> <li>- [REDACTED] – SDI Trade Specialist Energy and Low Carbon Transition</li> <li>- [REDACTED]– SDI Renewables and Low Carbon Specialist</li> <li>- [REDACTED]– SDI Business Development Executive</li> </ul>	
<b>Strategic Context / Broader opportunity – incl. Key Messages</b>	<ul style="list-style-type: none"> <li>• Although relatively small, though with an economy roughly the same size and Denmark's, Scotland has potential to make a significant contribution to Europe's green energy transition and energy security.</li> <li>• Scale of Scotland's potential; location just across the North Sea - more potential both to share expertise and develop the sector more quickly, and export substantial amounts of green H2.</li> </ul>	

	<ul style="list-style-type: none"> <li>• Wind power is the game changer in Scotland’s sustainable ambitions, and will be central to achieving our net-zero emissions target by 2045.</li> <li>• ScotWind will deliver a new era in Scotland’s offshore wind industry, representing the world’s largest commercial round for floating offshore wind and breaks new ground in putting large-scale floating wind technology on the map at Gigawatt scale.</li> </ul>
<b>Official support and mobile number</b>	<p>[REDACTED]</p> <p>To note: Members of Team Germany will be looking for key contacts in the room in order to make introductions</p>
<p><b>Briefing contents</b>  <b>Annex – Recent Engagements and Biographies of Speakers</b></p>	

**ANNEX A**

**RECENT ENGAGEMENTS**

- Cabinet Secretary Matheson signed a Hydrogen MOU with Hamburg in November 2021. SHFCA and the Renewable Energy cluster EEHH signed an MOU in April 2022.
- You last visited Hamburg in December 2008 and met with the Economy Senator (unfortunately absent from Hamburg this week), the Institute of International Economics, Hamburg Chamber of Commerce, Corinne Nienstedt, Senate Head of International Relations, investors TÜV SÜD, HH Dresdener and Siemens Gamesa, and the Honorary Consul and You also spoke at an event with British Chambers of Commerce on “Scotland’s Future Relations with Europe.

**BIOGRAPHIES OF SPEAKERS and CEC Vice-Chair**



**Bernd Aufderheide** has been CEO of Hamburg Messe und Congress GmbH (HMC) since January 2004. He was appointed President of HMC in April 2007. He was born in Herford, North Rhine-Westphalia in 1959, is married and has one son. He is also an honorary Commercial Judge in Hamburg, holds the rank of Frigate Commander in the Navy Reserve, and serves on the Executive Committee of half a dozen professional associations, societies and organisations.



**Peter Tschentscher** was elected as mayor of Hamburg in 2018. He holds a degree in human medicine and a PhD molecular biology. From 1994 to 2006 Peter worked as a medical assistant in the fields of laboratory medicine and medical microbiology. Peter has been a member of the Social-Democratic Party SPD since 1989. In 1999 he joined the district assembly of Hamburg North and took over leadership of the SPD group. In 2008 he ran in the provincial elections in Hamburg and became one of the three leaders of the SPD parliamentary group. In 2011 Peter was appointed Finance Senator of Hamburg.



**Hugo Buis** was previously GM Commercial Offshore Wind at Shell, with responsibility for Offshore Wind Development, before becoming the Vice President Offshore Wind Power EMEA in June 2022.



**Vice Chair Siva Gunda, California Energy Commission (CEC)**

Governor Gavin Newsom appointed Gunda in February 2021 to serve as the Energy Commission’s public member. Gunda was later appointed to Vice Chair in September 2021. He is the lead commissioner on energy assessments. Gunda served as manager of the Demand Analysis Office and deputy director for the Energy Commission’s Energy Assessments Division. The division forecasts and assesses energy demands and supplies. He holds a master of science in mechanical and aeronautical engineering from Utah State University. Gunda is pursuing his Ph.D. in mechanical engineering from UC Davis.

## BRIEFING NOTE 4: 121 MEETING WITH DEUTSCHE WINDTECHNIK

<b>Engagement title / Organisation</b>	<b>Meeting with Deutsche Windtechnik</b>
<b>Engagement timings</b>	Tuesday 27th September 2022, 10:00 -10:45am
<b>Venue and full address</b>	<b>Marseille 3 Meeting Room</b> Hall B3 Hamburg Messe
<b>Background/Purpose</b> (including invitation history)	<p>Deutsche Windtechnik employ 2,000 people globally, with a focus on maintenance. The company opened their UK operations in Edinburgh in 2015 and has hired over 80 people in recent years (total staff of 129) and has ambitions to grow. Deutsche Windtechnik is known as an exemplar employer, keen to hire, retain and develop employees for a lifetime.</p> <p>Deutsche Windtechnik is bringing the company's flexible maintenance offering to the UK's offshore market and wants to get closer to local customers and the offshore wind farms off the coast.</p> <p>The business mainly focuses on onshore wind, this division is directed by Jason Welch. Deutsche WintechNIK's business model is to offer operation and maintenance contracts for wind parks after the OEM guarantees expire. [REDACTED]</p> <p>Deutsche Windtechnik is a subsidiary of WPD AG an important offshore wind developer (with a project pipeline of &gt;30GW and a staff of 3,600). The company is a member of the WAB cluster (<i>WAB just signed an MOU with the DeepWind cluster</i>)</p>
<b>Meeting attendees</b>	<p>Carl Rasmus Richardsen, Chief Executive Officer [REDACTED], Country Manager UK [REDACTED], International business developer</p>
<b>Strategic Context / Broader opportunity – incl. Key Messages</b>	<p><b>Discuss offshore wind branch in Scotland</b></p> <ul style="list-style-type: none"> <li>• Deutsche Windtechnik's service portfolio for offshore wind includes all kind of services prior to construction, during construction and the operational phase of the offshore windfarm.</li> <li>• SDI has engaged with HQ in Bremen and Edinburgh operations for past 7 years but keen to use this meeting to discuss the potential to grow offshore wind branch in Scotland. Rosie Beevor is Country Manager for Deutsche Windtechnik Offshore and will be at the meeting.</li> </ul> <p><b>Discuss investing in skills and talent</b></p> <ul style="list-style-type: none"> <li>• High-potential for further growth in Scotland [REDACTED]</li> <li>• With only 200 employees active in offshore maintenance, training new employees in this field is high on their agenda.</li> <li>• [REDACTED]</li> </ul>

	<ul style="list-style-type: none"> <li>• Good opportunity to discuss what support SDI/SDS can provide to the company to ensure they continue to attract and grow their staff in Edinburgh than rUK.</li> </ul>
<b>Official support and mobile number</b>	<p>[REDACTED], Trade Promotion Policy Officer, DITI Tel: [REDACTED]</p> <p>[REDACTED], SDI, Global Business Development Specialist Tel: [REDACTED]</p> <p>[REDACTED], SDI, Lead Generation Tel: [REDACTED]</p>
<b>Briefing contents</b>	<b>Annex A – Recent Engagements &amp; Bios</b>

**ANNEX A**

**RECENT ENGAGEMENTS**

- SDI last meeting with Jens Landwehr at Windforce offshore wind conference in Bremerhaven (June 20<sup>th</sup> 2022) conference (WAB conference) regarding new developments and growth in Scotland.
- SDI met with [REDACTED] (Head of Business Development Deutsche Windtechnik Offshore und Consulting GmbH) at HQ in Bremen in October 2021.

**BIOGRAPHIES**



**Carl Rasmus Richardsen, Chief Executive Officer**

From 2007-2012, Carl was Managing Director of **Windstrom Service SH GmbH**. After only one year working as Aftersales Manager at Deutsche Windtechnik, he became Managing Director and Head of Sales at **Deutsche Windtechnik Offshore und Consulting GmbH** in 2013. The foundation and formation of the Taiwanese subsidiary of Deutsche Windtechnik is the latest milestone in the company’s history and career of Carl Rasmus Richardsen.

[REDACTED]

[REDACTED]

## BRIEFING NOTE 5: POLITICAL SUMMIT AND VIP TOUR

<b>Engagement title / Organisation</b>	Political Summit and VIP Tour	
<b>Engagement timings</b>	Tuesday, September 27th 11:00-12:30 (10:45 admission)	
<b>Venue and full address</b>	Chicago Room	<b>Postcode</b>
<b>Background/Purpose</b> (including invitation history)	<p>Opening WindEnergy political summit, followed by VIP tour of trade fair. Opportunity during tour for brush-by with Federal Minister Habeck to:</p> <ul style="list-style-type: none"> <li>• outline Scotland's strengths and potential to make an important contribution to Germany's green hydrogen imports and energy security;</li> <li>• make the case for Scotland being included in Germany's list of import countries; and</li> <li>• highlight to Habeck the Scotland-Germany conference that is being planned for early next year.</li> </ul> <p>Also an opportunity to make other key connections.</p>	
<b>Meeting attendees</b>	<p><b>Master of Ceremony: Jürgen Pfeiffer</b></p> <p><b><u>Keynotes - Total: 45 minutes</u></b></p> <p><b>Welcome</b> Bernd Aufderheide, CEO Hamburg Messe and WindEnergie Hamburg</p> <p><b>Keynote Speakers</b> <b>Robert Habeck</b>, Federal Minister for Economic Affairs and Climate Action, Germany</p> <p><b>Fatih Dönmez</b>, Minister of Energy &amp; Natural Resources, Turkey</p> <p><b>State Secretary Andreas Bjelland Eriksen</b>, Ministry of Petroleum and Energy, Norway</p> <p><b><u>Panel of industry leaders - Total: 45 minutes</u></b> Moderator: Jürgen Pfeiffer Topics:</p> <ol style="list-style-type: none"> <li>1. The need for systemic change and how we can deliver that</li> <li>2. Reference to the global manifesto</li> </ol> <p>Industry speakers tbc</p> <ul style="list-style-type: none"> <li>• GWEC: still under discussion</li> <li>• WindEurope: Cordi O'Hara National Grid Ventures</li> <li>• VDMA: Anna Beranek Global Head of Communications and Government Affairs at Siemens Gamesa</li> <li>• BWE: Bärbel Heidebroek VP / Landwind</li> <li>• Shell: still under discussion</li> </ul>	



<b>Strategic Context / Broader opportunity – incl. Key Messages</b>	<p>Audience member at live event on stage with recording (no live streaming) and opportunity for VIP tour with Robert Habeck immediately afterwards</p> <ul style="list-style-type: none"> <li>• Although relatively small, though with an economy roughly the same size and Denmark's, Scotland has potential to make a significant contribution to Europe's green energy transition and energy security.</li> <li>• Scale of Scotland's potential; location just across the North Sea - more potential both to share expertise and develop the sector more quickly, and export substantial amounts of green H2.</li> <li>• [REDACTED]</li> </ul>
<b>Supplementary information/ Sensitivities</b>	<ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul>
<b>Official support and mobile number</b>	[REDACTED]
<b>Briefing contents</b> Annex – Biographies	

## ANNEX A

### BIOGRAPHIES



#### **Robert Habeck, German Vice Chancellor & Minister for Energy and Climate Action**

Elected **co-leader of the German Green Party**, alongside **Annalena Baerbock**, the current Foreign Minister, in January 2018. Member of the Bundestag for Flensburg in the north of Germany, making him sympathetic to our renewable energy interests.

Prior to his current role, Habeck was chairman of the Alliance'90/The Greens group in Schleswig-Holstein (SH); member of the SH state parliament from 2009; re-elected as his party's top candidate in SH in 2012 and SH Deputy Prime Minister and State Minister for Energy, Agriculture, Environment and Rural Areas.



**Jürgen Pfeiffer** has 25 years of experience in radio, business and TV as a moderator. He has specialised hydrogen for the last 2-3 years. Jürgen was previously an editor and chief at ARTE France (a cultural TV channel) for a weekly European show. He has also worked as correspondent in the capital on TV for the RTL Nachtjournal. Jürgen also has also worked as a press spokesman at Ferrari and TetraPak.

[REDACTED]



**Fatih Dönmez** was appointed as Turkey's Minister of Energy and Natural Resources in 2018. Fatih previously held executive positions in energy and telecom firms, and initially worked as an R&D engineer at NETAŞ, a telecommunications equipment company. In 1987, he graduated from Yildiz Technical University's Electrical Engineering Department. Fatih was appointed as Board Member of Türkiye's Energy Market Regulatory Authority (EMRA) in 2008, and later as Presidium Member of the Energy Regulators Regional

Association (ERRA). He oversaw the preparation of the ERRA strategy paper and took part in supply security committees. Fatih was appointed as Undersecretary of the Ministry of Energy and Natural Resources in December 2015.



**Andreas Bjelland Eriksen** has been Norway's acting State Secretary at the Ministry of Petroleum and Energy since 1 August while State Secretary Amund Vik is taking paternity leave. Andreas was previously an Economist at The Norwegian Energy Regulatory Authority (RME) working on tariffs, connection charges, prosumers, the clean energy package and European regulatory cooperation. Andreas holds a Masters degree in Economics and Economic Analysis from the Norwegian School of Economics (NHH) and a Masters in Law from the University of Oslo.



**Lord Callanan** was appointed Parliamentary Under Secretary of State at the Department for Business, Energy and Industrial Strategy on 14 February 2020.

