

Note on German Hydrogen Import Strategy, published 24 July 2024

The German federal ministry for Economy and Climate Action (BMWK) this week published its [Import Strategy for Hydrogen and Hydrogen Derivatives](#), citing it as a core element of its National Hydrogen Strategy, which was updated in summer 2023.

This import strategy outlines the scale of imports envisaged; the importance of gaseous and liquid hydrogen imports and the role of hydrogen derivatives from further afield; the main transportation options; and measures to strengthen and scale hydrogen imports, i.e. strengthening demand, building sustainable import infrastructure, regulation and certification, support including financial instruments, the focus of international cooperation, and the importance of research and development.

The strategy's' basic premise is set out in its opening statement:

A large proportion of Germany's hydrogen requirements will have to be covered in the medium and long term by imports from abroad, and Germany will be one of the world's largest hydrogen importers in the world. A resilient, i.e. sustainable, stable, secure and diversified, supply with sufficient hydrogen and hydrogen derivatives is in Germany's strategic interest. The aim of the Federal Government is therefore to ensure the reliable supply of green, permanently sustainable hydrogen and its derivatives. (p. 2)

Alongside this, the document explicitly states several times that it is aimed at producer countries and investors, providing market certainty and enabling them to prepare:

The import strategy is intended to help provide investment security for hydrogen production in partner countries and the development of the necessary import infrastructure, thus accelerating the global energy transition. The import strategy opens up major market opportunities for potential hydrogen exporters and also sends a signal to the German economy about the reliable supply of sufficient quantities of hydrogen and its derivatives which is necessary for the switch to climate-friendly [industrial] processes. (p. 2)

and

This import strategy provides a reliable framework for private-sector hydrogen imports to Germany. It thereby contributes to ensuring investment security for hydrogen production in partner countries and the development of the necessary import infrastructure. [...] It is intended to provide orientation to producers, project and infrastructure developers, traders of hydrogen and hydrogen derivatives, buyers, financial institutions, network operators and local stakeholders in producer countries. [...] **The import strategy should also give governments in partner countries clarity about German import requirements for hydrogen and its derivatives, as well as the overarching goals and framework conditions for the establishment and expansion of hydrogen partnerships.**

The strategy is positive for Scotland. Firstly, it reinforces Germany's predicted hydrogen import requirements, confirming figures in its 2023 National Hydrogen Strategy update.

- German demand for hydrogen and its derivatives is expected to total ~95-130 TWh by 2030, with an import share of 50-70%, i.e. 45-90TWh (p. 10). German sources usually say that 'around two thirds of German H2 requirements will be imported.
- By 2045 this is expected to rise to ~360-500 TWh for hydrogen and 200 TWh for hydrogen derivatives.

- Current predictions are for these to be primarily for the steel industry, feedstock and petrochemicals, mobility and logistics, and the power sector, both through the substitution current fossil fuels and through new manufacturing processes.

This is important for the Scottish sector and for UK policy as it deals with naysayers who ask whether hitherto stated goals will materialise and whether UK/Scotland should be looking to export.

Means of transport

Whilst the German government will promote both pipeline and shipped imports, the preference is for more cost-effectively pipeline infrastructure where possible, with shipped transport focused on geographically more distant countries that for technical and economic reasons cannot be connected by pipeline (p. 3):

In the medium term it can be assumed that a large proportion of the demand for hydrogen will be covered by pipelines if these import routes - as is currently the case for typical distances in the North Sea, Baltic Sea and Mediterranean region - are cheaper and more environmentally than ship transport and the resulting cost savings in transport are greater than the potential higher production costs. (p. 14)

Similar to conclusions from Scotland's NZTC Hydrogen Backbone Link project:

Pipeline-based hydrogen infrastructure enables the cost-efficient transport of molecular hydrogen from Europe [the EU] and neighbouring countries to Germany without conversion losses. In addition to the construction of new pipelines, the conversion of natural gas pipelines may have various advantages such as lower costs, conservation of resources, etc., as long as technically feasible and taking into account the security of gas supply [in the meantime].

Where hydrogen derivative imports are required, the report echoes SG expectations that it is sensible for Scottish players to export derivatives only where they will be used in this form by offtakers, e.g. ammonia for fertiliser or feedstock:

It is more energy efficient and tends to be more economical to utilise the imported hydrogen derivatives directly as far as possible. The needs-based conversion of derivatives back into molecular hydrogen can play an important role if sufficient quantities of hydrogen are not produced nationally or obtained via hydrogen pipelines. (p. 14)

Import countries and partnerships

The basic premise is that Germany will need multiple import partners and routes to avoid dependencies such as in the past on Russia for natural gas:

The German government is planning to diversify the supply of hydrogen and its derivatives as broadly as possible. To this end, the Federal Government is working in bilateral and multilateral cooperation formats with a large number of partner countries, regions and international players. (p. 3 and section 2.3)

The reference to regions is significant as it seems to lay down a marker that the German government will engage not only with nation states, such as the UK, but also with regions such as Scotland as necessary. This is important for our bilateral engagement.

More widely,

In order to achieve the objectives of the import strategy, increased co-operation within the EU **and with countries neighbouring the EU (e.g. Norway, Great Britain or countries in North Africa)** is of great importance. The aim is to utilise favourable production potential for hydrogen as effectively as possible and to establish resilient import relationships.

In addition to in-depth cooperation, **the rapid establishment of a pipeline-based, trans-European hydrogen network is crucial**. This should connect the important production, import and consumption centres for hydrogen within the EU and **enable the distribution of [...]** **hydrogen imports from third countries**. The German government is leading the way here by creating a hydrogen core network [of nearly 10,000km domestic hydrogen pipeline by 2032] as the basic framework for the trans-European hydrogen network, thereby increasing planning security for the players involved at home and abroad.

[REDACTED]

The German government's goal is to embed the German hydrogen core network within European networks from an early stage. It is to be closely linked to the emerging hydrogen networks of EU member states and neighbouring countries via interconnectors and trans-European hydrogen import corridors. (p. 22)

Of the four potential pipeline corridors (North Sea, Baltic Sea, Southwest and South) the first is the North Sea, and in more detail than the others. It details the first international pipeline being built between Germany and Denmark, plans for a pipeline between Norway and Germany, and then reference to 'the UK (including Scotland)'. The accompanying map shows a clear import arrow from Scotland. The full section reads (my emphasis in bold):

Co-operation with our respective neighbouring countries will be built up and deepened along the corridors. The respective focal points of our cooperation are outlined below as examples:

In the North Sea region, the Federal Government is striving for an integrated system overall. The enormous generation potential of renewable electricity (especially offshore wind) and hydrogen is to be utilised and made available in a closely meshed network. To this end, the Federal Government, together with its partners is committed adjusting the regulatory framework for investments in offshore wind capacity and standardised approval processes. **The BMWK plans to present an offshore cooperation strategy for an offshore cooperation strategy for renewable electricity and green hydrogen at the North Sea Summit in Hamburg in [June] 2025.** [REDACTED]

In addition, several specific hydrogen infrastructure projects are being pursued:

- The first cross-border pipeline is to be built between **Germany and Denmark**. Work is currently underway to finalise the framework for a final investment decision (FID) in 2025

and for it to become operational at the end of 2028. This rapid implementation is anticipated by the Federal government to provide an important impetus for other cross-border hydrogen projects.

- A joint feasibility study on a hydrogen pipeline between **Germany and Norway** has already been carried out. Work is currently underway on creating the framework for FID. Among other things, this is being implemented within the framework of an established task force between both countries' ministries. The pipeline is intended to enable hydrogen imports from Norway as early as 2030.
- **As part of the energy partnership with the United Kingdom** [signed in Berlin in Sept 2023], talks are being held on the possible construction of a hydrogen pipeline between Germany and the United Kingdom (e.g. Scotland).
- Both the **Netherlands and Belgium** are aiming, in the context of their respective national hydrogen developments, imports of shipped hydrogen and a close connection into the German core grid. According to the current draft application from November 2023, **the [German] hydrogen core grid envisages four German-Dutch interconnectors and one German-Belgian interconnector by 2032.**
- The Baltic Sea region is another key building block for German hydrogen supply due to its high potential for onshore and offshore wind power and for hydrogen storage. Two pipeline projects involving all EU Baltic Sea neighbours are currently being developed: one offshore pipeline through the Baltic Sea (Baltic Hydrogen Collector), and an onshore pipeline through the Baltic States and Poland (Nordic Baltic Hydrogen Corridor), establishing connections between Finland and Germany.
- The Iberian Peninsula is characterised by high potential for solar and wind energy. The south-west corridor envisages connecting Spain, Portugal and possibly Morocco with Germany via France. The 'H2Med' pipeline project and its connection to Germany, 'Hy-FEN', are intended to be used to import of hydrogen [to Germany]. To accelerate this expansion, the German government is also intensifying dialogue with neighbouring countries on regulatory framework conditions and is in favour of joint projects, e.g. in the field of electrolyser production.
- The southern corridor is to be a direct connection between Algeria, Tunisia, Italy, Austria and, in the long term, Switzerland and Germany, and will largely consist of reused natural gas pipelines. The European section of this corridor (SouthH2) has been granted PCI status. Its realisation will require the timely and ambitious ramp-up of hydrogen production in Tunisia and Algeria.'

Abb. 4: Schematische Darstellung europäischer Importkorridore (aktuell angedachter Stand; gestrichelte Linie symbolisiert perspektivische Ausbaustufe)



Quelle: BMWK

[REDACTED]

Director of Energy and Climate Change

- [OUT OF SCOPE]

- [OUT OF SCOPE]

- [OUT OF SCOPE]

- [OUT OF SCOPE]

- [OUT OF SCOPE]

Need for investment in the short term

- Promotes Scotland open for business - Provide a signal to importing countries by showing a clear intent that Scotland is among the markets around the world which are investing heavily in hydrogen production and infrastructure – this will attract inward investment.
- Puts our money where our mouth is - Provide clear evidence to developers that SG funding support matches our policy ambitions and that we are committed to establishing domestic production which will demonstrate capability and underpin our international ambition.
- Play our role in global emissions reduction - Provide the opportunity to deepen our international partnerships and secure large-scale offtake agreements. Recognising the importance of demonstrating production at scale, and in turn, helping to maintain Scotland's credibility as a potential exporter of hydrogen, more so given the potential returns on investment.
- Realise first mover advantage - Building confidence in Scotland's ability to become a major hydrogen exporter. Germany has indicated a target to import 45-90 Twh per annum by 2030 and Europe 10 MT by 2030. [REDACTED]

- [REDACTED]

- Infrastructure projects multi-million/billion pound investments take time to finance and build to be ready and need positive signals now - There is also a matter of urgency both in that we have a window of opportunity to secure international partnerships / large-scale offtake agreements, and that projects need to plan and invest now to achieve their mid-to-long term potential. [OUT OF SCOPE]

Minutes: Minister for Business Richard Lochhead meeting with Senator Kristina Vogt (Die Linke) and Bremen Delegation – 10 September 2024

Attendees

Bremen Delegation

- Kristina Vogt, Senator for Economic Affairs, Ports and Transformation
- Hans-Georg Tschupke, Head of Industry and Innovation
- [REDACTED] Adviser to Senator Vogt
- [REDACTED] Head of International Affairs
- [REDACTED] Deputy Consul, German Consulate, Edinburgh

Scottish Government

- (Chair) Richard Lochhead MSP, Minister for Business, Scottish Government
- [REDACTED], France and Germany, European Relations, DCEA
- [REDACTED], Team Leader, New Market Clusters
- [REDACTED] Policy Officer, Export Promotion, DITI
- [REDACTED], Minister's Private Secretary

Welcome and introductions

- [REDACTED]

Space

- [OUT OF SCOPE]

- [OUT OF SCOPE]

Hydrogen

- KV remarked that collaboration will remain key in hydrogen, [REDACTED]

Actions

- [OUT OF SCOPE]

- Officials to identify engagement opportunities on hydrogen at the Hamburg H2 Tech Expo.
- [OUT OF SCOPE]

Cabinet Secretary for Constitution, External Affairs and Culture introductory meeting with Baroness Chapman of Darlington, Parliamentary Under-Secretary of State for Latin America and Caribbean

Date/Time: 10 September 2024 16.00-17.00

In the meeting

Mr Angus Robertson MSP
Baroness Chapman of Darlington
[REDACTED] (DCEA)
[REDACTED] (DCEA)
[REDACTED] (DCEA)
[REDACTED] (FCDO Devolution Unit)
[REDACTED] (FCDO Devolution Unit)
[REDACTED] (Private Secretary SG)
[REDACTED] (Private Secretary FCDO)
[REDACTED] (Special Adviser SG)

[OUT OF SCOPE]

[OUT OF SCOPE]

Hydrogen

AR outlined the importance and potential of hydrogen, noting he had raised this with the Foreign Secretary too. The Ministers discussed specifics with Germany and how Scotland could help to meet their needs. When UKG is undertaking international relations they are representing a number of UK govts. The SG's approach to hydrogen should be complementary to the UKG one. BC agreed that other countries need to know we are working together.

[REDACTED]

AR asked if for example the UKG would include SG in a delegation on hydrogen in Berlin?
BC agreed to find out.

BC also recognised the just transition aspect including in relation to jobs.

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

MEETING WITH Dr Philipp Steinberg	
Minister	Angus Robertson (AR) , Cabinet Secretary for Constitution, External Affairs and Culture
Type of engagement	Bilateral meeting
Date	2 September 2024, 10:30 – 11:30
Who	Dr Philip Steinberg (PS) , Director General, German Federal Ministry for Economic Affairs and Climate Action [REDACTED] Deputy Head of Division, Bilateral cooperation on hydrogen infrastructure [REDACTED] Chief Executive Officer, Hydrogen Scotland [REDACTED] Lead for the Future of Energy Supply
Key points	<ul style="list-style-type: none">• PS started the meeting by providing assurances that BMWK understand the mixed landscape of competencies and powers between UKG and DA and are keen to work with both governments to explore hydrogen opportunities.• [OUT OF SCOPE]• [REDACTED] • [REDACTED] • [OUT OF SCOPE] <p style="text-align: right;">This would benefit the development of a North Sea hydrogen corridor, with Scotland acting as nexus between northern countries and continental Europe. <small>[REDACTED]</small></p>

	<p>[REDACTED]</p> <ul style="list-style-type: none"> • [OUT OF SCOPE] • [REDACTED] • [OUT OF SCOPE] • AR finished by highlighting the importance of the energy transition and the role that hydrogen can play in both economies. These present agreed that there is consensus on hydrogen and that the moment for practical action is now.
Attending official	<ul style="list-style-type: none"> • [REDACTED] Head of the UK, EU and International Relations Team • [REDACTED] Hydrogen International Engagement Lead, SG
Actions	<ul style="list-style-type: none"> • Officials to continue to engage with BMWK and to assess, as appropriate, opportunities for the formalised partnership on the development of export opportunities between UK and Germany to include Scotland [OUT OF SCOPE]. • Officials to consider what industry key players should be invited to be part of the partnership.
Copy list	<p>Cabinet Secretary for Constitution, External Affairs and Culture Cabinet Secretary for Net Zero and Energy Minister for Climate Action [REDACTED]</p>

Cabinet Secretary for Constitution, External Affairs and Culture introductory meeting with Baroness Chapman of Darlington MP, Parliamentary Under-Secretary of State for Latin America and Caribbean

Date/Time: 10 September 2024 16.00-17.00

Venue: Scottish Parliament, Q1.04

Supporting official: [REDACTED]

Background

[OUT OF SCOPE]

- energy security;
- [OUT OF SCOPE]

Suggested lines with more detail on these issues are provided below.