## BRIEFING NOTE 6: OPENING SPEECH AT HYDROGEN CONFERENCE

<b>Engagement title / Organisation</b>	Opening of Hydrogen Conference at WindEnergy Hamburg Conference	
<b>Engagement timings</b>	27 September, 14:00-14:30	
<b>Venue and full address</b>	H <sub>2</sub> EXPO & CONFERENCE Stage Hamburg Messe Messeplatz 1 Hamburg	<b>Postcode</b> 20357 Hamburg
<b>Background/Purpose</b> (including invitation history)	Minister McKee will provide a 15-minute speech during the official opening ceremony of the 2022 WindEnergy Hamburg conference on at 14:00. This will run straight into the ii) subsequent panel discussion 14:30-15:30 (see Briefing Note 7)  <b>Fatih Dönmez</b> , Turkish Minister of Energy & Natural Resources will speak for 10 minutes following Mr McKee's opening remarks.	
<b>Meeting attendees</b>	Moderator Jürgen Pfeiffer Attended by conference audience, in person and online	
<b>Strategic Context / Broader opportunity – incl. Key Messages</b>	Context: Hamburg is a key partner for Scotland in developing the import/export of green hydrogen. Scotland and Hydrogen signed a hydrogen MOU in November 2021; followed by a hydrogen MOU between SHFCA and the Hamburg renewable energy cluster EEHH in April 2022.  Key messages: <ul style="list-style-type: none"> <li>• Scotland as a geographically close and reliable partner that is advanced in its preparations for the production of green hydrogen; part of the solution to current energy security and climate issues</li> <li>• Keen to engage in practical partnership with Germany and north sea allies to develop the sector more quickly and facilitate speedier imports using our resources and north sea infrastructure.</li> <li>• Positioning of Scotland as a north sea hub.</li> </ul>	
<b>Supplementary information/ Sensitivities</b>	<ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul>	
<b>Official support and mobile number</b>	[REDACTED] will accompany you from your previous meeting, tel. [REDACTED]	
<b>Annex A – Recent Engagements</b>		
<b>Annex B – Suggested Speech</b>		

### ANNEX A

#### RECENT ENGAGEMENTS

MOU signed with HH in Nov 2021 by Mr Matheson with the Economy and Energy & Environment Ministries. Action plan in place, to be developed on an ongoing basis; trade delegation April 2022 etc.

Mr McKee last visited Hamburg December 2018, pre-COVID and met Economy Minister, Senator Westhagemann, who is sadly not in Hamburg this week. However, his Environment and Energy colleague, Senator Kerstan (Green), who also co-signed the MOU with Senator Westhagemann is, and may be present.

- Before Mr McKee's speech, there will be a panel discussion on energy security and the clean energy transition in Europe, addressing the growing demand for raw materials required for green technology. Among the panellists are Sven Utermöhlen, Chairman WindEurope and CEO Offshore Wind RWE Renewables, and Claudia Grotz, Siemens Gamesa Renewable Energy Head of Public Affairs Europe.
- After Mr McKee's speech, there will be a panel event on ensuring an environmentally and socially sustainable supply chain. Notable panellists are Melanie Welzel, Head of Global Sustainability of the Nordex Group, and Ivan Pineda, WindEurope's Director of Innovation.

## ANNEX B

### **Geopolitics, security of energy supply, supranational collaboration: What's in it for hydrogen?**

#### **Introduction**

Danke schön Herr Pfeiffer.

Lieber Herr Pfeiffer, meine lieben Damen und Herren, vielen Dank für die Ehre, diese Wasserstoff-konferenz zu er-öff-nen und die Mög-lich-keit, zum Thema En-er-gie-sicher-heit, inter-nation-ale Kolla-bor-ation, und Wasser-stoff zu sprechen. [(Depending on introduction from Herr Pfeiffer): My name is Ivan McKee; I am the Scottish Government Minister for Business, trade, Tourism and Enterprise; and] I am delighted to welcome you to this special hydrogen conference at WindEnergy Hamburg.

I was last in Hamburg for business shortly before the COVID pandemic and am struck by the scale and energy of this conference. We are only halfway through Day 1, and already we have had a major networking reception; a political summit; and several excellent sessions on this stage and across all the halls.

I would like to thank Mayor Tschentscher and the city of Hamburg, as well as the trade fair organisers for their hard work in bringing this conference together [and Minister Habeck for the commitment and urgency of his words this morning]. I am impressed by the energy and drive on display here today, and the urgency of our discussions. It is so good and so important to be engaging in person again after the restrictions imposed by COVID.

We are in a very different world to when I was last in Hamburg. Yes, I discussed the potential of offshore wind and renewable energy with Senator Westhagemann. And yes, the Scottish sector was already looking to large-scale renewable production and was involved in ground-breaking green hydrogen projects – already navigating the energy transition for mobility, industry and heat for climate reasons. As early as 2019, the Scottish Government enshrined in law its target to become climate-neutral by 2045.

Yet now, it is clear that we are at an even more critical juncture in Europe's energy transition, with geopolitical events accelerating efforts to reduce fossil fuel consumption and to cut reliance on Russian oil and gas.

This has increased the urgency and ambition to scale up hydrogen production and use in Europe to support the transition.

Now, more than ever, it is hugely important that we work collaboratively to capture the scale of the opportunity – to share expertise, develop the sector, and facilitate the growth of the global hydrogen market.

In that spirit, I welcome the opportunity to speak to you today about the important role that hydrogen, and Scottish hydrogen in particular, can play in decarbonising our economies and ensuring security of energy supplies. Scotland is part of the solution, and we believe that we have the capacity, know-how and experience to play an important role.

### **Geopolitics and security of energy supply**

As I've already touched on, the ongoing conflict in Ukraine has generated a shift in the drive behind the energy transition. Europe now faces an energy trilemma – with the need to balance cost, meet climate and environmental goals and, now, to ensure energy security.

This new energy backdrop has resulted in increased momentum within Scotland, and across Europe, and renewed impetus to promote the deployment of renewable energy at pace in support of energy resilience.

On the 14<sup>th</sup> of September, the European Parliament voted in favour of a 45% target for renewable energy in the EU's energy mix by 2030 – higher than the 40% previously agreed by Member States in June and testament to the pace at which the transition is now moving.

The scale of this challenge is matched by the scale of opportunity it creates, and it is clear that hydrogen will play a leading role sooner than anticipated as we speed up the development of a European hydrogen market and the transition to net zero.

Fortunately for the climate agenda, new assessments suggest that the costs and time-lines for green hydrogen projects are now more competitive than for blue hydrogen projects, and that importing green hydrogen will be cheaper than producing grey or blue hydrogen in the EU by the time capacity comes on-line in 2024.

Even before recent events, the development of the green hydrogen economy was a top priority for Scotland, and we have welcomed the opportunity over the past ten years to work with other countries in Europe.

Such supranational collaboration is needed now more than ever to recognise the strengths offered by each country and the role we can all play in our future energy system

### **Scotland and hydrogen**

Like many countries in Europe and around the world, Scotland has been ambitious in our plans for the development of the hydrogen sector.

Scotland has led the way in a number of world-first and world-class green hydrogen demonstration projects, including the pioneering hydrogen bus fleet in Aberdeen and the world's first hydrogen production from tidal energy in Orkney.

For around 15 years, we have been building up co-located centres of supply and demand and have been cementing our reputation as a nation that can foster emerging sectors and get things done.

We are embracing the development of a hydrogen economy in Scotland as a top national priority, using our geographical advantage in our long North Sea and Atlantic coastlines, our deep waters and our high wind levels.

Wind power is the game changer in Scotland's sustainable ambitions, and will be central to achieving our net-zero emissions target by 2045.

Scotwind is the world's largest offshore wind leasing round. The combined ambition from ScotWind projects could deliver up to 27.6 GW of offshore wind. Coupled with our existing pipeline of offshore wind projects, onshore wind, marine and solar, Scotland's potential for renewable generation over the coming decades is great.

This, combined with our close proximity to the northern European mainland, skilled technicians and experienced offshore workforce, means we are very well positioned to support the energy supply of our neighbours in Europe through the export of hydrogen and hydrogen-derived products such as ammonia.

In fact, our economic analysis from 2020 concluded that Scotland has the potential to deliver up to 126TWh of green hydrogen per year by 2045, with up to 94TWh of hydrogen for export to the rest of the UK and Europe.

Scotland is committed to playing a key role in meeting the growing demand for hydrogen from import countries such as Germany, and our hydrogen export plan is already under development.

We recognise the importance of establishing and supporting both public and private sector partnerships to develop tangible projects along the whole hydrogen value chain. These partnerships will be key to unlocking large-scale hydrogen production and development of practical export routes from Scottish ports into northern Europe.

To support this, I am pleased to announce that we have today published a Scottish Hydrogen Investment Proposition that promotes the compelling case for investment in hydrogen in Scotland and our potential for exporting surplus green hydrogen.

### **Supranational collaboration**

The opportunity to produce and export hydrogen at-scale is clearer and more compelling than ever. Scotland is open to the world and is actively seeking opportunities to collaborate with international partners to develop the skills, supply chains, and technical requirements that will underpin our hydrogen economies.

This is why we were delighted to sign an MOU on cooperation in green hydrogen and hydrogen technologies with Hamburg in November 2021. This will enable us to develop our respective hydrogen economies more quickly, to build on potential green hydrogen import/export links between Scotland and northern Germany, and to engage with each other on broader European and international infrastructure issues as appropriate.

Building on this government-to-government framework, our Scottish Hydrogen and Fuel Cell Association signed a cluster-level agreement with the Hamburg Renewable Energy Cluster in April this year. I'd like especially to thank the Hamburg Cluster's CEO, Dr Jan Rispens, for his team's productive engagement. Needless to say, I look forward to developing many projects together across hydrogen research, production and infrastructure.

Linked to this, we are committed to collaborating with key ports along the northern European coastline, including the Ports of Hamburg and Wilhelmshaven. Here we want to help develop the relationships and infrastructure required and to ensure that Scotland's export and the northern European mainland's import infrastructures are compatible.

The last year has seen collaboration between Scotland and Germany on the feasibility of exporting renewable hydrogen from Scotland to offtakers in Northern Germany through the Scot2Ger project feasibility study.

The first phase of the Scot2Ger study confirmed that Scotland has the capability to supply green hydrogen and derivatives to Germany as early as the 2025. It also demonstrated the feasibility of building the full supply chain, paving the way for further exploration of hydrogen export from Scotland.

Research collaboration is also vital. Our Scottish Government-funded Scotland-Germany Hydrogen Research Scheme has demonstrated the value of establishing lasting research partnerships between Scotland and Germany with a focus on optimising the large-scale production, storage and transportation of green hydrogen.

We are now following this up with the first tranche of our hydrogen investment programme, a £10m Hydrogen Innovation Scheme, which opened in June and is supporting the production, storage and integration of renewable hydrogen in our energy system. My hope is that some of Hamburg's universities and others across northern Germany are preparing bids with their Scottish partners.

In the coming year, we will continue to work closely with our partners in the Under2 Coalition - the largest global network of states, regions, provinces and other subnational governments committed to taking action to limit global temperature rise - by co-leading a hydrogen taskforce as part of the Net Zero Futures Forum.

The hydrogen taskforce will provide a platform for dialogue on the practical challenges of developing our domestic and international hydrogen economies. Scotland's First Minister is currently the European co-chair of the Under2 Coalition and would be pleased to welcome Hamburg into the coalition and onto the taskforce, along with other German Länder [Lender] Under2 members.

The importance of developing the hydrogen economy has made this kind of renewable energy and hydrogen-specific partnership even more critical as we seek to develop tangible projects along the whole hydrogen value chain.

As part of this, we very much look forward to working ever more closely with Hamburg and others in pursuit of our shared hydrogen ambitions, including further exploration of the potential to use LOHC to transport hydrogen from Scotland to Europe safely, reliably and at a cost competitive price.

## **Conclusions**

As I've outlined, Scotland has incredible potential for large-scale hydrogen production that can play a critical role in the decarbonisation of key sectors of the economy in Scotland and emerging markets across Europe and in increasing our energy resilience and autonomy.

We also recognize that none of us can achieve this on our own. A strong hydrogen economy can only be obtained through a decades-long collective effort from industry, Governments and communities working together, nationally and internationally.

I hope that my remarks today have demonstrated our commitment in Scotland to working in partnership to accelerate the growth of the global hydrogen economy and our mutual transition to net zero, and that over the coming days, many of you have the opportunity to develop new connections with Scotland.

We not only have a Scottish delegation here in Hamburg this week, led by Scottish Development International and including the heads of our Scottish Hydrogen and Fuel Cell Association and our Deep Wind cluster, [REDACTED] and [REDACTED].

We also have a permanent team in Germany, led by [REDACTED] for the Scottish Government in Berlin, and [REDACTED] for SDI in Düsseldorf, working with renewable energy and hydrogen experts [REDACTED], [REDACTED] and [REDACTED]. Please do engage with them about the Scottish hydrogen sector, as well as how to engage with our companies and enterprise agencies as we look to build this new economy together.

In closing, I would like to thank Hamburg Messe for inviting me here today, in particular Herr Engelke [N-gell-kə] for his work in organising this *hydrogen* conference so well. I hope we each go away having discovered new opportunities, made valuable new connections, and feeling buoyed up and inspired for the months and years ahead.

This is a long-term, fundamental shift that we are negotiating, and one that will be so much faster, deeper, and successful in securing our climate goals and energy security if we work together to secure the hydrogen economy.

Thank you very much.



## BRIEFING NOTE 7: PANEL DISCUSSION “SAFE ENERGY SUPPLY AND GEOPOLITICS

<b>Engagement title / Organisation</b>	Panel discussion as part of opening ceremony of the Hamburg Hydrogen conference
<b>Engagement timings</b>	27 September 2022, 14:30-15:30
<b>Venue and full address</b>	H2 Expo & Conference Stage (Hall A2)
<b>Background/Purpose</b> (including invitation history)	Panel discussion on hydrogen development in context of geopolitics and secure energy supply.
<b>Meeting attendees</b> (Panel discussion participants)	<b>Jürgen Pfeiffer</b> , Moderator <b>Dr. Kirsten Westphal</b> , Member of German National Hydrogen Council and of H2Global Board. Executive Director Analysis & Research at H2Global <b>Peter Röttgen</b> , Member of Fortnum Germany Management Board <b>Jens Müller-Belau</b> , Shell MD and General Manager <b>Fatih Dönmez</b> , Turkish Minister of Energy & Natural Resources
<b>Strategic Context / Broader opportunity – incl. Key Messages</b>	A per preceding speech
<b>Official support and mobile number</b>	[REDACTED]
<b>Briefing contents</b> <b>Annex A</b> – Biographies and Recent Engagements <b>Annex B</b> – Q&A Speaking Points <b>Annex C</b> – Background Briefing	

## RECENT ENGAGEMENTS

As per BRIEFING NOTE 5: POLITICAL SUMMIT AND VIP TOUR.

### **Session Logistics**

After a short personal introduction of all panel guests, moderator Jürgen Pfieffer will ask each of them in turn for a short, approx. 1.5-minute position statement on the question under discussion (Geopolitics, security of energy supply, supranational collaboration: What's in it for hydrogen?). JP's wishes all panellists to feel immediately invited to respond directly to the answers of other panel members without waiting for an invitation. He will then provide the panel with some facts and figures in order to define a common 'level playing field' so that all are discussing on the same terms.

The subsequent debate and associated dynamics will then depend very much on the participants. [REDACTED]

## BIOGRAPHIES

**Jürgen Pfieffer**, Moderator – please see BRIEFING NOTE 5: POLITICAL SUMMIT AND VIP TOUR.



**Dr. Kirsten Westphal**, Member of German National Hydrogen Council and Executive Director of H2Global Stiftung Westphal leads the independent Analysis & Research Division at H2 Global Stiftung, where she is Executive Director. Between 2008-2021, Kirsten was an expert for International Energy Relations and Global Energy Security at the government think-tank *Stiftung Wissenschaft und Politik* (SWP). She was a Member of the Expert Panel to the Global Commission on the Geopolitics of Energy Transformation between 2018-19 and contributed to the Commission's Report *A New World*, published 2019. Since 2015, Dr. Westphal has been conducting a series of Track 2 dialogues with Russia and Poland, supported by the German Federal Foreign Office. She has experience in international election observation missions of the OSCE and EU. She moderated for an event co-hosted by Scotland Hub Germany, Scotland House Brussels, and Baden-Württemberg in March 2021. She will be participating per video-conference.



In 2019, **Dr. Peter Röttgen** was appointed Vice President of Public Affairs in Germany within the Fortnum Corporation; a leading clean energy company. Dr. Röttgen focuses on advocacy and developing relationships with German political interest groups at federal and state level. Dr. Röttgen previously headed the German Renewable Energies Association and worked for E.ON, later Uniper, with a focus on energy storage and research and development. Dr. Röttgen also has extensive experience in the public sector.



**Jens Müller-Belau** became Managing Director and General Manager at Shell, Hamburg in 2018. He has since coordinated all activities related to the energy transition as Energy Transition Manager. Jens managed Shell research in Germany as Managing Director of Shell Global Solutions GmbH. Jens Müller-Belau was also active on the supervisory board of CRI Deutschland GmbH, Shell's catalyst production facility based in Leuna.

**Fatih Dönmez**, Turkish Minister of Energy & Natural Resources – Please see BRIEFING NOTE 5: Political Summit and VIP TOUR.

## **ANNEX B**

### **Q&A SPEAKING POINTS**

#### **Hamburg Q&A**

##### **Session Logistics**

To begin, all panellists will be invited to speak for 1.5 minutes on the panel topic, before a facilitated discussion. It is then expected that panellists will each be given 30 seconds at the end of the session to make any final closing remarks.

##### **Introduction – Key Messages (one minute)**

- It is clear that, in light of geopolitical events, we need to move even faster than anticipated to develop our shared hydrogen economies, which will play a critical role both in the transition to net zero and to ensure energy resilience in Europe
- As I outlined in my opening remarks, Scotland is primed to be a major producer and exporter of green hydrogen, and we are developing our export plan to supply local, reliable, green hydrogen to our neighbours in Europe.
- We need to work collaboratively to develop the infrastructure, regulatory frameworks and global supply chains that will be needed to underpin the global hydrogen market.
- Scotland is keen to work in partnership with other North Sea nations as part of a green hydrogen alliance to facilitate the most cost effective, sustainable and secure supply of green hydrogen to meet Europe's energy needs.
- A coordinated, collaborative approach to the development of an integrated regional network of hydrogen storage and supply is the optimal way to ensure energy resilience in Europe, and we want to play our part.

##### **Conclusion – Key Messages (30 seconds)**

- Scotland is already taking action to enable the future trade of hydrogen, including through our Scot2Ger project which reinforced our capability to supply the German market with green hydrogen as early as 2025.

- We can offer a local, green, reliable and sustainable solution to Europe's hydrogen needs and are keen to work with international partners as we develop our export plans.
- By working together on a coordinated approach to hydrogen production, supply and storage, we can ensure that Europe is world-leading in terms of low-cost, secure green hydrogen production.

## **HYDROGEN PRODUCTION IN SCOTLAND**

### **What will the cost of hydrogen from Scotland be?**

- We are confident that hydrogen produced in Scotland will be low-cost and competitive in European markets.
- In fact, a recent study, using data from the ISPT HyChain project, suggested that the UK, including Scotland, could have the lowest Hydrogen production and delivery costs to the Netherlands, whose coastline is just 50km closer to Scotland than that of Germany.
- Just 750 kilometres from the German coast, Scotland is incredibly well placed in terms of proximity and infrastructure connectivity to key hydrogen import locations on the northern European mainland.
- This proximity should significantly reduce transport costs, cut shipping times and increase reliability of supply, as well as reducing the environmental impact of hydrogen imports – be they by pipeline or shipped.
- As well as seeking to be a cost-competitive export partner, Scotland will be a trusted and safe one – our existing experienced oil and gas workforce provides the basis for a professional and reliable export service.
- We hope to further improve the cost-competitiveness of renewable hydrogen through our Hydrogen Innovation Scheme that opened in June.
- Through these kinds of innovation challenges, we can drive advances in the production, storage, and integration of renewable technologies that bring costs down.
- In 2021, our analysis indicated that the cost of renewable hydrogen is expected to at least halve between 2022 and 2045 for production pathways directly connected to wind farms, with electricity costs acting as the biggest driver of hydrogen cost reductions from 2030 onwards.
- That is why our export plans will focus on renewable hydrogen produced from Scotland's abundant natural resources, which include 25% of Europe's offshore wind and tidal resource.

### **How will the development of the hydrogen sector be funded?**

- Both public and private sector investment will be required to bring forward hydrogen projects and support their commercial scale up.

- Public sector support is particularly critical at this early stage of market development.
- That is why the Scottish Government has committed to invest £100 million in the hydrogen sector in Scotland between 2021 and 2026.
- In addition to using initial public funding to leverage private investment, we also play a facilitation role to connect companies and investors and unlock opportunities.
- Scotland is closely watching Europe's response to the energy crisis, including the European Hydrogen Bank announced by Ursula von der Leyen earlier this month.
- While we await more details on how the Bank will operate, 3 billion euros of investment could be a game-changer in the pace of which Europe is able to scale up development of the hydrogen sector. And of course, we will need to keep an eye on events in the US and how they will impact on our efforts in Europe.
- If the European Union is to meet its ambition to import 10 million tonnes of renewable Hydrogen by 2030, it will be important to ensure that future hydrogen exporters – many of whom are third Countries – can access these future funding streams.

### **What is Hydrogen Scotland's capacity? How much hydrogen will it be able to produce and export?**

- Scotland's current ambition is for 5GW installed hydrogen production capacity by 2030 and 25GW by 2045.
- This is supported by our huge potential for renewable energy generation, with a pipeline of over 40GW of renewable energy generation.
- This significant renewables capacity multiplies our potential to produce sufficient quantities of renewable hydrogen for both domestic use and export.
- Indeed, in light of the accelerating effects of geopolitical events, we may even exceed these earlier targets which were set in 2020.

### **What is Scotland's renewable capacity?**

- Data from 2020 indicates that we already produced the equivalent of 98.6% of our gross electricity consumption from renewable sources.
- Last year, 27.5 TWh of renewable electricity was generated in Scotland which makes up almost a quarter of the UK's renewable electricity generation.
- As of March 2022, we had 367 renewable electricity projects with a capacity of 16.3 GW in the pipeline. Most of those currently are under construction offshore wind farms.
- Were all capacity in the pipeline to be delivered, it would more than double the level currently deployed and could generate an estimated 39.1 TWh of renewable electricity.

### **What is the role of offshore wind in developing the Hydrogen economy?**

- The Scottish Government sees offshore wind – and the hydrogen production which we hope will be enabled by offshore wind – as one of the most important economic and environmental opportunities we have, particularly as we know that it will be key to producing cost-competitive green Hydrogen.
- ScotWind is the world's largest offshore wind leasing round, putting us at the forefront of the global development of offshore wind and represents a massive step forward in our net zero transformation.
- The total maximum possible capacity of all ScotWind bids is now more than 28GW.
- Many of the consortia successful in securing lease options have ambitions for green hydrogen, with several of the successful developers having made commitments on hydrogen, presenting a range of new energy and export opportunities for Scotland.
- German companies Siemens and Bay.Wa-Re have also been leading players in the ScotWind leasing round, and we know that other German companies are being brought in as part of the various consortia's supply chains. [If asked who, then note that this is commercially confidential information.]

## **HYDROGEN EXPORT**

### **What actions are underway to ensure Scotland realises its full green hydrogen export potential?**

- With geopolitical events triggering an acceleration of efforts to reduce fossil fuel consumption, reduce reliance on Russian oil and gas, and increase hydrogen production and use in Europe, we are focused on taking action to ensure Scotland is prepared to play a key role in meeting the growing global demand for hydrogen.
- Our Hydrogen Action Plan, to be published by the end of this year will clearly set out our commitment to realise our export potential.
- We will be working closely with industry and international partners over the coming months to develop our Hydrogen Export Plan, that will set out the steps needed to realise Scotland's export potential.
- We have today published our Scottish Hydrogen Investment Proposition. The Proposition sets out why Scotland is an ideal location for hydrogen production and manufacturing and the opportunity to export surplus green hydrogen.
- With Scotland well placed in terms of proximity and infrastructure connectivity to key hydrogen import locations on the northern European mainland, we will also continue work to work with key regional partners, such as Hamburg, to explore the development of transnational value chains needed for the production of large scale hydrogen, with potential export routes from Scottish ports into Northern Europe.

### **Why is Scotland focused on exporting hydrogen to Germany?**

- In Scotland we have the capability to produce significantly more hydrogen than we need and we are keen to export this to markets across the UK and Europe.

- Where Germany's Hydrogen strategy stated that Germany is looking to import ~90-110 TWh of green hydrogen, analysis from 2020 shows that Scotland will be able to produce up to 94 TWh of green hydrogen for export by 2045, generated to a large extent from the 28 GW of offshore wind capacity from the recent ScotWind leasing round.
- This is in addition to our onshore wind production and other planned offshore wind projects. Of course, we don't expect Germany to take only from Scotland, but we do think that we can offer a good part of the solution, as part of a resilient and sustainable portfolio.

### **How will hydrogen from Scotland be transported to Europe? What supporting infrastructure will be required?**

- We are currently assessing the most cost-effective options for transportation and export of hydrogen from Scotland to Europe. Scotland is only 750km from the German coast and so it is likely that a number of different options – such as gaseous hydrogen pipelines, marine vessel transportation of liquid hydrogen, green ammonia and methanol, and LOHC could all be used at different scales depending on end-purposes and off-takers.
- Pipelines have been illustrated to be the cheapest option for transporting large volumes of hydrogen across long distances and we are keen to ensure centres of production in Scotland are connected to European networks.
- We are already tangibly doing things to move this forward – including funding the Net Zero Technology Centre to assess the optimal way to connect Scotland to a European Hydrogen Backbone and centres of demand in Europe.
- With Scotland well placed in terms of proximity and infrastructure connectivity to key hydrogen import locations in Northern Europe, we are also continuing to support tangible industry-led projects that look to explore and demonstrate the delivery of hydrogen and hydrogen products from Scottish ports into Northern Europe.
- Ports will be key to the development of our hydrogen export ambitions and so we keen to support further collaboration with key ports in northern mainland Europe such as the Ports of Hamburg and Wilhelmshaven, in order to develop the relationships and the infrastructure required, ensuring that Scotland's export and the northern European coastline's import infrastructures are compatible.