For awareness only

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

Energy security

- I look forward to continuing close working with FCDO, not only to face up to global challenges but also to take advantage of emerging international opportunities. Those will include ensuring Scotland's vast potential for renewable energy can be realised internationally, to the benefit of our economies, of Europe's energy security and of the planet.
- [OUT OF SCOPE]
- In particular, Scotland can substantially contribute to the UK's hydrogen partnerships with Europe. Given the scale of Scotland's renewable generation linked to offshore wind, we expect – in addition to Scotland supplying the rest of the UK - huge economic opportunities for the UK and Scotland in the export of green hydrogen. [OUT OF SCOPE]
- The joint UKG-Germany feasibility study currently underway on establishing a green hydrogen pipeline from the UK to northern Europe is a very promising development, and we look forward to its conclusions in the autumn. [OUT OF SCOPE]
- As discussed with Foreign Secretary, it is important that Scotland's offer on energy and specifically hydrogen is reflected in the UK narrative and I look forward to constructive engagement to ensure Scotland's devolved interests are represented in the bilateral UK-Germany treaty.

[OUT OF SCOPE]

- [OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]


- [OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

BRIEFING NOTE: MEETING WITH BREMEN SENATOR KRISTINA VOGT

Date and time	Tuesday 10 September 2024, 10:30-11:30
Where	St Andrew's House, 4 th Floor, Room 4W.01
Who	<p>Kristina Vogt, Senator for Economic Affairs, Ports and Transformation</p>  <ul style="list-style-type: none"> • Bremen Senator (Minister-equivalent) from Die Linke (the Left Party; far-left), currently in a three-way coalition in Bremen with the Social Democrats and Greens • Portfolio responsibility for [OUT OF SCOPE] and hydrogen • To be joined by: <ul style="list-style-type: none"> ○ Hans-Georg Tschupke, Head of Industry and Innovation ○ [REDACTED] Adviser to Senator Vogt ○ [REDACTED] Head of International Affairs ○ [REDACTED] Deputy Consul, German Consulate
Background	<ul style="list-style-type: none"> • [OUT OF SCOPE] • Senator Vogt met Mr Gray when he travelled to Bremen at the end of September 2023 to attend the city's Hydrogen Tech Expo. They discussed Scotland's hydrogen offer and the development of a North Sea hydrogen infrastructure for the export of green hydrogen to Germany. • She is keen to build on our engagement [OUT OF SCOPE] <p style="text-align: center;">collaboration in hydrogen.</p> • We value engagement with our partner German states, whose economies are as large as most European countries. We have cooperation agreements with five Länder: Bavaria (2017), Baden-Württemberg (2022), Hamburg (2021) North Rhine-Westphalia (re-signed 2022) and Rhineland-Palatinate (2021). We are pleased to engage with Bremen as part of the Hy5 group of northern German states working to build a regional hydrogen economy.
Key purpose or message	<ul style="list-style-type: none"> • [OUT OF SCOPE]

	<ul style="list-style-type: none"> • [REDACTED] <p style="text-align: right;">[REDACTED]</p> <ul style="list-style-type: none"> • [OUT OF SCOPE] • Our hydrogen ambitions also accord well with Bremen's plans to lower emissions, import hydrogen and develop Bremerhaven as a next-generation port that tests hydrogen technologies. While we support the development of hydrogen pipeline infrastructure between the UK and Germany, we also expect exports of shipped hydrogen and hydrogen derivatives to play a significant role for the Scottish sector. • [OUT OF SCOPE]
Top facts/ figures	<ul style="list-style-type: none"> • [OUT OF SCOPE]
Sensitivities	<p>[OUT OF SCOPE]</p> <p>[OUT OF SCOPE]</p>

	[OUT OF SCOPE]
Official support	[OUT OF SCOPE]
Briefing contents [OUT OF SCOPE] Annex B – Hydrogen [OUT OF SCOPE]	

[OUT OF SCOPE]

ANNEX A

[OUT OF SCOPE]

HYDROGEN

- Scotland can play a central role as a trusted and reliable partner in securing Europe's future energy supply and accelerating the global transition to net zero. Scotland has the resources, people and ambition to become a world leader in the production of competitive, sustainable hydrogen. Our Hydrogen Action Plan sets out how we will work collaboratively with partners to deliver our ambition of 5GW of renewable and low-carbon hydrogen by 2030 and 25GW by 2045.
- Scotland's location only ^[OUT OF SCOPE] and 750km from ^[OUT OF SCOPE] north German coastlines means that it benefits from lower transport costs than many other potential hydrogen export nations and is well-placed to ensure long-term security of supply of green hydrogen in Europe.
- With the EU identifying the need both to work together on research and technology developments and to import large amounts of green hydrogen, Scotland's close geographic proximity to growing centres of European hydrogen demand makes it an important contributing partner, as we establish the innovation, skills and supply chain that will underpin our energy transition.
- We are keen to deepen our hydrogen partnerships and to work in particular with our near northern neighbours – ^[OUT OF SCOPE] as an alliance of producing nations that can supply Germany, ^[OUT OF SCOPE]

Germany and Scotland

- Where Germany's revised national hydrogen strategy states that Germany is looking to import up to 90 TWh of green hydrogen by 2030, 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 offshore wind.
- Key partners include the **Hy5 partnership** of north German hydrogen states, in particular Hamburg where we signed a JDol in 2020, Lower Saxony and Bremen.
- We also have H2 agreements with North Rhine-Westphalia, Baden-Württemberg and Bavaria.
- In 2020, the **RSE Scotland-Germany Hydrogen Research Scheme**, funded by SG, was set up to facilitate international collaboration between Scottish and German higher education institutions. It aimed to foster research and practice-based hydrogen partnerships between Scotland and Germany.
- The **Scot2Ger project feasibility study**, published in June 2022, assessed the feasibility of exporting hydrogen from Scotland to offtakers in Germany. The study confirmed Scotland's capability to supply green H2 and derivatives to Germany, as well as the feasibility of building a supply chain. Projects emerging from Scot2Ger should pave the way for future hydrogen exports in the form of ammonia or liquid hydrogen.
- SG has funded two **North Sea Alliance Scottish-German Bilateral Hydrogen research projects** led by the Net Zero Technology Centre in partnership with Cruh21 (matching Scottish H2 production to German hydrogen demand) and the German North Sea hydrogen organisation AquaVentus (investigate pipeline infrastructure between Scotland and Germany within a North Sea context).
- The **UK-Germany Joint Declaration of Intent on Hydrogen**, signed in September 2023, aims to support joint working to accelerate the development of an international hydrogen industry and underpin international trade in hydrogen.

[OUT OF SCOPE]

**Briefing for Cabinet Secretary for the Constitution, External Affairs and Culture
Investing in Green Hydrogen Conference, London - 2nd September 2024**

TIMINGS	ACTIVITY	VENUE	OFFICIAL SUPPORT	PURPOSE
06:25 – 08:05	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
08:15 – 09:00	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
09:00	Arrival at QEII			
09:30	Keynote address within panel session	Queen Elizabeth II Centre	[REDACTED]	<p>The Cabinet Secretary will deliver a speech followed by a Q+A panel session.</p> <p>The Cabinet Secretary will be joined in the room by:</p> <ul style="list-style-type: none"> Philip Steinberg, Director General for Economic Stabilization, Energy Security, Gas, Hydrogen Infrastructure for the German Federal Ministry for Economic Affairs and Climate Action. <p>Other panel members joining virtually are:</p> <ul style="list-style-type: none"> Dr. Sunita Satyapal - Director, Hydrogen and Fuel Cell Technologies Office -U.S. Department of Energy H.E. Terje Aasland - Minister of Petroleum and Energy - Government of Norway
10:30 - 11:30	Bi-lateral Meeting with Philip Steinberg, DG German Federal Ministry for Economic Affairs and Climate Action.	Third Floor, Private Room B Queen Elizabeth II Centre	[REDACTED]	<p>Opportunity to meet with top German official in charge of the teams that look after the UK-Germany hydrogen partnership; the German hydrogen import strategy (which name checks Scotland); onshore and offshore hydrogen infrastructure; and German IPCEI and other large-scale projects, e.g. Aquaventus</p> <p>[REDACTED]CEO of Hydrogen Scotland will join the Cabinet Secretary for this meeting.</p>
11:30 – 12:15	Bi-lateral meeting: ^[REDACTED] – CEO – Hydrogen Scotland		[REDACTED]	<p>An opportunity to listen to ^[REDACTED] perspectives on the development of the Hydrogen Industry in Scotland and the key opportunities and challenges for Government and the industry to address in order to maximise Scotland's industry potential.</p>
12:15 – 13:00	Break – lunch/urgent box work if needed		[REDACTED]	

[OUT OF SCOPE]

13:45 – 14:30	[REDACTED]	[REDACTED]	
[OUT OF SCOPE]			
[OUT OF SCOPE]			

BACKGROUND BRIEFING NOTES

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

Key briefing

[OUT OF SCOPE]

TOP LINES

- [OUT OF SCOPE]

- [OUT OF SCOPE]

[REDACTED]

[REDACTED]

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[OUT OF SCOPE]

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[OUT OF SCOPE] -

[OUT OF SCOPE]

- [OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

HYDROGEN SECTOR EXPORT PLAN (HSEP)

- We will shortly be publishing our Hydrogen Sector Export Plan – aiming for it to follow the publication of our Green Industrial Strategy and our Energy Strategy and Just Transition Plan.
- The HSEP will look at both opportunities for supply chain companies (goods and services) and for the export of hydrogen and hydrogen products (commodity).
- The HSEP will outline where we see the key international trade opportunities and set out the key and sequential steps that will be required to secure and maximise the economic benefits of these opportunities for Scotland and Scottish businesses.

- This work will include developing a Critical Success Factor Framework, that aims to identify the key enablers that will be required to support the development of the hydrogen sector and turn our global ambition into economic reality.
- Key to each sector export plan is that the sector themselves work in partnership with Government and its enterprise agencies to develop and deliver them.

[OUT OF SCOPE]

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The international market assessment and prioritisation exercise was completed using three primary themes: ambition, existing capability, and alignment. These metrics have produced the biggest opportunities around countries with high ambition in the hydrogen space, low domestic capabilities to fill gaps in the hydrogen supply chain and, great alignment between domestic supply chain gaps and Scottish hydrogen capabilities. As a result, countries such as Germany (ranked 15) ^[OUT OF SCOPE] with a strong domestic supply chain have ranked lower than counties with less

developed domestic capabilities. However, they still provide important markets for supply chain companies, especially as their sectors are developing more quickly.

[OUT OF SCOPE]

- It is important to note that while the report's selection of top five priority markets for supply companies based should not discourage current continued engagement by Scottish Government and SDI in other hydrogen priority markets such as Germany, ^[OUT OF SCOPE]

[OUT OF SCOPE]		

[OUT OF SCOPE]

[OUT OF SCOPE]

HYDROGEN EXPORT INFRASTRUCTURE

- [OUT OF SCOPE]

Ports and Harbours

- [OUT OF SCOPE]
- [OUT OF SCOPE]
- With Scotland well placed in terms of proximity and infrastructure connectivity to key hydrogen import locations in Northern Europe, we are 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.
- [OUT OF SCOPE]
- [OUT OF SCOPE]
- [OUT OF SCOPE] on Phase 2 of the Liquid Organic Hydrogen Carrier (LOHC) for Hydrogen Transport from Scotland Project (LHyTS), led by NZTC. This will carry out a feasibility assessment for a pilot trial for the shipment of LOHC from Scotland to the northern European mainland [OUT OF SCOPE], laying the foundations for establishing the viability of a strategic export route for hydrogen between Scotland and the EU.
- We want to further deepen this collaboration to ensure that our export infrastructure is compatible with key import infrastructure in Northern Europe.
- By working together on a coordinated North Sea approach to hydrogen production, supply and storage, we can ensure that Europe is world-leading in terms of low-cost, secure green hydrogen production.

[OUT OF SCOPE]

[OUT OF SCOPE]

European Hydrogen Backbone

- The European Hydrogen Backbone is a European industry led initiative to build a network that will link up carbon-free hydrogen supply and demand across 25 EU Member States plus Norway, the United Kingdom and Switzerland.
 - The Scottish Government has funded the Net Zero Technology Centre's Hydrogen Backbone Link project to assess the potential to connect Scotland to the European Hydrogen Backbone by either repurposing and optimising existing pipeline infrastructure or through the development of new infrastructure.
 - Phase 1 of the Hydrogen Backbone Link project involved a series of studies which assessed the opportunity for Scotland and the rest of the UK to supply hydrogen to Europe as part of an extensive hydrogen transport and distribution system, in order to help provide an insight into the backbone requirements for Scotland. Phase 1 identified:
 - several options for pipeline routing offshore, connecting main energy hubs in North East Scotland to the onshore European backbone via Emden in Germany. Both partial re-use cases and new pipelines were assessed and deemed feasible, with new pipelines providing an opportunity for accelerated deployment.
 - Scotland's potential within the future European hydrogen market, and the unique opportunities relating to Scotland resource potential and advantages to hydrogen production and export
 - [REDACTED]
 - Phase 2 of the Hydrogen Backbone Link project continues to investigate hydrogen pipeline options for Scotland, further assessing the requirements to deliver a hydrogen backbone link at scale.
 - [OUT OF SCOPE]
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- The Net Zero Technology Centre is further building relationships with EU partners to align on a North Sea infrastructure masterplan, building energy security and resilience into the future energy system, and exploring other export options including the shipping of LOHC and ammonia, particularly in the short to medium term.