## **INTERNATIONAL COLLABORATION**

### **Why partner with Scotland?**

- Scotland not only has a wealth of natural resources and existing onshore and offshore infrastructure, but has an established renewables and oil and gas sector and workforce with over sixty years of transferable experience and skills. This makes us the ideal partner for large and complex hydrogen projects.
- Our huge potential for renewable energy generation, with a pipeline of over 40GW of onshore and offshore wind projects, perfectly complements our ambitions to produce industrial-scale quantities of renewable hydrogen for domestic use and export.
- Scotland, like many countries, is focused on the export of green hydrogen at-scale. However, we have a proven track-record of advancing new energy technologies and the

skills, experience and commitment to make our ambitions a reality– scaling up of the hydrogen sector is intrinsic to meeting our goals on decarbonisation and our journey to net zero.

### **What is Scotland doing internationally to collaborate with partners?**

- We have already developed a number of renewable energy and hydrogen-specific partnerships to explore the development of the transnational value chains needed for the production – and export - of hydrogen at scale.
- To date, Germany and Scotland have signed various Memoranda of Understanding on hydrogen. In addition to the MOU signed with Hamburg in December 2021, one was signed with North Rhine-Westphalia in March 2022, and a Letter of intent was signed with Bavaria in May of this year. We are also due to shortly sign an MOU with Baden-Württemberg that will explicitly include hydrogen.
- Scotland will also be co-leading the hydrogen taskforce as part of the Net Zero Future Forum. The taskforce will facilitate dialogue on opportunities and barriers around the trade of hydrogen, supply chain mapping and development, and issues of public perceptions of the hydrogen economy among other issues.
- These agreements and projects offer an opportunity to help us learn from one another, to encourage business and research collaboration, and to ensure that we work together to develop the new hydrogen economy more quickly.
- However we are not just engaging at a government to government level. The Scot2Ger feasibility study, phase 1 of which has now been completed, assessed the feasibility of exporting renewable hydrogen from one Scottish location to offtakers near a north German port, confirming the capability of Scotland to supply green hydrogen and derivatives to Germany, as well as the feasibility of building a supply chain.
- The RSE Scotland-Germany hydrogen research scheme is facilitating international collaboration between Scottish and German higher education institutions on hydrogen.
- In addition to the Scotland-Germany Hydrogen Research Scheme, we know that a number of German institutes and businesses are currently working with Scottish partners on their bids for the Scottish Government’s Hydrogen Innovation Scheme.

### **BLUE (LOW CARBON) HYDROGEN PRODUCTION IN SCOTLAND**

#### **What is SG’s position on blue (low carbon) hydrogen in light of the volatility of natural gas prices?**

- We are aware of the unfolding impacts that the Russian war in Ukraine has had and is continuing to have on gas prices worldwide, as well as the increasing demand for renewable hydrogen that we are seeing from Europe, particularly Germany.
- We want to see as much renewable hydrogen in our energy system as quickly as possible and our focus for the development of our hydrogen export plans is around renewable hydrogen.



- The production of renewable hydrogen for export, both to the rest of the UK and to Europe, forms a large strand of our hydrogen ambitions and we wish to maximise the benefits and opportunities of this demand for renewable hydrogen for Scotland.
- Our view is that both low carbon and renewable hydrogen will be required in the emerging hydrogen economy.
- We appreciate that low carbon hydrogen has a role to play in our domestic energy transition to net zero by 2045. The establishment of low carbon hydrogen production at scale, linked to CCUS technologies, is important, not just to meet our targets to decarbonise our heavy industries, but also to ensure that we uphold our commitments to a just transition to net zero.
- Low carbon hydrogen, coupled with CCUS, offers us some of the strongest opportunities for a just transition for our oil and gas industry and the thousands of Scottish workers employed within it.

## **SCOTLAND'S HYDROGEN ACTION PLAN**

### **When will Scotland's final Hydrogen Action Plan be published?**

- We were pleased to receive a lot of feedback to our draft plan from stakeholders in our emerging hydrogen economy, it's important we carefully review the responses and reflect them in the finalised plan, to be published at the end of this year.
- The Plan will be revised to take account of this feedback, as well as recent UK Government clarity on business model support and increased ambition for hydrogen deployment in the UK Energy Security Strategy.
- Importantly, the finalised Hydrogen Action Plan will take account of the rush we are witnessing to grow a European Hydrogen market in response to recent geopolitical events which we could not have anticipated back in 2021.

### **What are you doing to support development of a domestic Hydrogen market in Scotland?**

- The Scottish Government has supported a number of world-leading hydrogen demonstration projects in Scotland including a the hydrogen bus fleet in Aberdeen and the world's first hydrogen production from tidal energy in Orkney.
- Key to our domestic approach lies in supporting the growth of Regional Hydrogen Energy Hubs where hydrogen producers are co-located with multiple users and potential exporters.
- We have awarded an additional £15m through our Energy Transition Fund to support the development of a Hydrogen Hub in Aberdeen, to demonstrate this hub model as an efficient pathway to producing hydrogen at scale and increasing demand.
- We are also supporting the H100 Fife flagship project, which will deliver a first-of-a-kind 100% hydrogen heat network, supplying around 300 domestic properties with clean, renewable hydrogen heating.

- Scotland is proud to be working on our first hydrogen powered train – another clear example of our intention to remain at the forefront of innovation when it comes to the development and adoption of hydrogen technologies.

## **STANDARDS AND CERTIFICATION**

### **How important are standards and certification to the trade of hydrogen?**

- International cooperation is crucial to accelerate the growth of safe, reliable and clean hydrogen across the globe.
- Governments and industry must work together to ensure existing regulations are not an unnecessary barrier to investment.
- Trade will benefit from common international standards for the safety of transporting and storing large volumes of hydrogen, as well as for the certification of hydrogen as green.
- We are engaging with the UK Government on the development of a UK certification scheme and the creation of an enabling regulatory framework to support the scale up of the hydrogen sector. Crucially, we are focusing on ensuring that regulations and certification schemes developed in the UK are aligned with the EU, providing a clear and cohesive methodology for export to promote the flow of trade between the UK and Europe and reduce market access barriers

## **ANNEX C**

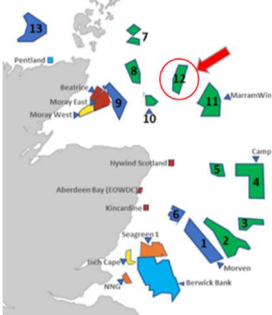
### **BACKGROUND BRIEFING**

#### **Turkish Hydrogen Developments**

- The Turkish government has been considering the role of hydrogen in its energy future since early 2020. In January 2021, announced its intention to produce hydrogen from domestically produced energy from lignite coal, hydro, wind, solar, and geothermal.
- As a first step, Turkey intends to blend hydrogen into its natural gas distribution grids starting with the Izmir industrial region. In April 2021, its gas distribution association, Gazbir - responsible for all testing and R&D - launched a clean hydrogen centre in Konya, Central Anatolia. This will focus on hydrogen and biogas, and has successfully tested various levels of hydrogen blending into the natural gas grid.
- Unlike many other countries considering hydrogen, Turkey only recently ratified the Paris climate change agreement in October 2021, its interest driven primarily by geopolitical, strategic and energy security concerns. Concerned about its dependency on imported energy, particularly gas from Russia, it views hydrogen as part of a policy to increase indigenous energy production and reduce energy imports whilst also increasing its competitiveness and accelerating the green transformation.
- Although it has already taken action across renewable energy, energy efficiency and nuclear energy, Turkey still generates over half of its electricity from fossil fuels, including >25% from coal and lignite. Unlike Scotland, it will continue to use its substantial coal reserves alongside renewable energy – its view being that the production of hydrogen by volatilising domestic coal enables clean transport as, for example, a bus can travel 1.030km on hydrogen from a single tonne of coal. This was confirmed by Turkish Energy and Natural Resources Minister Fatih Dönmez at the 23<sup>rd</sup> World Hydrogen Energy Conference in Istanbul in June 2022.

#### **Current Situation with Fortum [REDACTED]**

**BRIEFING NOTE 8: 121 MEETING WITH BAYWA R.E.**

<p><b>Engagement title / Organisation</b></p>	<p><b>Meeting with Bay.Wa Re</b></p>
<p><b>Engagement timings</b></p>	<p>Tuesday 27<sup>th</sup> September 2022, 16:00-16:45</p>
<p><b>Venue and full address</b></p>	<p><b>Marseille Meeting Room</b> Hall B3 Hamburg Messe</p>
<p><b>Background/Purpose</b> (including invitation history)</p>	<p>BayWa r.e. is a leading global renewable energy developer, service provider, distributor and energy solutions provider, and is actively shaping the future of energy. Based in 29 countries, with revenues of almost USD 4.2 billion and employing 3,300 people globally.</p> <p>It is the renewable energy arm of BayWa AG (publicly traded, focused on energy, agriculture, construction and on innovation and digitalisation – has a turnover of 20 billion Euro and employs 21,185 people.</p> <p>The company delivers end-to-end project solutions, ongoing operations management and is an Independent Power Producer with an expanding energy trading business. They have successfully brought over 4.5 GW of renewable energy online, while managing over 10 GW of assets.</p> <p>BayWa r.e signed an MoU with Ulsan City, South Korea in November 2021, for the development of floating offshore wind projects off the coast of the city. In September 2021, they pre-qualified for participation in the largest call for tenders for floating wind on an industrial scale in Europe to date, held in Brittany, France.</p> <p><u>ScotWind</u></p>  <p>BayWa r.e., alongside partners Elicio and BW Ideol as part of the Floating Energy Alliance. SDI has been engaged with Bay.Wa r.e through the consortium with BW Ideol.</p> <p>The consortium has secured the rights to develop a 960 MW floating wind farm in the NE8 area off the northeast coast of Scotland through Crown Estate Scotland’s recent ScotWind leasing round. This result bolsters BayWa r.e.’s position within the offshore industry and marks an important step forward in floating wind development. The project will support up to 3,900 jobs at the peak of manufacturing and construction.</p>
<p><b>Meeting attendees</b></p>	<p>Felipe Cornago (Commercial Director Offshore Wind) Daniel Hölder (Head of Global Policy &amp; Markets) Stuart Davidson (Head of Wind Development UK- based in Scotland)</p>
<p><b>Strategic Context / Broader opportunity – incl. Key Messages</b></p>	<p><b>[REDACTED]</b></p>

<b>Supplementary information/ Sensitivities</b>	[REDACTED]
<b>Official support and mobile number</b>	[REDACTED], Trade Promotion Policy Officer, DITI Tel: [REDACTED] [REDACTED], SDI, Global Business Development Specialist Tel: [REDACTED] [REDACTED], SDI, Lead Generation Tel: [REDACTED]
<b>Briefing contents</b>	<b>Annex A – Recent Engagements &amp; Biographies</b>

## ANNEX A

### RECENT ENGAGEMENTS

- SG Hub in Berlin and SDI Düsseldorf will be in contact with BayWa r.e. at Nuremberg Hydrogen Dialogue 21<sup>st</sup> October 2022.
- SDI had multiple engagements with the company. In 2021 exploring the Orion project in Shetland, talking to Cromarty Firth about their plans and developments and connecting them with the hydrogen ecosystem in Scotland.
- BayWa r.e. joined SDI webinar in Germany showcasing their investment activities in Scotland.
- SDI Düsseldorf are connected to UK CEO Gordon MacDougall and Stefan Tait Head of Energy Storage and Power2X UK and have introduced them to Paul O'Brien, DeepWind Cluster, they are now members of the sub cluster on Power2X.

### BIOGRAPHIES



#### **Felipe Cornago Diufaín (Commercial Director Offshore Wind)**

Felipe has 10 years' experience in the offshore wind industry, in a number of geographies and markets including Scotland, France, South Korea and Japan.



#### **Daniel Hölder (Head of Global Policy & Markets)**

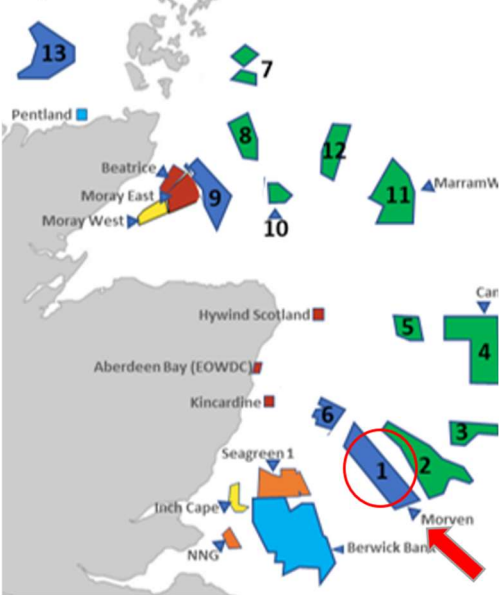
Has been Head of Policy since March 2021, prior to that he was an MD at BayWa r.e. Global.



#### **Stuart Davidson (Head of Wind Development UK- based in Scotland)**

In his role Stuart has dealings with consenting and consenting issues, for instance with the Corriegarth Wind Farm near Loch Ness (as per press release above).

**BRIEFING NOTE 9: 121 MEETING WITH ENBW**

<p><b>Engagement title / Organisation</b></p>	<p><b>Meeting with EnBW</b></p>
<p><b>Engagement timings</b></p>	<p>Tuesday 27<sup>th</sup> September 2022, 17:00-17:45</p>
<p><b>Venue and full address</b></p>	<p><b>Marseille Meeting Room</b> Hall B3 Hamburg Messe</p>
<p><b>Background/Purpose</b> (including invitation history)</p>	<p>EnBW is one of the largest utility companies in Germany and Europe, with a workforce of 24,000 employees. It supplies electricity, gas, water together with infrastructure and energy-related products and services to around 5.5 million customers.</p> <p>Expansion of renewables is a cornerstone of EnBW’s growth strategy and major focus of capital expenditure. EnBW has invested €4.7 billion in its Renewable Energies segment. A further €4 billion is to be invested in the expansion of wind and solar energy and also in fuel switch activities by 2025. Installed renewable energy capacity accounted for around 40% of EnBW’s generation portfolio by the end of 2020 and is targeted to reach 50% by the end of 2025. This is already having a noticeable impact in terms of reducing CO2 emissions, which EnBW plans to halve by 2030. EnBW aims to attain climate neutrality by 2035.</p> <p><b>ScotWind-</b> EnBW and BP were awarded a lease option off the east coast of Scotland to develop a major offshore wind project — to be known as Morven. The E1 lease is in an advantaged area, allowing the partners to develop it as a fixed-bottom offshore wind project with a total generating capacity of around 2.9 gigawatts (GW), sufficient to power more than three million homes.</p>  <p><b>EnBW representatives likely to raise the following topics during the meeting:</b></p> <ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul>

<b>Meeting attendees</b>	Michael Class, SVP Generation Stefan Kansy, Director New Projects Holger Grubel, Head of Portfolio Development Offshore Wind Céline Combé, Project Director, Offshore Wind UK
<b>Strategic Context / Broader opportunity – incl. Key Messages</b>	<p><b>Discuss floating foundations</b> [REDACTED]</p> <p><b>Explore EnBW’s plans for green hydrogen</b></p> <ul style="list-style-type: none"> <li>• SDI is also keen to find out more about EnBW’s plans for green hydrogen, which is high on SG’s agenda.</li> </ul> <p><b>Explore growth ambitions and promote Scotland as a destination for further investment</b></p> <ul style="list-style-type: none"> <li>• Highlight the ‘Team Scotland’ approach Scotland takes to supporting businesses and investors. Encourage them to remain engaged with relevant enterprise agencies.</li> <li>• You are keen to build strong relationships with leading investors in Scotland and want to maintain a strong dialogue.</li> <li>• Scotland’s ambitions are around attracting values-led investment which will support our ambitions around net-zero and creating a wellbeing economy.</li> </ul>
<b>Official support and mobile number</b>	<p>[REDACTED], Trade Promotion Policy Officer, DITI Tel: [REDACTED]</p> <p>[REDACTED], SDI, Global Business Development Specialist Tel: [REDACTED]</p> <p>[REDACTED], SDI, Lead Generation Tel: [REDACTED]</p>
<b>Briefing contents</b>	<b>Annex A – Recent Engagements &amp; Biographies</b>

## RECENT ENGAGEMENTS

Recent engagements with EnBW have all been related to their Scotwind project. EnBW's head of procurement Hannah König will attend meeting with SDI during Wind Energy to discuss their international supply chain needs with the Scottish companies.

## BIOGRAPHIES



### **Michael Class, SVP Generation**

Michael is responsible for the development, construction and operation of the company's new construction projects in the Generation business field.



### **Stefan Kansy, Director New Projects**

Stefan together with his team contributes to the future-oriented transformation of EnBW's power generation portfolio by acquiring, developing and implementing large-scale power generation projects.



### **Holger Grubel, Head of Portfolio Development Offshore Wind**

Holger develops the global offshore wind project pipeline for EnBW.



### **Céline Combé, Project Director, Offshore Wind UK**

Celine has been involved with Investment, Finance and Business Controlling, Partnerships and Transactions prior to joining EnBW for Portfolio Development Offshore Wind in 2020.

**BRIEFING NOTE 11: MEETING WITH MINISTER DR. RODRIGUEZ, ASTURIAS, SPAIN**

**TOP BRIEFING**

<b>Engagement title / Organisation</b>	<b>Meeting with Minister Dr. Rodriguez, Asturias, Spain</b>
<b>Engagement timings</b>	Wednesday 28 <sup>th</sup> September 2022, 10:00-10:30
<b>Venue and full address</b>	<b>Asturias stand B2. EG. 440</b> Hamburg Messe
<b>Background/Purpose</b> (including invitation history)	<p>This is an introductory meeting and an opportunity to find out what work Asturias region in Spain is doing in the hydrogen sector and what opportunities there may be for future collaboration and partnership with Scotland.</p> <p>Representatives from Asturias are interested in discussing each governments' industrial opportunities and needs, and opportunities for future collaboration.</p> <p>Asturias, alongside Auvergne-Rhône-Alpes and Estonia, has also recently been selected as a pilot region for the tHrive initiative. Following an assessment by the European Clean Hydrogen Alliance, which identified a pipeline of 750 viable investment projects in November 2021, Asturias was selected on the basis of the density of its viable projects (43 of the 750 European total) and the maturity of these projects (implementation is to begin by 2025 and should be fully operational by 2030).</p>
<b>Meeting attendees</b>	<p><b>Minister Dr. Enrique Fernandez Rodriguez</b>, Minister for Industry, Employment and Economic Promotion  <b>Mrs. M<sup>a</sup> Belarmina Díaz</b> (Director of Energy, Asturias)  <b>Mr. Juan Carlos Aguilera</b> (Director of Industry, Asturias)</p>
<b>Strategic Context / Broader opportunity – incl. Key Messages</b>	<p>The meeting provides an opportunity to engage Minister Rodriguez on Scotland's approach to the development of the hydrogen sector, and approach to international cooperation, to identify opportunities for potential future collaboration.</p> <p>[REDACTED]</p> <p><b>Hydrogen sector – Scotland's approach</b></p> <ul style="list-style-type: none"> <li>• Scotland's extensive renewable resources means we are well-placed to ensure long-term security of supply of green hydrogen in Europe</li> <li>• Scotland is committed to working in partnership with industry, regions and nations to develop tangible projects along the whole hydrogen value chain that will enable large scale hydrogen production with export routes to Europe</li> <li>• As the industrial sector is often both the producer and consumer of hydrogen, hydrogen production and use in the industrial sector could initiate investment in the hydrogen networks and infrastructure which are vital for a robust hydrogen economy.</li> <li>• Scotland's diverse industrial clusters, which include chemicals, refineries, metals, food and drink, cement, paper and pulp, and</li> </ul>



	<p>glass, could act as the anchor demand for the hydrogen economy in Scotland.</p> <ul style="list-style-type: none"> <li>• We are working with major emitters in Scotland many of whom are currently assessing applicable decarbonisation solutions, or are already on decarbonisation pathways which include opportunities for fuel switching to hydrogen.</li> <li>• We are also providing match-funded grants via the Scottish Industrial Energy Transformation Fund to support the deployment of, or studies into, energy efficiency or deeper decarbonisation projects such as fuel switching to hydrogen.</li> <li>• Our Hydrogen Action Plan, published last year, which focuses on actions to drive Scotland’s hydrogen production capability to meet an ambition of 5 GW of renewable and low-carbon hydrogen by 2030 and 25 GW by 2045, makes a commitment to support Scottish industries to use hydrogen in their decarbonisation plans while and to move away from hydrogen production where CO2 is unabated.</li> <li>• We recognise that in order to realise the role that hydrogen can play in the decarbonisation of not only the industrial sector, but our wider energy system, significant quantities of hydrogen will be required, beyond what can be produced by the sector itself.</li> </ul> <p><b>Approach to international cooperation</b></p> <ul style="list-style-type: none"> <li>• As committed in our Hydrogen Action Plan, over the coming years we will focus on taking action to secure the role of Scottish companies in the global hydrogen supply chain, to work with our international partners to share expertise and develop the sector more quickly, and to ensure Scotland is prepared to play a key role in meeting the growing demand for hydrogen.</li> <li>• Large scale hydrogen production for export is an exciting new industry opportunity for us in Scotland but we are open to the world and actively seeking opportunities to collaborate with international partners on projects and initiatives including: <ul style="list-style-type: none"> <li>• The export of hydrogen between Scotland and Europe – transport, storage, infrastructure requirements, safety considerations:</li> <li>• Skills and supply chain - knowledge exchange and partnerships</li> <li>• Agreements with nations, regions and ports to work on collaboration in research/innovation/demonstration to drive forward the development of the global hydrogen economy</li> </ul> </li> </ul>
<b>Supplementary information/ Sensitivities</b>	[REDACTED]
<b>Official support and mobile number</b>	[REDACTED]
<b>Briefing contents</b>	<b>Annex A – Recent Engagements &amp; Biography</b>

## **RECENT ENGAGEMENTS**

- Scotland and Asturias are members of the Regional Pillar initiative organised by Hydrogen Europe, which aims to improve the representation of regional and local authorities at European level in the field of hydrogen, facilitate the set-up of EU projects, increase the exchange of information with industrial players and help regions developing joint activities with Hydrogen Europe.
- In June 2022, it was announced that a Vanguard Initiative Hydrogen Pilot would be taken forward, with Scotland one of the member regions. The Vanguard Initiative is a unique alliance that gathers 39 of the most advanced industrial regions in Europe - including Asturias - focused on stimulating industrial innovation and building European value-chains based on complementarities in regional smart specialisation strategies.
- Scotland and Asturias have previously participated in Vanguard Initiative pilots, including the Advanced Manufacturing for Energy Related Application in Harsh Environments pilot and the North Sea Solutions for Innovation in Corrosion for Energy pilot. Engagement over the projects largely focussed on offshore wind and research and innovation work around corrosion.

## **BIOGRAPHY**



### **Enrique Fernández Rodríguez- Regional Minister for Industry, Labour and Economic Promotion**

Enrique's professional career has been linked to University of Oviedo where he worked as Professor of Economics & Finance between 1997 and 2011. He was mayor of San Martín del Rey Aurelio between 2011 and 2019. San Martín del Rey Aurelio is a municipality of the Autonomous Community of the Principality of Asturias in northern Spain. He was a socialist spokesperson for Development Commission and Employment of the Spanish Federation of Municipalities and Provinces (FEMP). Since 2017 he has been a member of the federal committee of the PSOE (Spain's socialist workers party) and the regional executive of the FSA as secretary of Economic, Industrial, Employment and Innovation Policy.

Minister Fernandez has previously spoken of Asturias' ambitions to diversify its energy sources, with hydrogen playing a key role – with companies involved in the hydrogen value chain, hydrogen producers, water supplies, and end users. Examples of hydrogen projects that Asturias is involved with include the development of a regional H2 ecosystem, promoted by the Asturias Regional Hydrogen Board.

## BRIEFING NOTE 12: 121 MEETING WITH NAVANTIA

<b>Engagement title / Organisation</b>	<b>Meeting with Navantia Seanergies</b>
<b>Engagement timings</b>	Wednesday 28 <sup>th</sup> September 2022, 10:45-11:30
<b>Venue and full address</b>	Navantia Stand Hall B2 EG.442
<b>Background/Purpose</b> (including invitation history)	Navantia is a state-owned Spanish company specialized in the design and fabrication of high technology vessel and offshore wind products. (see below company profile) 3 manufacturing sites in Europe: 2 in Spain and 1 in France (Brest)  Navantia opened an office in London [REDACTED]
<b>Meeting attendees</b>	<ul style="list-style-type: none"> <li>• Javier Herrador, Navantia SEANERGIES VP</li> <li>• Abel Mendez, Navantia SEANERGIES Commercial and BD Director</li> <li>• Antonio Jose Sanchez, Offshore Wind Commercial Manager (Jackets &amp; Floating)</li> <li>• Juan Manuel Garcia, Head of Industrial Cooperations and Localization - tbc</li> <li>• [REDACTED], SDI</li> </ul>
<b>Strategic Context / Broader opportunity – incl. Key Messages</b>	In general SDI is keen to continue to build relationships with the company and raise their awareness of how significant and investor they are to Scotland. Potential areas of discussion:  [REDACTED]
<b>Supplementary information/ Sensitivities</b>	[REDACTED]
<b>Official support and mobile number</b>	[REDACTED], Trade Promotion Policy Officer, DITI Tel: [REDACTED] [REDACTED], SDI, Global Business Development Specialist Tel: [REDACTED] [REDACTED], SDI, Lead Generation Tel: [REDACTED]
<b>Briefing contents</b>	<b>Annex A</b> – Company profile <b>Annex B</b> - Recent Engagements & Bios

## COMPANY PROFILE

Navantia Seanergies is Navantia's brand to boost its green energy, offshore wind and hydrogen activities and was launched early 2022. It aims to promote activity related to green energies, offshore wind energy and hydrogen, both nationally and internationally. Since 2014, when Navantia's green energy activity took its first steps with the construction of foundations, the company has participated in 11 offshore wind energy projects in five different countries, which have reported a turnover of 900 million euros.