[OUT OF SCOPE]

[OUT OF SCOPE]

BRIEFINGS FOR SEPARATE MEETINGS

Briefing Note 1 – German Federal Ministry for Economy and Climate Action (BMWK)

What	Bilateral with Dr Philipp Steinberg, BMWK Director General for Economic Stabilization, Energy Security, Gas, Hydrogen Infrastructure
Where	Private Meeting Room B – Third Floor of QEII Conference Centre
When	02 September 2024, 10:30 – 11:30
Key discussion points	<ul style="list-style-type: none"> • The development of green hydrogen is of profound importance to Scotland, and we see Germany as both an important supply chain partner and one of our major off-takers. • [REDACTED] • [REDACTED] • Scotland welcomes the UK-Germany hydrogen agreement from last September, as well as last week’s agreement to develop a further economic and security treaty. We hope that this can be used ambitiously to support our common net zero transition, including through the development of pipelines for the supply of green hydrogen.
Why	<p>An opportunity to:</p> <ul style="list-style-type: none"> • Reiterate the importance that Scotland places on the development of the green hydrogen sector. • Thank them for their engagement with Scotland, with [REDACTED] in particular, wider issues notwithstanding. Note that we understand Scotland’s role in wider UK-Germany partnerships and will always respect this. ^[REDACTED] <p style="text-align: right;">SG</p> <p>officials stand ready to help UK colleagues.</p> <ul style="list-style-type: none"> • Note that we have many shared and complementary interests. This is an area where we believe Scotland can fulfil its role as a good European neighbour and make positive contribution – for reasons of climate change, industrial decarbonisation and developing new clean sectors, as well as energy security. [OUT OF SCOPE]

	<ul style="list-style-type: none"> • Acknowledge mention of Scotland and of engaging with ‘regions’ in Germany H2 import strategy. • Stress that Scotland’s interest in the development of hydrogen pipeline infrastructure between the UK and Germany could make Scottish green hydrogen cost-competitive with more cheaply produced hydrogen from further afield. Phase 1 of the Hydrogen Backbone Link suggests [REDACTED] we look forward to the results of the ongoing UK-Germany pipeline feasibility study in the autumn. • Propose that representatives from the Scottish sector could add value to UK-German discussions on project and sectoral development, on production and offtake, and about pipelines and routeing, whether as part of the existing Energy and Climate partnership, as part of the pipeline feasibility study under the existing UK-Germany Hydrogen Partnership and its follow-up, or the new treaty negotiations. • Welcome the forthcoming UK-Germany economic and security treaty. We stand ready to assist on devolved aspects wherever we can. Ask what the BMWK would like to see included on energy. • [REDACTED] <p>• We appreciate Germany's support for large-scale hydrogen projects, including Aquaventus [offshore H2 production] and Aquaductus [offshore H2 pipeline, landing at Wilhemshaven], with whom we are in close contact. Understand that AQV CEO will speak at the Hydrogen Scotland annual conference in October. NZTC is currently completing a further project, which Gascade [the German AQD project lead] has reviewed, to identify the technical changes required for the Hydrogen Backbone Link to feed into the proposed Aquaductus pipeline.</p> <ul style="list-style-type: none"> • Invite PS to Scotland; offer whatever we can do to help. [Intro ^[REDACTED] to invite PS and ^[REDACTED] to Hydrogen Scotland conference in October.]
<p>Who</p>	<p>Dr Philipp Steinberg is one of 7 Ministerialdirigenten (DGs) at the BMWK. His portfolio includes ^[OU OF SCOPE] hydrogen infrastructure.</p> <div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>diversifying Germany’s energy with a particular focus on building energy infrastructure for liquid natural hydrogen. He has connections to the having previously studied in South He met [REDACTED] at a Northern German Hy5 event on ‘Wasserstoff im Norden: Wie sichern wir die Infrastruktur fuer morgen?’ that he was speaking at in May this year at the Schleswig-Holstein Landesvertretung.</p> </div> <div style="flex: 1; text-align: center;">  </div> <div style="flex: 1;"> <p>German</p> <p>supply, new gas and UK, Wales.</p> </div> </div>

[REDACTED]

Background Briefing

UK-Germany treaty announcement, 28 August 2024

Top lines

- [OUT OF SCOPE]
- We welcome the role that a new UK-Germany treaty could play in furthering those aims, particularly in relation to the development of key North Sea infrastructure that can support a net zero transition, including the development of pipelines for green hydrogen export from the UK and Scotland to Germany.
- [REDACTED]

[REDACTED]

- [REDACTED]

Scotland's Links to Germany and Europe

- Scotland's location just ^[OUT OF SCOPE] and 750km from ^[OUT OF SCOPE] north German coastlines means that it benefits from lower transport costs and durations than many other potential hydrogen export nations and is well-placed to ensure long-term security of supply of green hydrogen in Europe.
- With the EU and member states such as Germany [OUT OF SCOPE] identifying the need both to work together on research and technology developments and to import large amounts of green hydrogen, Scotland's close geographic proximity to growing centres of European hydrogen demand makes it an important contributing partner.
- Building on our proximity and infrastructure connectivity, we are keen to deepen our renewable energy and hydrogen-specific partnerships and to develop the transnational value chains needed to produce and deliver large-scale green hydrogen from Scottish ports into the major hydrogen import locations in Northern Europe.
- We are keen to work in particular with our near northern neighbours - with [OUT OF SCOPE] that can supply Germany, [OUT OF SCOPE]

Germany and Scotland

- Where Germany's hydrogen import strategy states that Germany is looking to import 45-90 TWh of green hydrogen by 2030, 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 offshore wind. This is why Germany, along with the [OUT OF SCOPE], is one of our priority targets for hydrogen export engagement.
- Key partners include the Hy5 partnership of north German hydrogen states, in particular Hamburg where we signed a JDol in 2020, Lower Saxony and Bremen, as well as North Rhine Westphalia, Baden-Württemberg and Bavaria where we have agreements focussing on H2.
- In 2020, the **RSE Scotland-Germany Hydrogen Research Scheme**, funded by the Scottish Government, was set up to facilitate international collaboration between Scottish and German higher education institutions. It aimed to foster research and practice-based hydrogen partnerships between Scotland and Germany to lead the way towards a decarbonised future.
- The **Scot2Ger project feasibility study**, announced at COP26 in 2020 and published in June 2022, assessed the feasibility of exporting renewable hydrogen from Scotland to off-takers near

a north German port. The study confirmed Scotland's capability to supply green H2 and derivatives to Germany, as well as the feasibility of building a supply chain.

- Projects emerging from Scot2Ger should pave the way for future hydrogen exports in the form of ammonia or liquid hydrogen. Other export projects that are taking shape include LH2 Europe which is looking to export commercial levels of liquid hydrogen by 2029.
- In addition, the Scottish Government has funded two **North Sea Alliance Scottish – German Bilateral Hydrogen research projects** led by the Net Zero Technology Centre (NZTC) in partnership with German consultancy Cruh21 (matching Scottish H2 production to German hydrogen demand) and the German North Sea hydrogen organisation AquaVentus (investigate pipeline infrastructure between Scotland and Germany within a North Sea context).
- The **UK-Germany Joint Declaration of Intent on Hydrogen**, signed on 26 September 2023 in Berlin aims to support the UK and Germany to work together to accelerate the development of an international hydrogen industry and underpin the international trade in hydrogen. Its signing provides a strong framework for further collaboration between Scotland and Germany.
[REDACTED]

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

- [OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

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[OUT OF SCOPE]

- [OUT OF SCOPE]

[OUT OF SCOPE]

[OU OF SCOPE]

Q&A Briefing**International Collaboration****Q. What is Scotland's approach to working internationally on hydrogen?**

In Scotland we understand and value the importance of working together to develop the hydrogen sector at the pace required. No single region, nation or government can deliver the global hydrogen economy alone and that is why Scotland's approach emphasises the importance of working collaboratively.

We are proud members of key European alliances such as the Vanguard Initiative, Hydrogen Europe's Regional Pillar, and we co-chair Europe's Under 2 Coalition. We have also signed a number of international agreements on hydrogen, we have signed various MOU signed with Hamburg and with North Rhine-Westphalia in March 2022, a Letter of Intent was signed with Bavaria in May 2022 and with Baden-Württemberg in November 2022. [OUT OF SCOPE]

We have welcomed a number of international delegations to Scotland to view first hand our work within the hydrogen sector. This has given us the opportunity to learn and develop together.

Moving forward we believe that because Scotland has extensive renewable resources, 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.

Over the coming years, we will continue to strengthen bilateral and multilateral relations with Scotland's near northern neighbours. To promote regional cooperation and understanding and heighten awareness of the region's green hydrogen potential.

Q. How important is collaboration international hydrogen research and innovation space to Scotland?

As we are looking to build the hydrogen sector we must develop innovative and robust solutions to ensure the sector thrives. Central to this is working collaboratively with global partners. In Scotland we are proud of our research institutions, and when considering hydrogen we are strong supporters of high quality collaborative research.

The Scottish Government have funded the RSE Scotland-Germany Hydrogen Research Scheme is funded by the Scottish Government with the purpose to facilitate international collaboration between Scottish and German higher education institutions. Its aim is to foster research and practice-based partnerships between Scotland and Germany to lead the way towards a decarbonised future.

We have also funded a number of studies to assess the connection of Scotland to the European Hydrogen Backbone, such as the Net Zero Technology Centre's Hydrogen Backbone Link project, and the recently funded the North Sea Alliance Scottish – German Bilateral Hydrogen research project.

This project is led by the Net Zero Technology Centre (NZTC) in partnership with the German consultancy Cruh21, and the German organisation AquaVentus. The work will investigate pipeline infrastructure between Scotland and Germany; and look to match Scottish hydrogen production to German hydrogen demand.

We have also funded the Liquid Organic Hydrogen Carrier (LOHC) for Hydrogen Transport from Scotland Project (LHyTS), led by NZTC. This project has carried out a feasibility assessment for a pilot trial for the

shipment of LOHC from Scotland to the northern European mainland ^[OUT OF SCOPE], laying the foundations for establishing the viability of a strategic export route for hydrogen between Scotland and the EU.

Through collaborating within the research and innovation space we can work together to deliver a hydrogen sector at the pace required to meet our shared net zero targets.

Q. What measures are Scotland taking to ensure the appropriate infrastructure is in place to contribute to an international hydrogen market?

One of the key challenges when developing the hydrogen sector is understanding the most effective and efficient ways to transport hydrogen for export.

Scotland is well placed in terms of proximity and infrastructure connectivity to potentially be an export hub linking the North Sea region and the north of Europe. Our analysis has revealed that Scotland has the potential to produce over 3 million tonnes of green hydrogen per year by 2045, with up to 2.5 million tonnes of hydrogen for export.

To realise our export potential, we are currently developing a Hydrogen Sector Export Plan, which will set out the steps we will take, positioning Scotland as a key contributor to the global green hydrogen sector.

The Scottish Government is currently assessing the most cost-effective options for transportation and export of hydrogen from Scotland to Europe, and that it is likely that different options, such as gaseous hydrogen pipelines, and marine vessel transportation of liquid hydrogen, green ammonia and methanol, and Liquid Organic Hydrogen Carriers (LOHC), could all be used for export at different scales and depending on end-purposes and off-takers.

We have funded the Net Zero Technology Centre in Scotland to take forward a series of studies considering the export of gaseous hydrogen via pipeline between Scotland and the North of Europe.

In regard to transporting hydrogen via shipping, we have part-funded alongside other important European partners such as the Port of Rotterdam a study to consider the transport of hydrogen from Scotland to Europe via shipments. This study has carried out a feasibility assessment for a pilot trial for the shipment of LOHC from Scotland to the northern European mainland ^[OUT OF SCOPE], laying the foundations for establishing the viability of a strategic export route for hydrogen between Scotland and the EU.

Export of Hydrogen

Q. What barriers exist to meeting the full export potential of low carbon hydrogen? If they exist, what are you doing to take down these barriers?

Critically, the size of the opportunity for Scotland and the UK in relation to export will be determined not only by the scale of global demand but also by our ability to act at pace to secure a strong position in the international hydrogen market.

In addition to the infrastructure requirements we have covered, many of the barriers to realising the full export potential of low carbon and renewable hydrogen are the same barriers we must tackle to accelerate the domestic uptake of hydrogen.

One of the key barriers we will seek to address through delivery of the Hydrogen Action Plan is the high production cost of hydrogen relative to high-carbon fuel alternatives. In June 2022, we launched the Hydrogen Innovation Scheme, to support innovation in hydrogen production, storage and distribution technology. This funding will help drive advancements in hydrogen technology to improve the cost-competitiveness of renewable hydrogen – not only facilitating integration of green hydrogen within our own energy system but also better preparing Scotland to compete in the global hydrogen market.

Just as a supportive regulatory framework is required to support the development of domestic supply of and demand for hydrogen, so too must we ensure that regulations do not act as a barrier to trade.

International 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 therefore 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.

We are already working with our international network and industry stakeholders to identify any barriers market access barriers which could restrict the trade of hydrogen, hydrogen derivatives and goods and services across hydrogen supply chains. This will enable us to work with the UK Government to ensure the UK's trade negotiations and policies support the development of a global hydrogen market.

Q. The Scottish Government strategies outline the export potential of hydrogen in Scotland. How are you ensuring the infrastructure is in place to guarantee this potential is achieved?

Scotland, due to its close geographic proximity to growing centres of hydrogen demand in Europe, being only ^[OUT OF SCOPE] 750km from the coastlines of [OUT OF SCOPE] and Germany respectively, benefits from lower transport costs than many other potential hydrogen exporting nations.

This proximity, existing connectivity to Europe, and Scotland's vast offshore wind resources offers the potential to not only export hydrogen by ship, but establish new or repurpose existing pipeline infrastructure to facilitate the transport of hydrogen from Scotland to Europe.

Pipelines have been illustrated to be the cheapest option for the transportation of large volumes of hydrogen across long distances and we are keen to ensure centres of hydrogen 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.

However, it is likely that multiple options, including marine vessel transportation of liquid hydrogen as well as hydrogen derivatives such as green ammonia, methanol and Liquid Organic Hydrogen carrier (LOHC), could all be used for export at different scales depending on off-taker requirements.

Ports will be key to the development of our hydrogen export ambitions and so we supporting further collaboration with key ports in northern mainland Europe such as [OUT OF SCOPE], 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.

We are currently part of a consortium of international partners working with the Net Zero Technology Centre on, which seeks to demonstrate to demonstrate that LOHC can be successfully transported at scale, providing an export route to [OUT OF SCOPE]. This will lay the foundations for establishing the viability of a strategic export route for hydrogen between Scotland and the EU.