It is capable of manufacturing all the components of an offshore wind farm (fixed and floating foundations, monopiles and substations). The business model foresees, in each case, working with the partners that provide the best guarantees and after the first years of implementation is expected to reach an annual turnover of 350 million euros.

## ANNEX B

### RECENT ENGAGEMENTS

SDI Paris first approached the company at the Seanergy Trade show in le Havre in June 2022. The initial contact making was followed by an introductory call with [REDACTED] and [REDACTED] from the Deepwind cluster.

[REDACTED]

### BIOGRAPHIES



#### **Javier Herrador – Vice President of Navantia Seanergies**

In current post since March 2021. Javier has been with Navantia since 1997 and held various strategic and senior level positions within the company, such as in the engineering, innovation, commercial and operational fields.



#### **Abel Mendez Diaz, Commercial Director**

Abel was appointed commercial director at Navantia Seanergies in May 2021. Beforehand Abel was international director at Navantia Defence and Security division. He graduated as a naval engineer at the University A Coruna.



#### **Juan Manuel Garcia Perez - Head of Industrial Cooperations and Localisation, Green Energies.**

Juan has expertise in O&G and business development and management. He has been holding senior level positions in Navantia and other European and US companies. Juan has been heading up Industrial Cooperations and Localizations since 2019.



#### **Antonio Jose Sanchez, Offshore Wind Commercial Manager (Jackets & Floating)**

Antonio has extended experience and background in the O&G industry and had been previously O&G& Diversification manager. He was also the project manager of Navantia's investment project in Brest (France).

## BRIEFING NOTE 13: INDIVIDUAL TOUR OF COMPANIES / ORGANISATIONS

<b>Engagement title / Organisation</b>	<b>Individual Tour of Companies / Organisations</b>
<b>Engagement timings</b>	Wednesday 28 <sup>th</sup> September 2022, 11:45-13:00
<b>Venue and full address</b>	Pick up from SDI Stand
<b>Background/Purpose</b>	<p>Opportunity to meet with select exhibitors – Lhyfe GmbH, Elogen GmbH, ENGIE Energy Management Solutions. All are Trade and Inward Investment opportunities for SDI.</p> <p>Potential to also meet with BW Ideol SAS and Vattenfall.</p>
<b>Meeting attendees</b>	<p>The tour will be facilitated by Lisa Ludwiczak, Protocol and Events Adviser at Hamburg Messe.</p> <p>Company representatives TBC.</p>
<b>Official support and mobile number</b>	<p>[REDACTED], Trade Promotion Policy Officer, DITI Tel: [REDACTED] [REDACTED], SDI, Lead Generation, Tel: [REDACTED]</p>
<b>Briefing contents</b>	<b>Annex A – Objectives</b>

**ANNEX A**

[REDACTED]

## BRIEFING NOTE 14: 121 MEETING WITH NORTH2SEA HYDROGEN FARM

### TOP BRIEFING

<b>Engagement title / Organisation</b>	<b>Meeting with North2 Sea Hydrogen Farm</b>
<b>Engagement timings</b>	Wednesday 28 <sup>th</sup> September 2022, 14:00-14:45
<b>Venue and full address</b>	SDI Stand
<b>Background/Purpose</b> (including invitation history)	North2 is a consortium comprising of Equinor, Eneco, Gasunie, Groningen Seaports, RWE and Shell Netherlands. Their ambition is to be able to produce no less than 4 gigawatts of green hydrogen by 2030 to contribute towards achieving the goals set under the Dutch Climate Agreement.  North2 Sea Hydrogen Farm is currently looking at a potential [REDACTED]
<b>Meeting attendee</b>	Andreas Wellbrock, Managing Partner
<b>Strategic Context / Broader opportunity – incl. Key Messages</b>	[REDACTED]
<b>Official support and mobile number</b>	[REDACTED], Trade Promotion Policy Officer, DITI Tel: [REDACTED] [REDACTED], SDI, Global Business Development Specialist Tel: [REDACTED] [REDACTED], SDI, Lead Generation Tel: [REDACTED]
<b>Briefing contents</b>	<b>Annex A</b> – Recent Engagements & Bios <b>Annex B</b> – [REDACTED]

### ANNEX A

#### RECENT ENGAGEMENTS

[REDACTED]

#### BIOGRAPHIES



#### **Andreas Wellbrock- Managing Partner**

Andreas is very well connected with the German offshore wind cluster. Prior he was CEO of WAB (the offshore wind cluster with whom the DeepWind cluster signed on MOU last year). The founder of Green Fuel GmbH (hydrogen based) and the MD of HY.City.Bremerhaven (hydrogen bus transportation in the city of Bremerhaven).

### ANNEX B

[REDACTED]

## BRIEFING NOTE 15: ENGAGEMENT WITH LOWER SAXONY (LS)

<b>Engagement title / Organisation</b>	Engagement with Lower Saxony
<b>Engagement timings</b>	You will need to depart at 15:30 for the airport. SDI and [REDACTED] will remain to complete the engagement.
<b>Venue and full address</b>	Lower Saxony Stand (TBC)
<b>Background/Purpose</b> (including invitation history)	Lower Saxony is Scotland's other priority north German state for the import / export of green hydrogen, and is home to key companies such as Uniper.
<b>Meeting attendees</b>	<p>Key attendees will include:</p> <ul style="list-style-type: none"> <li>• [REDACTED], Head of Energy &amp; Environment Investment Promotion at LS Economic Development Agency - our key economy contact</li> <li>• [REDACTED], as above; publishes North German Hydrogen News</li> <li>• [REDACTED]– Head of renewable energy, Ministry for Environment, Energy, Construction and Climate Protection – keycontact in arranging the Scotland-LS hydrogen day in February.</li> <li>• [REDACTED]- Project Lead for Hydrogen in LS</li> <li>• [REDACTED], Head of LS Hydrogen Network</li> <li>• [REDACTED], Wilhelmshaven Economic Development Agency.</li> </ul>
<b>Strategic Context / Broader opportunity – incl. Key Messages</b>	<ul style="list-style-type: none"> <li>• In March 2022, Minister President Stephan Weil (SPD) led a delegation to Scotland, meeting with the First Minister &amp; Mr Matheson, and with hydrogen a key topic of discussion. Mr McKee attended a networking reception with business members of the delegation.</li> <li>• LS has demonstrated strong enthusiasm for deepening renewable energy cooperation with Scotland. Environment and Energy [REDACTED]</li> <li>• Lower Saxony is also host to the Hannover Messe, possibly the world's largest Trade Fair. It is anticipated that Scotland will take a stand in April 2023.</li> <li>• The port of Wilhelmshaven, launched as LS's Hydrogen Hub in April 2022, [REDACTED]. The Russian invasion of Ukraine has also prompted Germany to construct a floating LNG terminal in Wilhelmshaven, later to be converted for H2 imports.</li> <li>• LS is home to some of Germany's major Important Projects of Common European Interest (IPCEIs). Cuxhaven is also being developed as a further import harbour.</li> </ul>
<b>Supplementary information/ Sensitivities</b>	<ul style="list-style-type: none"> <li>• [REDACTED]</li> </ul>
<b>Official support and mobile number</b>	[REDACTED]

#### 4. Overseas Visits - Min BTTE - Germany - September 2022 - Additional Background Briefing

### ANNEX D – GERMANY’S AND HAMBURG’S APPROACH TO HYDROGEN

#### German hydrogen Strategy

1. The German National Hydrogen Strategy was published in June 2020, with ambitious plans to bring down costs, promote R&D, increase production, and coordinate international and EU activities. The strategy placed equal weight on climate and prosperity, and focussed on ‘green’ hydrogen from renewable electricity. It also acknowledged Germany’s clear need to import large-scale amounts of green hydrogen, alongside its ambitions to be a global leader in hydrogen technologies. The strategy was accompanied by a €9bn investment pot, including €2bn for international partnerships.

2. The comprehensive strategy outlined plans to:

- Create 5 GW of domestic ‘green’ hydrogen generation capacity (via electrolysis) and corresponding offshore wind capacity by 2030, with a further GW by 2035 or 2040 latest;
- Establish an international market for green hydrogen – building EU supply chains and partnerships elsewhere. Since then partnerships have been formed and/or contracts have been signed including with Australia, Morocco, South African, Chile and, most recently in August this year, Canada;
- Promote German industry and collaborate across borders along the value chain full value chain, from R&D to production, transport, storage and end use;
- **Develop infrastructure for hydrogen transport and storage based on disused gas grids;**
- Set up a ministerial hydrogen committee, supported by a National Hydrogen Council representing business, science, and civil society. **[REDACTED]**
- Play a decisive role in leading Europe’s green hydrogen agenda through support for the European Green Deal: the rapid development of offshore wind power and joint renewable energy projects between Member States; the secure and sustainable supply of carbon-neutral and carbon-free gases; the design and development of EU hydrogen markets and infrastructure; plans for a more dynamic and targeted European Research Area; and coordination of the EU’s Important Project of Common European Interest (IPCEIs) on hydrogen.

3. The 2020 strategy estimated Germany’s 2030 hydrogen demand at 90-110 TWh by 2030. The proposed 5GW of domestic production capacity could meet 14 TWh of this. Given that Germany will be unable to meet its hydrogen needs domestically, a large focus will be on building up international partnerships to facilitate hydrogen imports. The most ambitious scenario in Scotland’s 2020 Hydrogen Assessment report estimates that Scotland could be able to export up to 94 TWh green hydrogen per year by 2045.

4. Even before the current war in the Ukraine, Germany’s shift to renewables was urgent. Its decision to phase out nuclear power by 2022 and coal by 2038 already required a huge restructuring of the country’s energy infrastructure, which has now become more urgent. Whilst huge efforts are being made to help Germany produce more renewable energy, so too have its broader energy import requirements increased due to its decisions not to proceed with the Northstream 2 pipeline and to reduce German imports of Russian oil and gas.

5. **[REDACTED]**



## H2Global

- H2Global is funded by the German Federal Ministry for Economic Affairs and Climate Action (BMWK) to provide a financial mechanism, set up in line with the German Hydrogen Strategy, to help Germany access the significant amounts it requires of hydrogen and its derivatives, such as ammonia, methanol, and sustainable aviation fuel.
- Based in Hamburg, and led by Timo Bollerhey (MD), Markus Exenberger (Managing Partner & Executive Director) and industry experts, H2Global seeks to support private investment in the sustainable production, transport, and use of PtX products, and to ensure that those that are sustainably produced from renewable energies in partner countries outside the EU and EFTA are available in Germany and Europe.
- H2Global is an auction-based mechanism, akin to Contracts for Difference, that looks to boost the PtX market by investing grant funding from the German government via its Hydrogen Intermediary Network Company GmbH (**HINT.CO**) to establish long-term purchase supply contracts and provide short-term sales contracts to meet local demand. It operates competitively and offers a guaranteed price for hydrogen for up to ten years by covering the difference between production costs and sales price. It currently has open calls for ammonia and methanol, with sustainable jet fuel like to follow. Ultimately, it looks to do itself out of business within ten years through its success in stimulating both the market and investment.
- H2 Global also conducts research projects, and is currently researching *Opportunities and Risks of the International Market Ramp-Up for Developing and Emerging Countries in Cooperation with the Private Sector*. The project is funded by the Federal Ministry for Economic Cooperation and Development (BMZ).
- **[REDACTED]**
- In her State of the Union address on 14 September, European Commission President von der Leyen called for the creation of a €3 billion EU bank to foster investment in hydrogen projects. She argued that “hydrogen can completely change innovation in Europe” and must therefore “move from a niche to a mass market for hydrogen”. The proposals - part of a shift to make the EU more self-sufficient in energy - are expected to be modelled on H2Global.

## Hamburg’s Approach to Green Hydrogen

- The city-state of Hamburg aims to play a key role in the German and European shift towards a hydrogen economy with a new import strategy. It wishes to capitalise on the economic opportunities offered by the expected market ramp-up, and has presented an action plan paving the way for large-scale imports from Scandinavia via pipelines and from around the globe in ships using via terminal.
- The strategy envisages using imports to meet both only regional needs, for example decarbonising local industry, and parts of the national and European hydrogen demand. To this end, Hamburg is to be integrated into the European hydrogen network as an international hub.
- According to the city’s senator for economy and innovation, Michael Westhagemann, the war in Ukraine has given Hamburg’s hydrogen plans a new urgency.
- By 2026, the city wants to be ready to produce and import large quantities of green hydrogen to provide a prime import hub for green hydrogen into Germany and beyond into northern and central Europe. To achieve this, Hamburg is constructing a hydrogen pipeline network that will criss-cross the port of Hamburg by 2030. It intends then to link this into the national and European hydrogen backbone. It also plans to import large quantities of hydrogen, including from Chile, Morocco, Saudi Arabia and Norway, as well as through pipeline with Denmark. Hamburg’s [Green Hydrogen Import Strategy](#) was published in March 2022.
- Hamburg has a strong renewable energy cluster (Erneuerbare Energien Hamburg, EEHH), and is now home to the [H2 Global Foundation](#), established by the German government to promote the production and use of green hydrogen nationally and internationally and to

speed up market development and import of green hydrogen and its derivatives to Europe. Key industrial, port and logistics companies have formed the Hydrogen Alliance Hamburg, and key industrial players and utilities have formed the Hamburg Green Hydrogen Hub.

### **Test Shipment of Green Hydrogen from UAE to Germany**

- Germany has received a green hydrogen shipment from the UAE on 14 September
- This was a test shipment as part of a push to establish a comprehensive hydrogen value chain between Germany and the UAE
- It followed an agreement signed in March 2022 between Hamburg-based HHLA (Hamburg Harbour and Logistics) with Abu Dhabi National Oil Company (ADNOC) to test the transport chain for hydrogen from the UAE to Germany. Economy Minister Habeck travelled to UAE in March to sign a hydrogen partnership in a drive to lessen Germany's energy dependency on Russia. In a further push to secure alternative energy supplies, Chancellor Scholz will visit the Middle East this weekend and is expected to sign LNG delivery contracts.
- The hydrogen supplied by ADNOC was shipped in the form of ammonia. ADNOC is developing a new world-scale one million tonnes per annum low-carbon ammonia plant
- The shipment was received at the climate-neutral HHLA Container Terminal Altenwerder, where it was unloaded from the Hapag-Lloyd ship Prague Express
- The ammonia supplied will be used by Aurubis (largest copper producer in Europe, headquartered in Hamburg) for test runs for the climate-neutral conversion of gas-intensive copper wire production
- The arrival of the first shipment of green hydrogen in Hamburg coincided with an announcement of the European Commission about the creation of a new European Hydrogen Bank aimed at bridging the investment gap and connecting future supply and demand. The Bank will guarantee the purchase of hydrogen by using resources from the Innovation Fund, through an investment of €3 billion to help build the future market for hydrogen.

## ANNEX E – SCOTLAND’S HYDROGEN ENGAGEMENT IN GERMANY AND HAMBURG

### Approach

[REDACTED]

Scotland has already secured agreements with a number of priority states, including Hamburg. In all cases, our intention is for partnerships to be based on proactive collaboration and project activity, for example around green hydrogen production, the import / export of hydrogen, or hydrogen storage and transportation technologies.

### Federal engagement

Whilst formally focussing at Länder level, Scotland is increasingly engaging with national influencers, ministries and energy advisers and agencies to secure and consolidate recognition at federal level. Key interlocutors include Economy and Energy Minister Robert Habeck, Economic Cooperation and Development Minister Svenja Schulze and Environment Minister Steffi Lemke; State Secretaries Patrick Graichen, Franziska Brantner and Special Envoy for International Climate Action Jennifer Morgan; former German Hydrogen Commissioner Dr. Stefan Kaufmann and new commissioner Till Mansmann; national advisers such as Professor Veronika Grimm (also Chair of H2Bavaria) and members of the German Hydrogen Council, the German chapter of the World Energy Council, the BDI (equivalent of the CBI), funding entity H2 Global (financed with €900m and expected to enter operation soon; we are in discussion to establish how Scotland might engage in the mechanism), and senior ministry officials at the BMWK, BMBF, and AA.

Scotland has hydrogen interests in five of the Germany Hub’s six priority states – Bavaria, Baden-Württemberg, North Rhine-Westphalia, Hamburg and Lower Saxony. German Länder and federal hydrogen leads work closely together, with the federal government directing and coordinating activity across Germany through the implementation of its Hydrogen Strategy and its major funding programmes, such as for the Important Projects of Common European Interest (IPCEIs) and H2 Global. [REDACTED].

### Green Hydrogen Engagement in Hamburg

Scotland signed a Joint Declaration of Intent on Green Hydrogen and Hydrogen Technologies with Hamburg’s Ministry for Economy and Innovation and Ministry for the Environment, Climate and Energy in November 2021. This provides a framework for hydrogen players across Scotland to collaborate with Hamburg and north German partners across research; production; mobility and industrial applications; logistics; and transport to the rest of Germany and northern Europe.

As part of this deepening engagement, SHFCA signed an MOU with the Renewable Energy Hamburg Cluster EEHH in April 2022. The Port of Cromarty Firth also has a Letter of Intent with the Hamburg Port authority. SDI Germany organised a business delegation to Hamburg in late April 2022.

We have excellent relations with official-level contacts in Hamburg. Planned activity includes a meeting between H2Global and Scottish stakeholders, and involvement with Hamburg in a Ports & Harbours event organised by the Federal Ministry of Research.

### Recent engagements with Hamburg

25 Nov 2021 Mr Matheson signed **Scotland-Hamburg MOU** on green hydrogen and hydrogen technologies

23 March **Hamburg Import Strategy** event attended by **[REDACTED]**

28 April In-person **delegation to Hamburg**, including conference and meetings with ministry contacts, Hamburg Port, Hamburg Logistics Authority, and H2Global - set up by federal government to organise funding of major projects involving international players **[REDACTED]**

w/b 27 June Advertisement of **Hydrogen Innovation Scheme**

**[REDACTED]**

## **ANNEX F: ONSHORE AND Offshore Wind / Supply Chain (ScotWind)**

### **ONSHORE WIND**

- We need a substantial increase in onshore wind deployment to help achieve Scotland's 2030 decarbonisation targets.
- This year, we will publish our Onshore Wind Policy Statement and a Vision for Onshore Wind in Scotland
- The draft Onshore Wind Policy Statement included a new ambition for an additional 8-12 GW of onshore wind to be installed in Scotland by 2030.
- Our consultation on the draft OnWPS has now closed and we are considering the views we have received. We will publish a final statement by the end of 2022.
- We are working collaboratively with the renewables industry to develop a vision for onshore wind in Scotland which seeks to capture our joint needs and ambitions in relation to delivering additional gigawatts of installed onshore wind capacity in Scotland by 2030.
- Onshore wind is a cheap and reliable source of electricity generation; with Scotland's resource and commitment seeing us lead the way in onshore wind deployment and support across the UK.
- Recent research conducted by Renewable UK suggests that approximately 17,000 jobs and the equivalent of £27.8bn in GVA could be achieved in Scotland if we are able to deploy an additional 12GW by 2030.
- BEIS Public Attitudes Tracker (Wave 37 from May 2021) noted that 89% of the public either support onshore development, or have no strong opinion. Only 6% of the public either oppose, or strongly oppose onshore wind development, making opposition to onshore wind deployment a significant minority.

### **OFFSHORE WIND**

- Scotland's natural resources, which include strong and consistent wind resource, along with our established expertise in oil and gas, skilled offshore workforce, excellent port structure and strong innovation hub, make Scotland one of the best places in the world to develop offshore wind and its supply chain.
- As outlined in our Energy Strategy, we expect offshore wind, both fixed and floating, to play a significant role in our energy transition, and we recognise the huge economic opportunity attached to commercial scale development.
  - ScotWind is the first devolved leasing round for offshore wind development in Scottish Waters, and the first leasing round in Scotland in a decade. The clearing process for site NE1 concluded on 22 August, adding a further three projects to the 17 winners announced in January 2022.
  - ScotWind is the world's largest commercial round for floating offshore wind and puts Scotland at the forefront of offshore wind development globally.
  - The conclusion of the leasing round is a tremendous vote of confidence in Scotland – the level of ambition shown by the market recognises the seriousness of Scotland's commitment to achieving our net zero targets and sustainable economic growth.
  - ScotWind will deliver over £750 million in revenues to the public purse for these initial awards alone. These revenues will help us tackle the twin climate and biodiversity crises. In addition, ScotWind will deliver several billion pounds more in rental revenues when projects become operational – these will of course be invested for the benefit of the people of Scotland.
  - The Innovation and Targeted Oil and Gas Decarbonisation (INTOG) leasing round is currently in progress and expected to conclude by autumn 2023.

- By replacing traditional energy sources with offshore wind generation, INTOG will support the decarbonisation of oil and gas infrastructure, facilitate decommissioning and grow our offshore wind sector, while also supporting the delivery of the North Sea Transition Deal.

## **SUPPLY CHAIN / SCOTWIND**

- ScotWind promises to be transformational in delivering wider economic supply chain benefits to help power Scotland's green recovery in communities across Scotland.
- Each application for the ScotWind leasing round was required to include a Supply Chain Development Statement (SCDS) setting out its supply chain goals and committing developers to meet those goals through the various stages of their projects.
- We welcome the public commitment made by successful developers to invest an average of £1.4bn per project in the Scottish economy, equating to more than £28bn across the 20 ScotWind projects.
- While lease awards were not contingent on the content of the Development Statements, checks and balances are in place;
- Failure by developers to deliver on their commitments can trigger remedies ranging from financial penalties to an inability to progress to a seabed lease.
- This has produced a leasing round focused on quality and deliverability of bids and the long term prize of supply chain investment that promises to transform the Scottish economy over decades, rather than determining them solely on up-front price through an open auction.
- These statements are not only an indication of what Scotland can achieve, they are our expectation of what the winners will deliver for Scotland.
- We are working to realise our ambitions for the floating wind supply chain in Scotland through The Scottish Offshore Wind Energy Council. Our recently announced Collaborative Framework will help forge effective partnerships to deliver on supply chain potential.

### **Q: What is the potential for offshore wind and green hydrogen developments?**

We are assessing the detail of the ScotWind projects and looking at where the opportunities exist for achieving wider policy objectives including the potential for floating offshore wind projects and green hydrogen production to help meet our ambition of generating 5GW of renewable and low-carbon hydrogen by 2030 and at least 25GW by 2045.

Under current assumptions, in addition to existing levels of renewable capacity, plus illustrative examples of other power generation capacities, Scotland would require approx. 9GW additional offshore wind in order to generate the equivalent of 100% electricity consumption in 2050.

In a scenario where we have substantially increased electrification of the energy system in Scotland (e.g. double our demand by 2050), and where we meet our 2050 hydrogen target 25GW (using 80% green H<sub>2</sub>), if we deliver policy ambitions (8-12GW onshore wind) and (10GW offshore) wind by 2030, and we need to accommodate up to 25GW from ScotWind: we would be looking at approx. requirement of 60TWH net exports (4 times today's levels). This would require major network investment, however plans are in place/work is underway at the network companies to initiate this.

The implication of this is that a large volume of the power generated from 25GW additional ScotWind capacity could likely be exported (including to rest of UK) – either in the form of Hydrogen produced from electrolysis, or directly as electricity. If the excess power generated from offshore wind could be stored however, including through conversion to Hydrogen,

some could be used to balance the electricity system when the wind isn't blowing in Scotland, avoiding the need to import as much power from the rest of the UK.

**Q: How does ScotWind compare internationally to other offshore wind leasing rounds?**

ScotWind puts Scotland at the forefront of the global development of offshore wind. As the world's largest commercial round for floating offshore wind, ScotWind breaks new ground in putting large-scale floating wind technology on the map at GW scale.

In a European context, 2.9GW of offshore wind was installed across Europe in 2020. If all 25GW from the successful ScotWind projects is realised this would effectively double Europe's total existing offshore wind energy capacity (currently 25GW).

Excluding ScotWind and UK Round 4 projects there is an additional pipeline of current and future offshore wind tenders globally with 51GW (both fixed and floating) announced publicly in the next 4 years, as well as market expectation of significant ambition from other countries such as China that have not yet launched formal leasing rounds.

The US has announced that it plans to potentially hold up to seven new offshore leases by 2025 to meet its target to deploy 30GW of offshore wind by 2030. Planning is at the early stages with no further confirmed timelines or definitive GW capacity at this stage, however it is estimated that leases sold at these auctions will support between 23 GW and 40 GW of new offshore wind projects.

**Q: How will ScotWind support the Just Transition?**

Scotland's National Strategy for Economic Transformation will aim – within the powers currently available to us – to support progress towards meeting our net zero targets, help restore the natural environment, stimulate innovation, create jobs and improve wellbeing for all.

Offshore wind development and operation provides a strong route for a Just Transition, helping high carbon sectors and staff transition into low carbon activity.

The forthcoming pipeline of ScotWind projects has the potential to transform the energy sector and economy in Scotland, including the potential to diversify our existing industries and generate thousands of new jobs. We will

We need to make the most of, and focus on, the opportunities for diversification and skills transfer from oil and gas to drive forward offshore wind skills development. The knowledge and experience of the oil and gas sector, and its supply chain, will be a differentiator for Scotland in developing floating offshore wind technologies, in line with our commitment to a just transition.

To support this we are investing in the transition of our energy sector, including £75m through the Energy Transition Fund to provide a package that will support our energy sector to transition and grow, supporting jobs and regional growth.

We are also investing £180m in the Emerging Energy Technology Fund to support innovation in key energy technologies like Carbon Capture Utilisation and Storage and Hydrogen.

We will outline our vision for Scotland's energy system when we publish our refreshed Energy Strategy and Just Transition Plan later this year, which will take a whole systems approach and factor in key policy developments in hydrogen, onshore wind and offshore wind including the outcome of the ScotWind leasing round.

**Q: Are there any plans for future offshore wind leasing rounds in Scottish waters?**

There is one leasing round currently in progress for developments in Scottish waters – INTOG – and the first devolved leasing round in Scottish waters – ScotWind – has recently concluded. The Scottish Government will look to publish the results of the recent INTOG consultation shortly and provide clarity on the next steps for the INTOG planning and leasing round.

Of course, the tremendous response to ScotWind provides Scotland with an exciting opportunity to transform its generating capacity from this first round alone. A process will now unfold whereby proposals will go through consenting processes, respond to geographical challenges and technological advances, and find routes to market.