We are currently 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. The Hydrogen Export Plan will consider the short-term export opportunities around skills and the supply chain, as well as the economic opportunity for Scotland represented by the export of renewable hydrogen in the longer term.

Q. Will the Scottish Government produce and/or export renewable (green) or low carbon (blue) hydrogen?

Our priority is to get as much renewable (green) hydrogen into the energy system as quickly as possible, while supporting the development of low carbon (blue) hydrogen production in the 2020s.

We consider that low carbon hydrogen will play a significant role in the ramp-up phase to help establish a hydrogen economy in Scotland. Our priority remains to build a net zero, renewable hydrogen economy, and it is renewable hydrogen that we shall seek to export to Germany ^[OUT OF SCOPE]

[OUT OF SCOPE]

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European Hydrogen narrative – June 2024

- Scotland can play a central role as a trusted and reliable trading partner in securing Europe's future energy supply and accelerating the global transition to net zero.
- Scotland has the resources, people and ambition to become a world leader in the production of reliable, competitive, sustainable hydrogen, with our Hydrogen Action Plan setting out how we will work collaboratively with partners to deliver our ambition of 5 GW of renewable and low-carbon hydrogen by 2030 and 25 GW by 2045.
- This will put us on the pathway to becoming a leading hydrogen nation by 2045 and provide the potential to secure Scotland's future as a centre of international excellence as we establish the innovation, skills and supply chain that will underpin our energy transition.
- With geopolitical events having triggered an acceleration of efforts in Europe to reduce fossil fuel consumption, reduce reliance on Russian oil and gas, and increase hydrogen production and use, we are focused on taking action to ensure Scotland is prepared to play a key role in meeting the growing global demand for hydrogen.
- In particular, Scotland's extensive renewable resources and geographic location mean we are well-placed to ensure long-term security of supply of green hydrogen in Europe.

[OUT OF SCOPE]

Links to Europe

- Scotland's location only ^[OUT OF SCOPE] and 750km from ^[OUT OF SCOPE] north German coastlines means that it benefits from lower transport costs and durations than many other potential hydrogen export nations and is well-placed to ensure long-term security of supply of green hydrogen in Europe.
- With the EU and member states such as Germany, **[OUT OF SCOPE]** identifying the need both to work together on research and technology developments and to import large amounts of green hydrogen, Scotland's close geographic proximity to growing centres of European hydrogen demand makes it an important contributing partner.
- Whilst pipelines are the cheapest option for the transportation of large volumes of hydrogen across long distances, it is likely that multiple options, including shipped transportation of liquid hydrogen, green ammonia and methanol, and Liquid Organic Hydrogen carrier (LOHC), could all be used for export at varying scales, depending on off-taker requirements.
- Building on our proximity and infrastructure connectivity, we are keen to deepen our renewable energy and hydrogen-specific partnerships and to develop the transnational value chains needed to produce and deliver large-scale green hydrogen from Scottish ports into the major hydrogen import locations in Northern Europe.
- To this end, Scotland has signed partnership agreements or is working closely on hydrogen with German states including Baden-Württemberg, Bavaria, North Rhine-Westphalia and Hamburg, Lower Saxony and the Hy-5 partnership of north German states, as well as with Occitania in France and with Denmark.
- **[OUT OF SCOPE]**
as an alliance of producing nations that can supply Germany, ^[OUT OF SCOPE]

- Alongside our domestic networks, we are reviewing the preparedness of our ports and terminal infrastructure for hydrogen export and are engaging with emerging hydrogen hubs such as ^[OUT OF SCOPE] Hamburg, Wilhelmshaven and ^[OUT OF SCOPE] to ensure that our export infrastructure is compatible with key import infrastructure.
- This includes Scotland's Net Zero Technology Centre (NZTC) working with the ^[OUT OF SCOPE] and other strategic partners on Phase 2 of the LHyTS project (LOHC for Hydrogen Transport from Scotland) - assessing the feasibility for a pilot shipment of LOHC from Scotland to the northern European mainland ^[OUT OF SCOPE] and of a strategic export route between Scotland and the EU.
- We are also engaging closely with Hamburg, which wishes to build out its port infrastructure for shipped green ammonia and liquid hydrogen imports, including for onward distribution to northern and central Europe, and with Lower Saxony, where Wilhelmshaven aims to produce or import 50% of Europe's green hydrogen.
- **[OUT OF SCOPE]**

- In particular, our proximity and existing infrastructure connectivity to Europe makes transporting gaseous hydrogen by pipeline a cost-competitive option..

to Europe could result in up to £25 billion Gross Value Added (GVA), with over 300,000 jobs supported by 2045. The ranges across the three scenarios were £5-25 million GVA and 70,000 to 300,000 jobs.

- The Scottish Government-funded Hydrogen Backbone Link project (HBL) has assessed the potential to connect Scotland to the European Hydrogen Backbone by either repurposing and optimising existing pipeline infrastructure or developing new pipelines.²
- The recent NZTC phase 1 report of August 2023 reaffirms the significant market opportunity in Northern Europe and Scotland’s potential within future European hydrogen markets. Based on Scotland’s resources and advantages for hydrogen production and export, it identifies viable pipeline routes that would be feasible for accelerated deployment, and several options for pipeline routing offshore that would connect major energy hubs in North East Scotland to the onshore European Hydrogen Backbone via e.g. Emden in Germany (now more likely to be Wilhelmshaven as the landing point of the German Aquaductus pipeline).
- The Phase 1 HBL report concludes that whilst it would be feasible to use existing pipelines, the development of new pipelines through an existing corridor [OUT OF SCOPE]
- [OUT OF SCOPE]

- Phase 2 of the Hydrogen Backbone Link project is now assessing the hydrogen pipeline options for Scotland and the requirements to deliver a hydrogen backbone link at scale.
- In addition, the NZTC is building relationships with EU partners to align on North Sea infrastructure and to build energy security and resilience into the future energy system.
 - Funded by Scottish Government, it has recently published a joint study with German hydrogen consultancy Cruh21 on hydrogen supply from Scotland, German offtake, and transportation options. It is working with the German offshore hydrogen consortium AquaVentus on North Sea infrastructure, and [OUT OF SCOPE] on the potential transportation of hydrogen via Scotland [OUT OF SCOPE] to northern Europe.
- This is significant as Scotland positions itself both for point-to-point export and as a northern European hydrogen hub. By working with partners on a coordinated North Sea approach to hydrogen production, supply and storage, we want to help ensure that Europe is world-leading in terms of low-cost, secure green hydrogen production.
- Accordingly, we aim to deepen both bilateral and multilateral relations to develop the sector, to promote regional cooperation and understanding, and to strengthen the North Sea corridor’s role in supplying EU import countries and providing energy security.

International collaboration - multilateral agreement and associations

- Given the increased interest from across Europe in hydrogen imports, we are keen to work with – in addition to the rest of the UK - [OUT OF SCOPE] as an alliance of producing nations that can supply Germany, [OUT OF SCOPE]. We recognise that international co-operation will be key to developing future hydrogen markets and their supporting infrastructure and will continue to seek out collaboration opportunities.

² The European Hydrogen Backbone is a European industry-led initiative to build a network that will link up carbon-free hydrogen supply and demand across 25 EU Member States plus Norway, the United Kingdom and Switzerland. In addition, the Hydrogen Backbone Link project is working with UK National Grid on alignment with their ‘Project Union’ – an onshore UK hydrogen backbone that will allow for UK market distribution of Scottish hydrogen via St Fergus and Aberdeen. Please note that whilst decisions pertaining to the export of shipped hydrogen are devolved, the regulation of pipelines will be a reserved matter.

- To this end, Scotland has signed partnership agreements and is working closely on hydrogen with German states including Baden-Württemberg, Bavaria, North Rhine-Westphalia and Hamburg, Lower Saxony and the Hy-5 partnership of north German states, as well as with [OUT OF SCOPE]
- Our industry body, Hydrogen Scotland, similarly has international agreements across Germany, [OUT OF SCOPE]
- We additionally welcome the UK agreements with Germany, [OUT OF SCOPE] as providing provides a strong framework for further international collaboration.
- In addition to the Hydrogen Backbone Link and LOHC LHyTS ['Lights L.O.H.C' - LOHC for Hydrogen Transport from Scotland] projects, we are monitoring and supporting practical projects with European partners, e.g. the HyLion and LH2 Europe projects which aim to deliver green hydrogen in liquid form from Scotland to German off-takers.
- [OUT OF SCOPE]

[OUT OF SCOPE]

[REDACTED]

Key offtake nations:

- Scotland is keen to work together with the EU and northern EU member states to take a strategic view on sectoral development and to plan the optimal transportation routes for hydrogen and its derivatives along the northern European coast, including into Germany, the [OUT OF SCOPE] .

Germany

- Where Germany's revised national hydrogen strategy states that Germany is looking to import up to 90 TWh of green hydrogen by 2030, 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 offshore wind.
- Whilst we don't expect to export solely to Germany, we believe that our export ambitions align well with Germany's import requirements as stated in its hydrogen strategy. This is why Germany, [OUT OF SCOPE] is one of our priority targets for hydrogen export engagement.

- Key partners include the Hy5 partnership of north German hydrogen states, in particular Hamburg where we signed a JDol in 2020, Lower Saxony and Bremen, as well as North Rhine Westphalia, Baden-Württemberg and Bavaria where we also have agreements focussing on H2.
- [REDACTED]

- The **Scot2Ger project** feasibility study, announced at COP26 in 2020 and published in June 2022, assessed the feasibility of exporting renewable hydrogen from Scotland to offtakers near a north German port. The study confirmed Scotland’s capability to supply green H2 and derivatives to Germany, as well as the feasibility of building a supply chain.
- Projects emerging from Scot2Ger should pave the way for future hydrogen exports in the form of ammonia or liquid hydrogen. Other export projects that are taking shape include **LH2 Europe** which is looking to export commercial levels of liquid hydrogen by 2029.
- In addition, the Scottish Government has funded two **North Sea Alliance Scottish – German Bilateral Hydrogen research projects** led by the Net Zero Technology Centre (NZTC) in partnership with German consultancy Cruh21 and the German North Sea hydrogen organisation AquaVentus. These will investigate pipeline infrastructure between Scotland and Germany and look to match Scottish H2 production to German hydrogen demand.
- The **UK-Germany Joint Declaration of Intent** on Hydrogen, signed on 26 September 2023 in Berlin aims to support the UK and Germany to work together to accelerate the development of an international hydrogen industry and underpin the international trade in hydrogen. Its signing provides a strong framework for further collaboration between Scotland and Germany.

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[OUT OF SCOPE]

[OUT OF SCOPE]

From: [REDACTED]
To: [REDACTED]
Subject: Arup Insight May 2024 for DSNEZ: Potential export of H2 from UK to continental Europe
Date: 09 September 2024 21:46:06
Attachments: [image002.png](#)

Good evening [REDACTED] ,

I forgot to mention this earlier. When I spoke with [REDACTED] the IGH conference in London last Monday she mentioned this Arup Insight report for DSNEZ. This has some very useful content and can be accessed on the Arup website, but I cannot find it on the UKG website.

This report for DSNEZ on [The potential for exporting hydrogen from the UK to continental Europe](#) was released in May 2024. The disclaimer states: *This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.*

The potential for exporting hydrogen from the UK to continental Europe

10th May 2024

This report, commissioned by the UK Department for Energy Security and Net Zero (DESNZ) explores the strategic, technical, and economic factors of different transportation methods for hydrogen export from the UK to continental Europe. Projected demand for low-carbon hydrogen in the UK under the net zero 2050 emissions scenarios is significant. A strong pipeline of low carbon hydrogen projects has been identified to meet this demand, which has encouraged policy makers and industry to consider the potential of connecting future UK hydrogen infrastructure with continental Europe.



If a decision on hydrogen export is delayed until surplus hydrogen production is available, the UK's competitive position in export may be affected. Since the development timeline of hydrogen export infrastructure is significant, it is recommended that the development of a potential export route to Europe is considered as part of the strategic planning for UK domestic core hydrogen infrastructure network. This approach would mitigate against key risks from:

1. The potential cost impacts of establishing an export route solely based on the location of electrolytic hydrogen production.
2. The potential schedule impacts of delaying a decision on export routeing until a UK core hydrogen network is established.

Continuing the development of a potential export route through further studies and engagement with potential importers in Europe would provide the opportunity to gather further evidence and mitigate against the above risks.

Key recommendations from this study are described below (see pages 96-97 of the full report):

- DESNZ should further consider the options for an optimal hydrogen export route via pipeline from the UK to continental Europe, considering the UK's national hydrogen production, demand, and transportation and storage strategy.

- DESNZ should engage with counterparts in Germany, the Netherlands and Belgium to progress the development of potential export corridors. Engagement with other European countries should also be considered, but priority should be given to Germany, the Netherlands and Belgium considering their proximity to the UK, existing gas trade and the ramp up of hydrogen demand and infrastructure development in these countries.
- Development of a low carbon hydrogen certification scheme accepted under the European RED and common specification for hydrogen quality should be developed as a matter of priority with input from industry.
- DESNZ should start considering a pipeline for the export of hydrogen to continental Europe in its strategic planning for UK hydrogen infrastructure to enable further development of estimated tariff rates and to support a potential business case for an export pipeline. Strategies for identifying hydrogen production to be exported should be developed in conjunction with the existing hydrogen production, transportation, and storage strategies, domestic industrial decarbonisation targets, carbon budgets, and economic targets to support the development of tariff estimates for an export route, providing a basis for a business case and potentially improve the bankability of the project.
- Consider stronger messaging on UK support for hydrogen exports to encourage potential production projects to begin development.
- Develop an investment risk reduction program to begin to progress potential export systems towards bankability.
- Shipping is a less competitive option for the export of UK hydrogen to the most developed European hydrogen demand centres (north west Europe) compared to pipeline export and should therefore be considered a secondary option for the export of hydrogen to Europe.
- Where shipping to Europe is concerned, Southern Europe may have high import demand and shipping is the only economically viable option for export, therefore the development of the import market in countries such as Italy and Greece should be monitored. Since the LCOT for shipping of ammonia and LOHCs remains almost constant regardless of the distance transported, the import demand in other regions should also be monitored.
- It is recommended that shipping is considered as a project specific route to market, rather than a strategic UK export route for large volumes of hydrogen.

The following further work activities are recommended to be reviewed as part of the next phase of this project:

- External engagement with counterparts in Belgium, the Netherlands and Germany to collaborate on a potential hydrogen export / import infrastructure project.
- Further development of the technical solution for export to minimise the LCOT of a potential pipeline system and narrow down potential export corridor options, considering:
 - Further design of the compression systems required for pipeline export, considering synergies with existing infrastructure, to minimise the LCOT of a pipeline export option. Consider whether any existing platforms can be utilised.
 - Further design of the offshore compression facilities in terms of water depth and location in national waters. Further design of the offshore compression facilities in terms of water depth and location in national waters.
 - Further work to determine the most appropriate pipeline diameter with respect to the existing flowrate considerations but also future throughput aspirations. The cost of the pipeline does not scale linearly with pipeline diameter therefore, it is usually more appropriate to oversize a pipeline (subject to meeting minimum velocity and pressure drop considerations).
 - Further work considering the technological advancements of each derivative production technology (i.e. advancements in green ammonia, hydrogen liquefaction, or LOHC conversion processes) option. There is potentially some cost reduction either through competitiveness in the market or economies of scale which are not shown in this study.
 - Further development of route corridors to minimise the length of pipeline connections considering the technical, environmental, and regulatory constraints present.
 - Evaluation of the technical requirements for connecting into a wider offshore international North Sea hydrogen pipeline network.
 - Further consideration of production and transport and storage infrastructure in the UK and its phasing to narrow down potential export location locations based on different hydrogen infrastructure development scenarios in the UK.
- Development of an economic case for a potential pipeline export system, considering the cost of investment, potential tariffs to deliver certain rates of return based on the technical design constraints of the pipeline.
- A study considering the effect of exporting low carbon hydrogen on the UK Carbon Budget is also recommended to evaluate the potential decarbonisation benefits of hydrogen export.
- More information should be sought to consider ammonia as a landed product itself and the relative benefits / drawbacks of creating a green-ammonia transportation cycle.

Link to Arup Insight full report, 10 May 2024 (pdf 13MB): <https://www.arup.com/insights/the-potential-for-exporting-hydrogen-from-the-uk-to-continental-europe/>

[REDACTED]

[OUT OF SCOPE]

[OUT OF SCOPE]

From: [REDACTED]

Sent: Wednesday, August 14, 2024 5:27 PM

To: [REDACTED]

Subject: RE: Further Details: Hydrogen – Supporting Scotland’s Energy Future. 28 August 2024

Caution: This email originated from outside of the EIC. Do not click any links or open any attachments unless you recognize the sender and know the content is safe.

Many thanks ^[REDACTED], that is very helpful.

[REDACTED]

[REDACTED]

You asked for three key points. I’m currently on leave until 26 August so haven’t had opportunity to think it through properly but off the top of my head I would consider something along the lines of the following:

Building on the outline provided by ^[REDACTED] at Scottish level and the overall potential of onshore and offshore energy production, coupled with grid

constraints, I bring a complementary international perspective:

i. **Value of:**

- a. global markets for supply chains looking to export; and
- b. **northern European markets for H2 commodity**, providing a certainty of market that may enable projects to proceed more quickly, scale and reduce costs; importance of the North Sea corridor to Europe (European Hydrogen Backbone; German Hydrogen Import Strategy)

ii. [REDACTED]

- iii. the **important role of infrastructure** within this - ports for shipped exports and North Sea pipeline infrastructure for gaseous exports - [REDACTED] will speak to potential pipeline infrastructure and HBL later; in [REDACTED]

Do let me know if this is along the lines of what you're looking for. I've also copied in [REDACTED] for his thoughts.

With best wishes,
[REDACTED]

[REDACTED]



From: [REDACTED]

Sent: Wednesday, August 14, 2024 3:50 PM

To: [REDACTED]

Subject: Further Details: Hydrogen – Supporting Scotland's Energy Future. 28 August 2024

Good afternoon everyone,

Thank you so much for your time today to discuss your session at the upcoming hydrogen masterclass. As promised please find further details for the day below:

Title: Hydrogen – Supporting Scotland’s Energy Future
Date: Wednesday 28th August 2024
Time: 09:00 – 16:30
Location: [The Marcliffe Hotel & Spa, North Deeside Road, Pitfodels, Aberdeen. AB15 9YA.](#)

Agenda: The agenda for the day is attached.

Delegate List: See attached (interestingly only 24% of companies listed here attended the previous Hydrogen masterclass)

Parking: There is plenty of onsite parking at the Marcliffe Hotel.

On Arrival: On arrival please make your way to [The Ballroom](#), this is located on the first floor of the hotel and can be accessed via the main staircase in the reception area. EIC staff will be at the event registration desk at the ballroom entrance to welcome you.

Please could I ask that you arrive at 9am to allow EIC to make sure that you are comfortable with the set up etc. before you session time.

One-to-One Sessions: I did forget to mention on our call that we will be holding 1-2-1 meet the speaker sessions in the afternoon. **Please can you let me know if you would prefer not to take part in these.**

All 1-2-1’s will be pre allocated times in 10 minute slots that will take place after the final speaker session of the day. You will be allocated a table at the back of the room for your 1-2-1 sessions, please feel free to bring company information /pop up banners etc if you wish. Your 1-2-1 session timetable will be sent to you in advance of the event.

Thank you all once again for agreeing to speak. If you have any queries please do not hesitate to contact me. [REDACTED]

See you on the 28th!

Kind regards,
[REDACTED]

[REDACTED]
[EIC \(Energy Industries Council\)](#)

[REDACTED]



Follow [@TheEICEnergy](#) on Twitter

From: [REDACTED]
To: [REDACTED]

Cc: [REDACTED]
Subject: RE: Action - cop Weds - UK-Germany bilateral treaty - seeking your views to shape our negotiating goals. Longish email but short targeted action for you.
Date: 18 September 2024 13:34:40
Attachments: [image001.png](#)

Hi [REDACTED]

In relation to hydrogen, the message that we received from Dr Philip Steinberg and [REDACTED] when Cab Sec met them in London earlier this month is [REDACTED]

indicated that the UK-Ger export feasibility study is due to be completed in the Autumn [REDACTED]

[REDACTED]

[REDACTED]

Thanks,

[REDACTED] | Hydrogen Regulation and International Engagement Team Leader | Energy Industries Division | The Scottish Government | Victoria Quay | Edinburgh | EH6 6QQ | [REDACTED]

From: [REDACTED]
Sent: Tuesday, September 17, 2024 4:45 PM
To: [REDACTED]

From: [REDACTED]

Subject: RE: ADDITIONAL REQUEST FOR LINES
Date: 11 September 2024 09:46:00

With thanks to [REDACTED], additional background / lines to cover the premise of the National query:

EXPORT AMBITIONS TO GERMANY/EUROPE

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. Our export of hydrogen will not be to the detriment of local demand.

- 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 ScotWind leasing round. This is in addition to our onshore wind production and other planned offshore wind projects.
- Of course, we don't expect to export solely to Germany and we are open to export and collaborate with other countries and nations, but we do think that our export ambitions align well with the import requirements that Germany has stated in their hydrogen strategy and that is why Germany is one of our priority targets for hydrogen export engagement.
- We are building our hydrogen production capability to meet an ambition of 5GW of renewable and low-carbon hydrogen by 2030 and 25GW by 2045.
- Based on the scenarios developed as part of our Scottish Hydrogen Assessment report, this would give Scotland the potential to deliver up to 126TWh of green hydrogen per year by 2045, with up to 94TWh of hydrogen for export to Europe and the rest of the UK. This translates into a potential to export approximately 2.5 million tonnes of hydrogen annually by 2045. We are currently developing a hydrogen export plan.

[REDACTED]

From: [REDACTED]

Sent: Wednesday, September 11, 2024 9:25 AM

To: [REDACTED]

Subject: RE: ADDITIONAL REQUEST FOR LINES

With apologies for any roughness resulting from speed:

Pipeline to Germany

- With the EU and member states such as Germany, [OUT OF SCOPE] identifying the need both to work together on research and technology developments and to import large amounts of green hydrogen, Scotland's close geographic proximity to growing centres of European hydrogen demand (under [OUT OF SCOPE] and 750 km to northern Germany) makes transporting gaseous hydrogen by pipeline a cost-competitive option.
- The Scottish Government has funded the Net Zero Technology Centre's Hydrogen Backbone Link project to assess the potential to connect Scotland to a European Hydrogen Backbone by either repurposing and optimising existing pipeline infrastructure or through the development of new infrastructure.
 - Phase 1 of the Hydrogen Backbone Link project involved a series of studies which assessed the opportunity for Scotland and the rest of the UK to supply hydrogen to Europe as part of an extensive hydrogen transport and distribution system, in order to help provide an insight into the backbone requirements for Scotland. Phase 1 identified: several options for pipeline routing offshore, connecting main energy hubs in North East Scotland to the onshore European backbone via Emden in Germany. Both partial re-use cases and new pipelines were assessed and deemed feasible, with new pipelines providing an opportunity for accelerated deployment.
- The Scottish Government has also funded the **North Sea Alliance Scottish – German Bilateral Hydrogen research project** led by the Net Zero Technology Centre (NZTC) in partnership with the German consultancy Cruh21, and the German umbrella organisation AquaVentus. The work is investigating the potential for pipeline infrastructure between Scotland and Germany. In addition to this, NZTC is undertaking its own technical project work with German partners.
- Whilst pipelines are the cheapest option for the transportation of large volumes of hydrogen across long distances, it is likely that multiple options, including shipped transportation of liquid hydrogen, green ammonia and methanol, and Liquid Organic Hydrogen carrier (LOHC), could all be used for export at varying scales, depending on off-taker requirements.

[OUT OF SCOPE]

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[OUT OF SCOPE]

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Background:

- The most ambitious economic impact scenario developed as part of the 2020 Scottish Hydrogen Assessment Project suggested that Scotland, thanks to our wealth of natural resources and strengths in the energy sector, has the potential to deliver up to 126 TWh of green hydrogen per year by 2045 (3.3 Mt), generated to a large extent from offshore wind, with up to 94TWh (2.5 Mt) of this for export to Europe and the rest of the UK.
- Against this, Germany's revised National Hydrogen Strategy (June 2023) and National Hydrogen Import Strategy (June 2024) state that Germany is looking to import up to 90 TWh of green hydrogen by 2030. [REDACTED]
- In particular, our proximity and existing infrastructure connectivity to Europe makes transporting gaseous hydrogen by pipeline a cost-competitive option.
- The Scottish Government-funded Hydrogen Backbone Link project (HBL) has assessed the potential to connect Scotland to the European Hydrogen Backbone by either repurposing and optimising existing pipeline infrastructure or developing new pipelines.^[1]
- [REDACTED]
- The Phase 1 HBL report concludes that whilst it would be feasible to use existing pipelines, the development of new pipelines through an existing corridor into Danish and Norwegian waters and south to mainland Europe would enable accelerated deployment.
- It suggests that developing new pipelines linking St Fergus, Port of Cromarty, Flotta and Shetland could [REDACTED]
Such anticipated transportation costs could make the cost of delivered green hydrogen produced in Scotland internationally cost-competitive

[REDACTED]

- Phase 2 of the Hydrogen Backbone Link project is now assessing the hydrogen pipeline options for Scotland and the requirements to deliver a hydrogen backbone link at scale.
- [OUT OF SCOPE]
 - Funded by Scottish Government, it has recently published a joint study with German hydrogen consultancy Cruh21 on hydrogen supply from Scotland, German offtake, and transportation options. It is working with the German offshore hydrogen consortium AquaVentus on North Sea infrastructure, and ^[OUT OF SCOPE] on the potential transportation of hydrogen via Scotland [OUT OF SCOPE]
- [REDACTED]
-

TO NOTE

The determination of where pipelines will be routes is a reserved matter.
[REDACTED]

Happy to develop further or provide further info.
[REDACTED]

From: [REDACTED]

Sent: Wednesday, September 11, 2024 8:51 AM

To: [REDACTED]

cc: [REDACTED]

Subject: RE: ADDITIONAL REQUEST FOR LINES

Adding [REDACTED] for international/German hydrogen interests.

[REDACTED]

From: [REDACTED]

Sent: Wednesday, September 11, 2024 8:45 AM

To: [REDACTED]

Cc: [REDACTED]

Subject: RE: ADDITIONAL REQUEST FOR LINES

Adding [REDACTED] for Green Industrial Strategy.

From: [REDACTED]

Sent: Wednesday, September 11, 2024 8:43 AM

Subject: RE: ADDITIONAL REQUEST FOR LINES

Copying additional colleagues as per OOO

--

[REDACTED]

Pronouns: She/Her

From: [REDACTED]

Sent: Wednesday, September 11, 2024 8:38 AM

To: [REDACTED]

Cc: [REDACTED]

Subject: ADDITIONAL REQUEST FOR LINES

Morning colleagues,

I'm on a visit this morning with the Cab Sec and DFM they are launching the Green Industrial Strategy at 930am.

The National, who will be attending, have been in touch to say that they will be wanting to ask about updates on the plans for the green hydrogen pipeline between Scotland and Germany today, and also [OUT OF SCOPE] and what may have come out of talks a week or so ago.

Grateful please if officials could send over key bullets to DFM and Cab Sec on this please by 915 this morning please ahead of the visit starting at 930.

Many thanks

[REDACTED]

--

[REDACTED]

[1] The European Hydrogen Backbone is a European industry-led initiative to build a network that will link up carbon-free hydrogen supply and demand across 25 EU Member States plus Norway, the United Kingdom and Switzerland. In addition, the Hydrogen Backbone Link project is working with UK National Grid on alignment with their 'Project Union' – an onshore UK hydrogen backbone that will allow for UK market distribution of Scottish hydrogen via St Fergus and Aberdeen. Please note that whilst decisions pertaining to the export of shipped hydrogen are devolved, the regulation of pipelines will be a reserved matter.