As we move through this process, including future iterations of the Sectoral Marine Plan, we will assess the need for future leasing rounds, in the context of our commitments to achieve net zero by 2045, which will continue to require a significant expansion in our ability to source renewable offshore energy.

At this time, there are no immediate plans for other future leasing rounds.  
Contact: Lorna Finlayson, Kerri O'Connor



## ANNEX I: Hydrogen

- Scotland has the resources, the people and the ambition to become a world leader in hydrogen production and our Hydrogen Action Plan sets out how we will work collaboratively with the energy sector to drive progress between now and 2026.
- The Scottish Government has led the way in supporting world-leading hydrogen demonstration projects and is now committing to invest £100 million in the hydrogen sector in Scotland between 2022 and 2026.
- Scotland's huge potential for renewable energy generation, with a pipeline of over 40GW of on and offshore wind projects, perfectly complements our ambitions to produce industrial-scale quantities of renewable hydrogen for domestic use and export.
- Scotland is already a net exporter of electricity and in the past decade renewable electricity output has grown markedly.
- Scotland is well placed in terms of proximity and infrastructure connectivity to key locations in Northern Europe that are already developing their hydrogen import strategies and building the necessary international relationships required to secure sufficient energy supply to meet their own decarbonisation requirements.
- Scotland has industry experience and expertise through a strong track record for advancing hydrogen technologies and demonstrating its production and use across a wide ranging number of applications.
- Scotland has a long and proud tradition of innovation in the energy sector, with world class research institutions, testing facilities and businesses with expertise across the hydrogen value chain.
- Scotland's legacy oil and gas infrastructure, combined with its experienced energy and oil and gas workforce and, a supply chain focused on energy transition are critical to establishing a prominent role for Scotland in the emerging global hydrogen market.

- Scotland is the first of the nations of the UK to publish a policy statement on hydrogen. The policy statement sets out a vision for Scotland to become a **leading Hydrogen Nation** with an **ambition to generate 5GW of renewable and low-carbon hydrogen by 2030**, and **25GW by 2045**.
- Additionally, the Hydrogen Policy Statement identified the development of a hydrogen economy with a strong export focus a substantial economic opportunity for Scotland.
- The Policy Statement was followed up in November 2021 by our Hydrogen Action Plan where we set out the necessary actions from 2021 to 2026 to implement the key policy positions and ambitions set out in our Hydrogen Policy Statement. These actions intend to help put Scotland on the pathway to becoming a leading nation by 2045 in the production of competitive and sustainable hydrogen as well as help securing Scotland's future as a centre of international excellence in areas such as innovation, skills and supply chain.
- The action plan is clear that we are keen to play our role in the development of hydrogen in the UK, European and international markets.
- Between now and 2026, we will focus on taking action to secure the role of Scottish companies in the global hydrogen supply chain, to work with our international partners to share expertise and develop the sector more quickly, and to ensure Scotland is prepared to play a key role in meeting the growing demand for hydrogen from import countries in Europe.
- Some of the Action Plan actions in this space include:
  - Developing a **Hydrogen Outreach Programme**

- Work with our overseas offices and Scottish Development International (SDI) to **boost inbound and outbound trade and investment missions** to secure opportunities for Scottish companies in the international market.
- Working with industry to produce a **Hydrogen Export Plan**

### **Use of low carbon hydrogen in Scotland**

- We consider that low carbon hydrogen will play a significant role in establishing a hydrogen economy in Scotland. Low carbon hydrogen can be utilised to provide substantial volumes to help achieve our 2030 5GW ambition, and provides a clear route for our existing industry to deliver a just transition, utilising the skills and expertise already in Scotland.
- CCUS unlocks the production of low carbon hydrogen at scale, providing a domestic source of energy production that has the potential to increase energy security whilst facilitating demand for fuel switching and, therefore, hydrogen produced from renewable sources in the long-term.

### **Export & Trade**

- Scotland's extensive renewable resources means we are well-placed to ensure long-term security of supply of green hydrogen in Europe. Scotland is just 700km away from the Netherlands and 750km from the North German coast.
- We are keen to develop renewable energy and hydrogen-specific partnerships to explore the development of the transnational value chains needed for the production of large scale hydrogen with potential export routes from Scottish ports into northern Europe.
- The economic impact scenarios developed as part of our Scottish Hydrogen Assessment Project suggest that in the most ambitious scenario, establishing Scotland as an exporter of green hydrogen to Europe could result in a £25 billion annual gross contribution to Scotland's Gross Value Added (GVA) with over 300,000 jobs supported by 2045.
- Our economic analysis also concludes that Scotland has the potential to deliver up to 126TWh of green hydrogen per year by 2045, with up to 96TWh of hydrogen for export to Europe and the rest of the UK.
- Countries such as Germany have already **identified a need to import** green hydrogen and are taking actions now to secure partnerships with countries to supply hydrogen and to work together on research and technologies. Germany have brokered agreements on hydrogen with Canada, Morocco, Saudi Arabia, UAE, Australia, Chile, Tunisia and Japan. The development of international hydrogen partnerships has been further accelerated over the last months due to the war in Ukraine.

## ANNEX J: Recent Energy Developments in Germany

21 September 2022 09.23 (GUARDIAN)

### **Germany nationalises biggest gas importer to avert supply crisis**

*Deal includes €8bn cash injection for Uniper, which had been controlled by Finnish energy group Fortum*

Germany has agreed to nationalise its biggest gas importer, Uniper, to avert a supply crisis as it battles energy shortages resulting from Russia's war in Ukraine. The deal builds on a rescue package agreed in July, when Berlin took a 30% stake in the company, and includes a capital injection of €8bn (about £7bn) of government money.

Uniper had been controlled by the Finnish state-owned energy company Fortum, which welcomed the announcement. It said Berlin would buy its shares for €500m, giving the state a 98.5% stake in the gas company.

Fortum's chief executive, Markus Rauramo, said that Uniper's losses caused by Russia limiting natural gas supplies to European countries supporting Ukraine had reached almost €8.5bn. Missing deliveries from Russia have had to be replaced with expensive supplies from the open market, where prices for gas have risen sharply.

Uniper, which also owns the Ratcliffe-on-Soar power station in Nottinghamshire, posted an overall loss of £12bn in August, and has seen its share price collapse by 90% in the past year.

[REDACTED]

16 September 2022 (GUARDIAN)

### **Germany takes subsidiary of Russian oil giant Rosneft under state control**

*Three refineries put into trusteeship ahead of partial European embargo on Russian oil later this year*

Germany has taken the German subsidiary of the Russian oil giant Rosneft under state control, putting three refineries into a trusteeship ahead of a partial European embargo on Russian oil at the end of the year.

The federal network regulator will become the temporary trust manager of Rosneft Germany and its share of refineries in Schwedt, near Berlin, in Karlsruhe and in Vohburg, Bavaria, Germany's ministry for economic affairs announced on Friday 16 September. Rosneft Germany is the country's largest single oil processing company, accounting for about 12% of its capacity for processing crude oil.

Germany's Federal Network Agency is already the trustee of Gazprom Germania, having been appointed to take control of the Russian state-owned company's subsidiary in April.

At a press conference in Berlin on Friday 16 September, the German chancellor, Olaf Scholz, said the move had been made to ensure that Germany would be supplied with oil "in the medium and long term". He added: "Russia is no longer a reliable supplier of energy, that is obvious from recent weeks".

How Germany will compensate for Russian oil in the future still remains unclear, however. One solution under discussion is to supply the oil that is refined at Schwedt via Baltic seaports in Rostock or Gdansk in Poland. Gdansk can feed into Druzhba via a pipeline link and could in the future ship in oil deliveries from the US or countries like Kazakhstan. While Schwedt was still owned by a Russian oil company, however, Poland was unlikely to agree to a formal arrangement.

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20 September 2022 (REUTERS)

### **Germany to restrict company access to gas levy proceeds**

A draft law for Germany's gas levy will impose restrictions on gas importers benefiting from its proceeds on the basis of their market share and profitability, three parliamentary and industry sources told Reuters.

Berlin plans to impose a gas levy on consumers from Oct. 1 aiming to help importers with the additional costs of replacing Russian gas.

Companies receiving aid through the levy should have at least 1% of the market share, the sources said.

The draft bill, which is expected to be agreed by the cabinet by the end of September, also excludes companies that made profits and would impose restrictions on the salaries that managers receive if the company is benefiting from the levy, they added.

Under the new restrictions, only Uniper, VNG and Gazprom's former subsidiary Gazprom Germania, which was abandoned by Gazprom and temporarily taken under the control of the German energy regulator, would benefit from the levy.

The economy ministry declined to comment on the details of the draft bill but said it would be put forward soon.

Changes to the draft law came after politicians within the ruling coalition stressed that the levy proceeds should only go to companies in need.

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20 September 2022 (POLITICO)

### **Berlin and Madrid raise pipeline pressure on France**

Germany, Spain and Portugal are locked in an energy dispute with Paris over a gas pipeline from the Iberian Peninsula to Northern Europe — and they're threatening to bypass France if it continues opposing the plan.

The three countries are increasingly frustrated with French President Emmanuel Macron's resistance to completing the €3 billion MidCat pipeline. The goal would be to transport gas arriving by pipeline from North Africa, as well as eight liquefied natural gas terminals in Spain and Portugal, through the Pyrenees to France and onward to Germany.

In the longer term, the Iberian countries plan to use the pipeline to sell their own production of green hydrogen to Northern Europe.

The Spanish and German governments will hold consultations in the Spanish city of A Coruña on October 5; the two governments reiterated their support for the project late last month.

"We see the MidCat pipeline as a solution for the supply both of natural gas and in the future hydrogen," Spanish Foreign Minister José Manuel Albares told POLITICO, adding: "We will have Spanish-German government consultations in October where we also want to continue supporting this pipeline and the interconnections."

But France isn't budging in its reluctance to revive a project that was abandoned in 2019. Macron recently pointed out that existing pipelines linking France and Spain are only being used to 55 percent of capacity, arguing there's no need for another connection.

The idea that MidCat can solve the Continent's energy supply problems is "false, factually false," the French president said earlier this month.

The European Commission is also skeptical. Earlier this month, Internal Market Commissioner Thierry Breton said: "It is unclear if such a project would make sense economically."

But Germany, Portugal and Spain argue that Russia's weaponizing of its gas deliveries to the EU — which has seen shipments to Germany fall to almost nothing — changes the calculation.

"There's high pressure to finalize MidCat because if France agreed to finalize the works on its side, the pipeline could be operational in eight to nine months, meaning that it would help us already next year," said Anton Hofreiter, an MP with the German Greens and chair of the Bundestag's European affairs committee. "It is important that things move quickly now."

## **Gas to hydrogen**

German Chancellor Olaf Scholz raised the issue in a call with Macron earlier this month, but the French president maintained his opposition, both on economic and environmental grounds.

That's angering officials in Berlin, Madrid and Lisbon, who argue that using the pipeline for natural gas is only a short-term solution: In the longer term, they say, the conduit would be needed to ship green hydrogen, which is supposed to replace gas and oil as the bloc aims to become climate neutral by mid-century. Spain and Portugal say that their abundant wind and solar power are ideal for producing the clean fuel at a competitive price.

"We have very good natural conditions to produce cheap green hydrogen and taking advantage of the biggest solar exposure of the entire European Union," Portugal's EU Affairs State Secretary Tiago Antunes told POLITICO. He added that "a big chunk" of the money that Madrid and Lisbon are receiving from the EU under the coronavirus resilience and recovery fund "is directed at technologies to produce green hydrogen."

Berlin shares that view: "A pipeline from Portugal and Spain to Central Europe would strengthen our security of supply in the long term, especially with a view to a green European hydrogen economy," said a spokesperson for the German economy ministry.

However, France has competing energy plans.

In the shorter term, Paris wants to sell gas from its four LNG terminals to Germany, instead of being merely a transit country for gas from the south, EU and French officials said.

In the longer term, France hopes to sell hydrogen made with nuclear energy, a senior French official told POLITICO. Critics say that if MidCat isn't built, then France effectively shuts out the competition from the Iberian Peninsula.

The French energy ministry declined to comment.

## **Alternative routes**

France's opposition is spurring efforts to find an alternative route.

During a meeting in late August, Scholz and Spanish Prime Minister Pedro Sánchez discussed plans for building an underwater pipeline from Barcelona to Livorno in Italy, from where the gas and green hydrogen could flow north. Spain's energy ministry said that both sides are currently studying the feasibility of such a project.

"Another possibility is a route via Italy," said Albares.

However, Italian officials have voiced doubts over the Mediterranean pipeline idea. "The sea there is more than 1,000 meters deep. There are no big precedents history of subsea pipelines that are designed for those depths," Roberto Cingolani, Italy's outgoing minister for ecological transition, told reporters earlier this month.

Italy's national election this Sunday, which is widely expected to bring a right-wing (and potentially more Russia-friendly) government to power, creates further uncertainty over the pipeline project.

This has officials in Berlin suggesting another plan — an underwater pipeline running from northern Spain to Belgium. Although the route is long, the sea isn't very deep. One official in Berlin argued that the costs for building long-distance undersea pipelines were manageable.

However, officials in Spain and Belgium said that no such plan had been officially considered yet and expressed doubts about how realistic the project was.

**[REDACTED]**