From: [REDACTED]
Subject: RE: ADDITIONAL REQUEST FOR LINES
Date: 11 September 2024 09:07:54

Hi [REDACTED],

Please see lines below – thoughts?;

Pipeline to Germany

- With the EU and member states such as Germany, [OUT OF SCOPE] identifying the need both to work together on research and technology developments and to import large amounts of green hydrogen, Scotland's close geographic proximity to growing centres of European hydrogen demand makes it an important contributing partner.
- The Scottish Government have funded the **North Sea Alliance Scottish – German Bilateral Hydrogen research project** led by the Net Zero Technology Centre (NZTC) in partnership with the German consultancy Cruh21, and the German umbrella organisation AquaVentus. The work will investigate pipeline infrastructure between Scotland and Germany.
- The Scottish Government have funded the Net Zero Technology Centre's Hydrogen Backbone Link project to assess the potential to connect Scotland to a European Hydrogen Backbone by either repurposing and optimising existing pipeline infrastructure or through the development of new infrastructure.
 - Phase 1 of the Hydrogen Backbone Link project involved a series of studies which assessed the opportunity for Scotland and the rest of the UK to supply hydrogen to Europe as part of an extensive hydrogen transport and distribution system, in order to help provide an insight into the backbone requirements for Scotland. Phase 1 identified: several options for pipeline routing offshore, connecting main energy hubs in North East Scotland to the onshore European backbone via Emden in Germany. Both partial re-use cases and new pipelines were assessed and deemed feasible, with new pipelines providing an opportunity for accelerated deployment.
- Whilst pipelines are the cheapest option for the transportation of large volumes of hydrogen across long distances, it is likely that multiple options, including shipped transportation of liquid hydrogen, green ammonia and methanol, and Liquid Organic Hydrogen carrier (LOHC), could all be used for export at varying scales, depending on off-taker requirements.
- In particular, our proximity and existing infrastructure connectivity to Europe makes transporting gaseous hydrogen by pipeline a cost-competitive option.. The Scottish Government-funded Hydrogen Backbone Link project (HBL) has assessed the potential to connect Scotland to the European Hydrogen Backbone by either repurposing and optimising existing pipeline infrastructure or developing new pipelines.
-

[OUT OF SCOPE]

- [OUT OF SCOPE]

[OUT OF SCOPE]

- [OUT OF SCOPE]

- [OUT OF SCOPE]

-

- [OUT OF SCOPE]

-

Cheers,
[REDACTED]

[REDACTED]

| Hydrogen Regulation and International Engagement
Team | Scottish Government
Atlantic Quay, Glasgow, G2 8JX

From: [REDACTED]

Subject: RE: Blue/Green H2 - Germany

Date: 05 September 2024 12:59:43

Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[importstrategy-hydrogen.pdf](#)
[German Hydrogen Import Strategy - summary of key points - 26 July 2024.docx](#)

Hi [REDACTED]

In addition to [REDACTED] response, I have attached the German Government's import strategy which was published in July (and references Scotland which is very much [REDACTED] work over the last years!). For ease, a summary is attached too (also [REDACTED] work!).

The import strategy states that the predicted hydrogen demand is likely to reach 95 to 130 terawatt hours (TWh) by 2030 and rise in following years. Around 50 to 70 (45 to 90 TWh) percent of this forecasted demand will probably have to be imported.

The long-term preference is clearly for green hydrogen and the import strategy rules out financial support for low-carbon hydrogen production projects. However, to meet immediate demand and facilitate the scaling up of hydrogen use, the government indicated it would also purchase low-carbon hydrogen and its derivatives, though the strategy doesn't specify the amounts of low-carbon hydrogen it plans to import.

[REDACTED]

Demand is mostly driven by the steel industry, basic materials and petrochemicals, as well as mobility and logistics, and in the power plant sector.

The price questions isn't straightforward to answer. There are hydrogen indices such as "Hydex", the cost-based spot price index for hydrogen, but the index doesn't include CAPEX. <https://www.energate-messenger.de/market/gas-oil-and-h2/group/209600-hydex-wasserstoff-index>. [REDACTED]

The first H2Global public auction in Germany was awarded in July for green ammonia – Fertiglobe (UAE) will deliver at least 259,000 tonnes of green ammonia produced in Egypt at a price of 811 euros per tonne of ammonia, which translates into less than 4.50 euros per kilogram of green hydrogen. [REDACTED]

I hope this helps a little.

Best wishes,
[REDACTED]

[REDACTED]
Scottish Development International | [REDACTED]

Working hours: Mo-Fr, 8:00-14:00 CET

Scottish Development International (SDI) is Scotland's trade and foreign direct investment agency. Our aim is to encourage more overseas businesses to set up a location in Scotland, invest in Scottish businesses or buy Scottish products. SDI is a joint venture between the Scottish Government and its economic development agencies, Scottish Enterprise and Highland & Islands Enterprise.

[WEB](#) | [YouTube](#) | [twitter](#)

From: [REDACTED]

Sent: Thursday, September 5, 2024 11:29 AM

To: [REDACTED]

Subject: RE: Blue/Green H2 - Germany

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Hi [REDACTED]

It's lovely to hear from you. I'm likely sorry not to have caught up last week as I was taken up with chatting to lots of other folk. But I did see [REDACTED] the previous evening, and overall it felt like a good event.

Short answer is: yes. The German revised H2 Strategy from last year (2023) foresees the import of both green and blue, though the long term aim is for a fully green H2 economy. The German partnership with Norway is focussed on importing blue, since this is what the Norwegians are offering, which means that one of Scotland's USPs re Germany is green. However, that wouldn't stop us supporting private sector companies to engage on the export of blue.

Potential offtakers for blue H2 would be the steel and chemical sectors – and industry overall. I'd need a bit more time to find out about quality and price, but have copied in [REDACTED] in case they have anything to hand.

All the very best,
[REDACTED]

From: [REDACTED]

Sent: Thursday, September 5, 2024 10:00 AM

To: [REDACTED]

Subject: Blue/Green H2 - Germany

Hi [REDACTED]

Lovely to see you briefly in Aberdeen last week, as always great panel session from you! I got caught up speaking to so many companies didn't get a chance to come speak to you more.

Taking advantage of your open postbox offer, can you help with a query we have below?

Where does Germany stand on blue and green H2 for import? Are they open to blue hydrogen import in the short term and if so do you know what they'd expect in terms of the quality of the hydrogen, price etc and what sort of offtakers would be interested in blue hydrogen?

Grateful if you have a few moments to pop something back by tomorrow lunch if possible.

[REDACTED]

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[FindBusinessSupport.gov.scot](https://www.findbusinesssupport.gov.scot)

#FindBusinessSupport

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Head office and contact details:

Atrium Court
50 Waterloo Street
Glasgow

From: [REDACTED]
Subject: RE: Hydrogen ETZ meeting
Date: 06 September 2024 16:29:00

Dear ^[REDACTED]

Many thanks for taking up contact. It is much appreciated. I'm sorry I've not managed to respond earlier – a few pressing matters unfortunately had to take priority.

Your update is very useful. I'll add some comments in the relevant places in purple to try and join up the conversations....

From: [REDACTED]
Sent: Friday, August 30, 2024 3:18 PM
To: [REDACTED]
Subject: Hydrogen ETZ meeting

Hello,

We met at the meeting in ETZ Aberdeen on Tuesday and discussed contacts in various German governmental layers for Hydrogen

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

There is separate work on ports and pipeline infrastructure, the latter led by NZTC, see [Hydrogen Backbone Link: Connecting Scotland to Europe \(netzerotc.com\)](#) and [NZTC Report Sets Out Plan for Green Hydrogen Export Between Scotland and Germany \(netzerotc.com\)](#) . SG has funded both of these, so please do make the connections if the topic coes up in discussions. [REDACTED]

And/or if these people above or below are known to you I can make the connection

[REDACTED]

Happy to discuss anytime

This all looks to be a very rich exchange. I would be delighted to be involved at any time if helpful, and also to be copied in for awareness.

I hope you have a lovely weekend.
With many thanks and best wishes,
[REDACTED]

Best regards
[REDACTED]

Transport Innovation Specialist
Strategy Unit
Environment and Sustainability
Environment and Infrastructure Service
Aberdeenshire Council
[REDACTED]

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www.aberdeenshire.gov.uk

From: [REDACTED]

Subject: RE: URGENT - Briefing request for Mr Robertson's Bilateral meetings at the Investing in Green Hydrogen Conference

Date: 29 August 2024 08:58:46

Attachments: [image001.png](#)
[image002.png](#)

Fantastic, thank you!

[REDACTED]

Location: British Embassy, Wilhelmstraße 70, 10117 Berlin, Germany
[REDACTED]

Ich arbeite von Montag bis Freitag ganztags. Ich sende diese E-Mail zu einer Zeit, die meinen Arbeitszeiten entspricht, und wenn dies außerhalb Ihrer normalen Arbeitszeiten liegt, erwarte ich nicht, dass Sie antworten, bevor Sie das nächste Mal zur Arbeit kommen.

I work full time Monday to Friday. I am sending this email at a time that suits my working arrangements and if this is at a time outwith your own normal working hours, I do not expect you to respond until you are next at work.



From: [REDACTED]

Sent: Thursday, August 29, 2024 9:06 AM

To: [REDACTED]

Subject: RE: URGENT - Briefing request for Mr Robertson's Bilateral meetings at the Investing in Green Hydrogen Conference

Good morning,

Possible discussion points:

Lessons learned from first auction

- big delay in announcements of winners (auction launched in 2022 and winners only announced in July 2024), Fertiglobe (a joint venture between fertiliser group OCI and Abu Dhabi's state-owned oil company ADNOC) was the sole winner for the green ammonia auction, e-SAF auction didn't produce any winning bids

[REDACTED]

- In 2023, H2Global was linked with the European Hydrogen Bank, an initiative by the European Commission to facilitate both renewable hydrogen production within the EU and imports, to enhance global hydrogen ramp-up. The move was made to open the H2Global to all Member States interested in running their own hydrogen tenders. The initiative will also jointly develop a European auction targeting international hydrogen imports. Winners for the First European H2 Bank Auction were announced in April 2024. Seven projects across the EU will receive a total of €720 million, with a plan to produce 1.58 million tonnes (Mt) of renewable hydrogen over ten years, avoiding more than 10Mt of CO2 emissions. Winning projects located in Spain, Portugal, Norway and Finland. None in Germany

When will the date for the second H2 Global auction be announced

- Apparently before the end of the year

Ask:

- Would ^[REDACTED] be willing to give an update to the Scottish supply chain on the upcoming auction and how Scottish Projects can get involved? We can set up a simple teams briefing.
- [REDACTED]

[REDACTED]

[OUT OF SCOPE]

[OUT OF SCOPE]

From: [REDACTED]

Sent: Wednesday, August 28, 2024 5:43 PM

To: [REDACTED]

Subject: FW: URGENT - Briefing request for Mr Robertson's Bilateral meetings at the Investing in Green Hydrogen Conference

Importance: High

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[OUT OF SCOPE]

[REDACTED]

Direktorin der Schottischen Regierungsvertretung, Deutschland
Head of Scottish Government Office in Berlin

Location: British Embassy, Wilhelmstraße 70, 10117 Berlin, Germany
[REDACTED]

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From: [REDACTED]

Sent: Wednesday, August 28, 2024 5:15 PM

To: [REDACTED]

Subject: URGENT - Briefing request for Mr Robertson's Bilateral meetings at the Investing in Green Hydrogen Conference

Hi [REDACTED]

Hope all is well? Forwarding this in case you don't pick up from teams as I can see you are in a meeting.

Mr Robertson is attending the Investing in Green hydrogen conference on Monday and I am pulling together the briefing for this. We have organised a bilateral with Dr. Philipp Steinberg (Director General for Economic Stabilization, Energy Security, Gas, Hydrogen Infrastructure) and hoping to organise one with ^[REDACTED] from Hint.Co (H"Global).

Are you able to provide a background for each and any lines we can use for Mr Robertson briefing?

Mr Robertson's PO is looking for the briefing by 10am Friday, grateful if you can send over anything by 12 noon tomorrow?

Kind regards.

[REDACTED]

[REDACTED]

Hydrogen Policy Manager | Hydrogen Regulation and International Engagement Team | Scottish Government
Atlantic Quay, Glasgow, G2 8JX

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From: [REDACTED]

Subject: Readout from call with [REDACTED], DBT H2 and CCUS lead in Germany

Date: 29 August 2024 13:52:59

Attachments: [image001.png](#)

Hi all,

Just got off the phone with [REDACTED] the new DBT hydrogen and CCUS lead for Germany. A productive call where we both agreed on the importance of open communication [REDACTED]

A few headline points:

On hydrogen

- [OUT OF SCOPE]

- [REDACTED]

- I described the Scottish sector in outline, and suggested that [REDACTED] should meet [REDACTED] early doors for a more detailed overview of the sector in Scotland. [REDACTED] was keen. *ACTION* – [REDACTED] *to set this up.*
- [REDACTED]

- [REDACTED]

-

[OUT OF SCOPE]

-

[OUT OF SCOPE]

•

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[OUT OF SCOPE]

[REDACTED]

[REDACTED]

Direktorin der Schottischen Regierungsvertretung, Deutschland
Head of Scottish Government Office in Berlin

Location: British Embassy, Wilhelmstraße 70, 10117 Berlin, Germany

[REDACTED]

Ich arbeite von Montag bis Freitag ganztags. Ich sende diese E-Mail zu einer Zeit, die meinen Arbeitszeiten entspricht, und wenn dies außerhalb Ihrer normalen Arbeitszeiten liegt, erwarte ich nicht, dass Sie antworten, bevor Sie das nächste Mal zur Arbeit kommen.

I work full time Monday to Friday. I am sending this email at a time that suits my working arrangements and if this is at a time outwith your own normal working hours, I do not expect you to respond until you are next at work.



From: [REDACTED]
To: [REDACTED]
Subject: Scotland Activity at H2Tech
Date: 18 September 2024 10:33:57
Attachments: [image002.png](#)
[image001.png](#)
[Team Scotland invites you to our Whisky Reception .png](#)

[REDACTED]
Hi

Thank you for the initiative and for bringing it all together – it is much appreciated.

Attached and below the invite to our whisky reception (everyone welcome) and here is a link to our story map which contains all the info on the companies that will join us.

[REDACTED]

Thank you for pulling it all together. Diaries are filling up quickly so it will be good to make sure we have all the activity firmly logged.

Thank you again,
[REDACTED]

[REDACTED]
[Scottish Development International](#) | [British Embassy](#) | [Wilhelmstr. 70](#) | [10177 Berlin](#) | [Germany](#)
[REDACTED]

Scottish Development International (SDI) is Scotland's trade and foreign direct investment agency. Our aim is to encourage more overseas businesses to set up a location in Scotland, invest in Scottish businesses or buy Scottish products. SDI is a joint venture between the Scottish Government and its economic development agencies, Scottish Enterprise and Highland & Islands Enterprise.

[WEB](#) | [YouTube](#) | [twitter](#)

From: [REDACTED]

Subject: 2688 HBL - Review of Scope 16 WP D - potential for engagement with Gascade / AQD on a PMI application?

Date: 03 October 2024 16:58:07

[REDACTED]

Many thanks [REDACTED]

I have a couple of very minor types that I've added to [REDACTED] comments in the comment sheet since [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

I'll discuss this further with [REDACTED], but if you, [REDACTED] have any further information that would aid discussions and decision making that that would be most helpful (hence me copying in [REDACTED]). [REDACTED] has [REDACTED] mentioned this separately in any discussions?

Many thanks,
[REDACTED]

From: [REDACTED]

Subject: RE: HSEP supporting research reports

Date: 13 September 2024 13:52:49

Attachments: [image001.png](#)

Hi [REDACTED]

Sorry meant to copy you guys into this earlier.

[REDACTED] is looking to publish the research we commissioned for the HSEP on the SE Portal.

We need to do a short summary of the commission methodology and outcomes and we have agreed on the form of works in my email below of earlier today. I have added it just below this email to save you scrolling down.

Just wanted to make sure you were OK with this too.

Thanks

[REDACTED]

TEXT

Aims

The study looks to provide a comprehensive understanding of the sources of demand for hydrogen in Europe and, critically, the assumptions behind this demand. The focus is primarily on Northwest European countries such as Germany, [OUT OF SCOPE]. Domestic use inside Scotland is out of scope, focusing only on export. This research study has been developed with the explicit understanding that it will allow further analysis to assess the size of the commodity export opportunity in Europe and, within this, Scotland's export opportunity.

In summary, the research study's key objectives are:

- Quantification of hydrogen end-use demand by sector and region, by scenario and comparatively across the scenarios.
- Development of an understanding of the current assumptions on imports and exports, and if any correlations by sector exist.
- Mapping of the assumptions that are being used in the varying scenarios.
- Identify how the different scenarios are being developed, which can be cross compared directly, and which need to be seen as stand alone, and;
- Further analysis by the Scottish Government, Scottish Enterprise and partners in developing hydrogen policy.

Method

The research study evaluated the potential Global/ European Markets for low carbon hydrogen demand based on a selection of hydrogen scenarios from various technical reports that are published.

The scope of the analysis was focussed on the following parameters. Namely:

- Focus on scenarios which cover the listed NW European countries, looking at hydrogen demand and domestic supply in each.
- Other countries are included if and where that are beneficial and relevant scenarios are available to review.
- Europe-wide scenarios have been evaluated to provide some insights into the domestic production capacity of Southern Europe/Spain and hydrogen trade flows. Based on an assessment by the IEA, it was assumed that NW Europe would account for 60% of the total European demand.
- This study has focused on public domain sources which can be referenced.

Findings

The majority of scenarios foresee industry as the primary offtaker sector in the early 2030s, highlighting sizeable hydrogen demand in subsectors such as refineries for fuel production, ammonia production (fertiliser industry) and the iron and steel industry.

Low case scenarios under the European reports show that hydrogen demand in NW Europe could be met by domestic production, highlighting the crucial role of low carbon hydrogen (e.g. blue hydrogen) in avoiding a net deficit of hydrogen supply across the region

Most global and European high case scenarios foresee Europe as an importer region due to its limited renewable resources (wind and solar) and that Europe will scale up its hydrogen economy proportionally earlier than in other geographies.

According to global reports, hydrogen imports will be transported as pure hydrogen via pipeline from North Africa and other European countries (Norway and the UK) and imported by sea in the form of hydrogen derivatives (e.g. ammonia) from global markets.

Many of these scenarios foresee Germany as an importer country, which is also emphasised in Germany's Hydrogen Strategy.

Recommendations

This report reflect a snapshot in time and that updated and new reports will continue to emerge and reflect the dynamic change of the demand for hydrogen and hydrogen products in key markets. However one clear key market has emerged in the demand research study. Germany unsurprisingly is the emergent market which demonstrates the highest demand for hydrogen and hydrogen products over the short to medium term. This outcome reflects and aligns well to our work across Europe with a number of MOUs in place with Germany around cooperation in building economic partnerships around the supply and demand for Scottish hydrogen and hydrogen products.

[REDACTED]

Team Leader – Export Support Team

Export and Inward Investment Policy Division

Directorate for International Trade and Investment

Scottish Government

5 Atlantic Quay | 150 Broomielaw | Glasgow | G2 8LU

[REDACTED]

From: [REDACTED]

Sent: Friday, September 13, 2024 12:34 PM

To: [REDACTED]

Subject: RE: HSEP supporting research reports

Brilliant ^[REDACTED]

[REDACTED] I think that makes it good to go.

[REDACTED]

Team Leader – Export Support Team
Export and Inward Investment Policy Division
Directorate for International Trade and Investment
Scottish Government

5 Atlantic Quay | 150 Broomielaw | Glasgow | G2 8LU

[REDACTED]

From: [REDACTED]

Sent: Friday, September 13, 2024 12:33 PM

To: [REDACTED]

Subject: RE: HSEP supporting research reports

Hi ^[REDACTED] – looks fab!

From: [REDACTED]

Sent: Friday, September 13, 2024 12:23 PM

To: [REDACTED]

Subject: RE: HSEP supporting research reports

Thanks [REDACTED]

Lets make sure [REDACTED] is OK with [REDACTED] amends and if so its all good t ogo.

[REDACTED]

**Team Leader – Export Support Team
Export and Inward Investment Policy Division
Directorate for International Trade and Investment
Scottish Government**

5 Atlantic Quay | 150 Broomielaw | Glasgow | G2 8LU

[REDACTED]

From: [REDACTED]

Sent: Friday, September 13, 2024 8:48 AM

To: [REDACTED]

Subject: RE: HSEP supporting research reports

Hi [REDACTED]

That should be all we need to get the report published, For information, it will be located here - <https://www.scottish-enterprise.com/learning-zone/research-evaluation-and-insight>. Just let me know when you would like it to go up.

Regards

[REDACTED]

[REDACTED]

Energy Transition

[REDACTED]

From: [REDACTED]

Sent: Friday, September 13, 2024 7:51 AM

To: [REDACTED]

Subject: RE: HSEP supporting research reports

Warning: This email originated outside of Scottish Enterprise. **Consider:** Is the sender known? Are the **attachments/links** safe to open? **Ensure** you check the email is safe or use the [Report Message button](#). If you have further **concerns** [contact SE Cyber Security Team](#).

Thanks ^[REDACTED] that's

brilliant. ^[REDACTED] does that put in place the bits to get this published.

I will get back to you today(or early next week) on timings when we should aim to get the Demand and the Supply Chain research published.

I attach the Worley version that now notes May 2024 as updated date.

Thanks

[REDACTED]

SE Portal Text is now:

Aims

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- Mapping of the assumptions that are being used in the varying scenarios.
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[REDACTED]

Team Leader – Export Support Team

Export and Inward Investment Policy Division

Directorate for International Trade and Investment

Scottish Government

5 Atlantic Quay | 150 Broomielaw | Glasgow | G2 8LU

[REDACTED]

From: [REDACTED]

Sent: Thursday, September 12, 2024 4:07 PM

To: [REDACTED]

Subject: RE: HSEP supporting research reports

Hi [REDACTED] sorry to be slow. I've made some suggestions in the text at the bottom. The main thing I've suggested is to replace the findings from the slide you picked out to the conclusions in the export/import section, as these are the main findings as far as the HSEP goes and will be more consistent.

Cheers,

[REDACTED]

From: [REDACTED]

Sent: Thursday, September 12, 2024 1:47 PM

To: [REDACTED]

Subject: RE: HSEP supporting research reports

Hi both,

Was wondering if you have had an opportunity to have a gander at this one yet?

Sorry to nudge you but keen to get it sorted and ready to trot.

Thanks

[REDACTED]

Team Leader – Export Support Team
Export and Inward Investment Policy Division
Directorate for International Trade and Investment
Scottish Government

5 Atlantic Quay | 150 Broomielaw | Glasgow | G2 8LU

[REDACTED]

From: [REDACTED]

Subject: RE: HSEP Workshops on Short-Term Actions Risk Assessment - Summary and Actions

Date: 02 October 2024 09:14:13

Attachments: [image001.png](#)

Thanks [REDACTED] and everyone,

I think we are so close now thanks to everyone's input.

[OUT OF SCOPE]

Noted now that it looks likely Dr Allan will be in Hamburg on 23rd Oct and Ms Martin will be speaking at the Hydrogen Scotland Annual Conf the next week, so these seem like two useful events in which to lunch and/or trail the publication.

Thanks

[REDACTED]

Team Leader – Export Support Team
Export and Inward Investment Policy Division
Directorate for International Trade and Investment
Scottish Government

5 Atlantic Quay | 150 Broomielaw | Glasgow | G2 8LU

[REDACTED]

From: [REDACTED]

Subject: RE: Input by Friday 27th September - UKERC energy transition event - SG policy overview , speaking notes and research priorities moving forward

Date: 30 September 2024 09:30:00

Attachments: [image001.png](#)
[image002.png](#)

[OUT OF SCOPE]

[OUT OF SCOPE]

Hydrogen: Worley report on European Hydrogen Demand, NZTC report on supply/demand matching with Germany, a whole load of NZTC reports on a European Hydrogen Backbone link, study on hydrogen storage feasibility in Scotland, study on skills for the hydrogen sector in Scotland

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

From: [REDACTED]

Subject: BMWK visit to London to discuss North Sea infrastructure

Date: 22 August 2024 09:55:00

Attachments: [image001.png](#)

Hi [REDACTED]

I'm not sure if you're already aware of the visit on 25-26 September by the German economy and climate ministry to London to discuss North Sea infrastructure development at a roundtable with DESNZ? This sounds like it could be an important step in hydrogen pipeline development. [REDACTED]

[REDACTED]

[REDACTED]

Direktorin der Schottischen Regierungsvertretung, Deutschland
Head of Scottish Government Office in Berlin

Location: British Embassy, Wilhelmstraße 70, 10117 Berlin, Germany
[REDACTED]

Ich arbeite von Montag bis Freitag ganztags. Ich sende diese E-Mail zu einer Zeit, die meinen Arbeitszeiten entspricht, und wenn dies außerhalb Ihrer normalen Arbeitszeiten liegt, erwarte ich nicht, dass Sie antworten, bevor Sie das nächste Mal zur Arbeit kommen.

I work full time Monday to Friday. I am sending this email at a time that suits my working arrangements and if this is at a time outwith your own normal working hours, I do not expect you to respond until you are next at work.



From: [REDACTED]

Subject: Briefing - Cabinet Secretary's meeting with Baroness Chapman - 10 September 2024
Date: 09 September 2024 15:01:16
Attachments: [REDACTED]

Hi [REDACTED]

As discussed, please see attached briefing for Mr Robertson's meeting with Baroness Chapman tomorrow.

I also attach, for awareness only, a copy of FM's letter to PM of 4 September, as referenced in the briefing.

Please let me know if you need anything else. As mentioned earlier, [REDACTED]
(in copy) will provide official support for the meeting.

Many thanks

[REDACTED]

[REDACTED]

From: [REDACTED]

Subject: Engagement Briefing - Meeting with Senator Vogt 10 September 2024

Date: 05 September 2024 11:02:02

Attachments: [image001.png](#)
[image002.png](#)
[Briefing Note- Mr Lochhead meeting with Bremen Senator Kristina Vogt - 10 September 2024.docx](#)

Dear PO,

Please see the linked briefing note for Mr Lochhead's meeting with Senator Kristina Vogt on 10 September in SAH. [Briefing Note: Mr Lochhead meeting with Bremen Senator Kristina Vogt - 10 September 2024 \(A49757651\)](#)

Please don't hesitate to get in contact if there are any questions.

Best wishes,

[REDACTED]

[REDACTED]

Export Promotion Policy Officer

**Directorate for International Trade and Investment | Scottish Government |
5 Atlantic Quay | 150 Broomielaw | Glasgow | G2 8LU**

[REDACTED]



From: [REDACTED]

Subject: For action by COP Fri 4 October - briefing commission for Hamburg leg of Ms Martin's October roundtrip
Date: 19 September 2024 13:28:00
Attachments: [REDACTED]

Dear colleagues,

I can't believe we're nearly at the end of September! This must be what getting old feels like...

Anyway, in view of the early deadline that Ms Martin's PO has set for her briefing pack for the Hamburg-Nordics round trip, I suggest we crack on with the briefing pack for the Germany element. [OUT OF SCOPE]

I've attached the [REDACTED](also in Word for SDI colleagues but **SG colleagues please use the eRDM version**). Could I ask for the following contributions, by **COP Friday 4 October**:

1. List of useful govt initiatives (per Ms Martin's preferences)	[REDACTED] for hydrogen [REDACTED]
2. Strategic Forum – "NEW TRACK FOR 2024 – Our Strategic Forum will address policy, regulations and finance in the hydrogen and [REDACTED] The forum will bring together leading voices from the public and private spheres."	[REDACTED] to complete briefing template and Annexes A-B [REDACTED] to complete Annexes D and E (speaking note and any background briefing). To note: <ul style="list-style-type: none">• On the speaking note – we are still missing some details of the format, which you'll obviously need. What we now so far is just that it will be "a series of speeches/ remarks on hydrogen in Europe", and that she should be talking about "Emerging hydrogen economies" (i.e. Scotland). I'll chase the organiser for more info.• [REDACTED]
3. Political meeting with Dr Melanie Leonhard, Hamburg Senator for Economic Affairs	[REDACTED] [REDACTED] to supply material for Annex E (additional briefing about H2 in the Hamburg context)
4. Speaking slot on "The future of carbon capture and storage in Scotland"	[REDACTED]

	[REDACTED] [REDACTED] to fill in the logistical bits of the template
5. Business meeting with HHLA	[REDACTED] to complete the whole template and annexes, with support from [REDACTED] on the content of the meeting
6. Business meeting with tbc	Once meeting confirmed (Bosch, AVL etc), [REDACTED] to complete the whole template and annexes, with support from [REDACTED] as appropriate on the content of the meeting
7. Political meeting with Kristina Vogt, Bremen Senator for Economy, Work and Europe.	could you have first crack at doing the template and annexes for this one, given you've just met the Bremen delegation and Senator Vogt? [REDACTED] to supply material for Annex E (additional briefing about H2 in the Hamburg context) [REDACTED] to fill in any logistics bits
8. Political meeting with tbc	[REDACTED]
9. Business meeting with tbc	Once meeting confirmed (Bosch, AVL etc), [REDACTED] to complete the whole template and annexes, with support from [REDACTED] as appropriate on the content of the meeting
10. Scottish networking event	[REDACTED]
1. Background briefing	to drop in Germany and Hamburg core briefs [REDACTED] likewise on any relevant H2 and H2 Europe briefs

You can find a link to Ms Martin's preferences [REDACTED] I can send you a copy (separately).

Hope this doesn't sound fiendishly complicated; will make more sense when you get into the template!

Vielen Dank und bis später,

[REDACTED]

[REDACTED]
Direktorin der Schottischen Regierungsvertretung, Deutschland

From: [REDACTED]

Subject: FW: BMWK - Innovate UK - fourth round bilateral UK-DE innovation funding - opening soon

Date: 18 September 2024 14:49:00

Attachments: [image002.png](#)

[REDACTED] – fyi and to share on with your networks.

[REDACTED] – another one to share on with contacts (I imagine ^[REDACTED] might be interested, and perhaps the odd stakeholder at the Leipzig conference!) I'll send on to [REDACTED]

[REDACTED]

[REDACTED]

Direktorin der Schottischen Regierungsvertretung, Deutschland
Head of Scottish Government Office in Berlin

Location: British Embassy, Wilhelmstraße 70, 10117 Berlin, Germany

[REDACTED]

Ich arbeite von Montag bis Freitag ganztags. Ich sende diese E-Mail zu einer Zeit, die meinen Arbeitszeiten entspricht, und wenn dies außerhalb Ihrer normalen Arbeitszeiten liegt, erwarte ich nicht, dass Sie antworten, bevor Sie das nächste Mal zur Arbeit kommen.

I work full time Monday to Friday. I am sending this email at a time that suits my working arrangements and if this is at a time outwith your own normal working hours, I do not expect you to respond until you are next at work.



From: [REDACTED]

Sent: Tuesday, August 20, 2024 4:00 PM

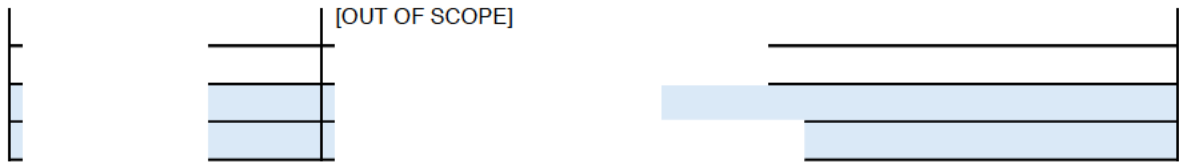
To: [REDACTED]

Subject: RE: Cabinet Secretary - Nordic/Germany Trip - Planning and Deadlines

Cabinet Secretary for Net Zero and Energy,

Please find below a Draft Programme for your upcoming visit to the Nordics and Germany for comment / approval:

Tuesday 22 nd October	
[OUT OF SCOPE]	
Wednesday 23 rd October	
09.00 – 10.35	H2 Expo: Speaking Slot on 'Emerging Hydrogen Economies' Session
11.40 – 12.10	H2 Expo: Speaking Slot on 'Scotland's CCUS Capabilities'
12.45 – 14.30	Business Meetings (Global Scots)
14.30 – 16.00	Political Meetings (BMWK, Groningen)
16.00 – 16.30	Opening Remarks at Scottish Networking Event
18.45 – 20.15	Flight from Hamburg to Stockholm
Thursday 24 th October	
[OUT OF SCOPE]	
Friday 25 th October	
[OUT OF SCOPE]	



The Programme has been drafted to work across a number of your key portfolio priorities, including:

- [OUT OF SCOPE]

- **Hydrogen & [OUT OF SCOPE]** : the activities in Hamburg present an opportunity to promote Scottish capabilities and ambitions concerning Hydrogen [OUT OF SCOPE] to a predominantly German audience, a key market for Scotland's ambitions in these sectors. The timing of this visit may allow for promotion of Scotland's upcoming Hydrogen Sector Export Plan (TBC).
- [OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

[OUT OF SCOPE]

With best wishes,
[REDACTED]

[REDACTED] | Deputy Head of Nordic Office | Scottish Government | British
Embassy | Kastelsvej 36-40 | DK-2100 Copenhagen
[REDACTED]

From: [REDACTED] > **On Behalf Of** Cabinet Secretary for Net Zero and
Energy
Sent: Tuesday, August 13, 2024 4:41 PM
To: [REDACTED]

From: [REDACTED]

Subject: FW: Cabinet secretary call with Foreign Secretary - 14 August - draft note of meeting 28

Date: August 2024 10:15:43

Attachments: [REDACTED]

Hi [REDACTED]

Please see note (CabSec hasn't cleared yet) – I think this section is relevant - DL accepted Energy and Hydrogen key priority for growth and job creation and aligned with action on climate change. He committed to ensure that Scotland's potential on Hydrogen is part of the UK narrative across the piece but in particular in relation to engagement with Germany and officials in UKG and SG work together to ensure the latest information included in any briefings,

Happy to discuss if helpful

[REDACTED]

From: [REDACTED]

Sent: Thursday, August 15, 2024 4:37 PM

To: [REDACTED]

Subject: RE: Cabinet secretary call with Foreign Secretary - 14 August - draft note of meeting

[REDACTED]

Please find attached draft note of the call between the Cabinet Secretary and the Foreign Secretary yesterday, for Cabinet Secretary's clearance.

Many thanks

[REDACTED]

[REDACTED] / International Futures/Directorate for Culture and External Affairs/ Mob
[REDACTED]

From: [REDACTED]
Subject: FW: H2 Tech and CCUS Expos, Hamburg, October 2024 - Ms Martin's programme - for comment by cop
Date: Tue 20 August
Attachments: 20 August 2024 11:00:11
[image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi [REDACTED]

Many thanks

[OUT OF SCOPE]

[OUT OF SCOPE]

They advised it would be important to ensure that the HEP has been launched domestically before launching it internationally at the conference [REDACTED]

[REDACTED]

[REDACTED]

Kind regards / Mit freundlichen Grüßen / le gach beannachd

[REDACTED]

[REDACTED] | Deputy Head | Scottish Government Office | British Embassy,
Wilhelmstrasse 70, 10117 Berlin, Germany | tel: +49 30 20457 419 | [REDACTED]
[REDACTED]



From: [REDACTED]

Sent: Thursday, August 15, 2024 6:07 PM

To: [REDACTED]

Subject: FW: H2 Tech and CCUS Expos, Hamburg, October 2024 - Ms Martin's programme - for comment by cop Tue 20 August

For the planning visit for Ms Martin next week, this will give you the latest on the planned programme. We'll need to wait till [REDACTED] is back and have a discussion in the round before making a final decision on which business meetings to prioritise.

[REDACTED]

Direktorin der Schottischen Regierungsvertretung, Deutschland
Head of Scottish Government Office in Berlin

Location: British Embassy, Wilhelmstraße 70, 10117 Berlin, Germany

[REDACTED]

Ich arbeite von Montag bis Freitag ganztags. Ich sende diese E-Mail zu einer Zeit, die meinen Arbeitszeiten entspricht, und wenn dies außerhalb Ihrer normalen Arbeitszeiten liegt, erwarte ich nicht, dass Sie antworten, bevor Sie das nächste Mal zur Arbeit kommen.

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From: [REDACTED]

Sent: Thursday, August 15, 2024 2:07 PM

To: [REDACTED]

Subject: RE: H2 Tech and CCUS Expos, Hamburg, October 2024 - Ms Martin's programme - for

comment by cop Tue 20 August

Thanks, [REDACTED]

[REDACTED]

From the inward side we're hoping to secure meeting(s) asap, as the next couple of weeks will be busy with other event planning. [REDACTED] and me – we will all be off some days prior to the Hamburg event, so the aim is to get everything ready before that. [REDACTED] This is particularly relevant for the briefings.

[REDACTED] are likely to attend; I was planning to be there as well yet will no longer be able to do so (will explain separately).

[REDACTED]

Best,
[REDACTED]

From: [REDACTED]

Sent: Wednesday, August 14, 2024 12:17 PM

To: [REDACTED]

Subject: RE: H2 Tech and CCUS Expos, Hamburg, October 2024 - Ms Martin's programme - for comment by cop Tue 20 August

[OUT OF SCOPE]

Project Manager, International Visits & Events Team
Scottish Enterprise | www.scottish-enterprise.com
Scottish Development International | www.sdi.co.uk
[OUT OF SCOPE]

From: [REDACTED]
Subject: FW: Proposal to FM to speak at Hydrogen 4 Life
Date: 30 August 2024 14:15:29
Attachments: [image001.png](#)

From: [REDACTED]
Sent: Thursday, August 29, 2024 11:20 AM
To: [REDACTED]

Subject: Proposal to FM to speak at Hydrogen 4 Life

Hi all (sorry ^[REDACTED] for double copy!),

At the hydrogen roundtable in Munich in June, FM was invited by Bosch to speak at the Hydrogen 4 Life conference in London in November. Having now spoken to the organisers and to ^[REDACTED] in FM's office, I'd planned to send the following for his consideration. Are you happy with the text? I'll look to put it up later today if so.

^[REDACTED] copying you fyi.

[REDACTED]

[REDACTED]

Hi ^[REDACTED]

As discussed just now, one of the outcomes from the First Minister's hydrogen roundtable in Munich in June was an invitation from Bosch to speak at the Hydrogen for Life conference in November, to which FM at the time responded positively.

[OUT OF SCOPE]

- [OUT OF SCOPE]

-

[OUT OF SCOPE]

[REDACTED]

-
-

- [REDACTED]

You mentioned that ^[REDACTED] is currently considering FM's London visits in the round. We'd be grateful if this engagement could form part of those considerations.

[REDACTED]

[REDACTED]

Direktorin der Schottischen Regierungsvertretung, Deutschland
Head of Scottish Government Office in Berlin

Location: British Embassy, Wilhelmstraße 70, 10117 Berlin, Germany

[REDACTED]

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From: [REDACTED]
Subject: FW: Submission - IGH Conference 2024 - Engagement Reports (RWE, Hydrogen Scotland, Masdar & Dr Philipp Steinberg)
Date: 11 September 2024 08:46:52
Attachments: [REDACTED]

Hi [REDACTED]

Engagement reports from H2 conference in London.

Regards,
[REDACTED]

From: [REDACTED]
Sent: Monday, September 9, 2024 6:09 PM
To: [REDACTED]

cc: [REDACTED]

Subject: Submission - IGH Conference 2024 - Engagement Reports (RWE, Hydrogen Scotland, Masdar & Dr Philipp Steinberg)

PS/ Cabinet Secretary for Constitution, External Affairs and Culture
PS/ Cabinet Secretary for Net Zero and Energy
PS/ Minister for Climate Action

Please find attached the engagement reports from the bilateral meeting that took place at the Investing in Green Hydrogen conference. The reports provide a detailed account of discussions held and outline the key actions agreed upon during the meeting.

Officials will work to deliver the actions.

Kind regards,
[REDACTED]

[REDACTED]

From: [REDACTED]
 Sent: Friday, August 16, 2024 3:21 PM
 To: DG Strategy and External Affairs <DGSEA@gov.scot>; DG Net Zero <DGNetZero@gov.scot>
 cc: [REDACTED]

Subject: Submission - Investing in Green Hydrogen Conference 2024 (2-3 September 2024 | London) - Request for DG level Participation
Importance: High

PS/ DG Net Zero
 PS/ DG Strategy and External Affairs

[REDACTED]

[REDACTED]

The Summit brings together some of the most important stakeholders from across the hydrogen sector, with representatives expected from the European Commission, International Renewable Energy Agency directors as well as industry representatives such as UNIPER, RWE, Masdar and Fortesque. A full list of speakers can be viewed at <https://www.investinginhydrogen.com/speakers>

Timings and Programme: The Minister had been due to participate in the conference from **09 00 – 14 00 on Day 1 (2nd September)**. Officials had secured a speaking slot within the keynote session running from 09 20 – 10:20 alongside Philip Steinberg German Federal Level DG for Economic Stabilization, Energy Security, Gas, Hydrogen Infrastructure. Officials have already secured a bi-lateral meeting with DG Steinberg immediately following the session. The Norwegian Minister for Petroleum and Energy will also join the panel session virtually.

Following the keynote session, officials had planned to pursue a further 3 bi-lateral engagement opportunities with key stakeholders from the hydrogen industry, please see below the rationale for the bi-lateral engagements we would aim to secure:

Priority		
Name	Role/Organisation	Rationale
Dr. Philipp Steinberg	Director General for Economic Stabilization, Energy Security, Gas, Hydrogen Infrastructure - Federal Ministry for Economic Affairs and Climate Action	Top German official in charge of the teams that look after the UK-Germany hydrogen partnership; the German hydrogen import strategy (which namechecks Scotland); onshore and offshore hydrogen infrastructure; and German IPCEI and other large-scale projects, e.g. Aquaventus. [REDACTED]
[REDACTED]		[REDACTED]
[REDACTED]	CEO of Hint.Co - H2Global (German Government Funding)	H2Global is Germany's key financial mechanism to support H2 projects in non-EU countries for supply into Germany, using a double auction. [REDACTED]
Felipe Arbelaez	Senior Vice President Hydrogen & CCS - BP	BP is an important energy sector stakeholder playing a role in Scotland's energy transition. [REDACTED]

[REDACTED]

I would be grateful if you could put forward this request for consideration.

If you have any follow up questions regarding the above advice or the event more generally, please don't hesitate to contact me.

Many Thanks
 [REDACTED]

[REDACTED] Head of the UK, EU and International Relations Team
 [REDACTED]

[REDACTED]

From: [REDACTED]

Subject: RE: Cooperation between Scotland and Bremen in diverse sectors - your input needed asap

Date: 28 August 2024 11:22:00

Attachments: [image003.png](#)
[image004.png](#)
[image005.png](#)

Hi ^[REDACTED]

We don't have an MOU with Bremen, no, though they are a member of the Hy5 German coastal states with an interest in hydrogen, and their officials (as well as a delegation from the Hy5) visited Scotland in May for All Energy Glasgow. Last September Neil Gray, who at the time was Cabinet Secretary for Energy, took a delegation of Scottish companies to the Hydrogen Tech Expo, which was being held (for the last year) in Bremen. [REDACTED]

[REDACTED]

[REDACTED]

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From: [REDACTED]

Sent: Wednesday, August 28, 2024 10:04 AM

To: [REDACTED]

[REDACTED]

Subject: Cooperation between Scotland and Bremen in diverse sectors - your input needed asap

Dear all,

I am reaching out to get your input on the relationship, connections, successes etc between Scotland and Bremen of which you are aware of, especially in the Energy sector. Is there any MOU even signed between those 2 regions?

I am putting together few paragraphs about the relationship that SDI and SG so far have in diverse sectors with Bremen, besides Space which I will for sure highlight as well, as [REDACTED] is providing opening remarks on 9. September and wanted to include a few lines on it in her speech as well.

I am working closer with Bremen partners since a few years in particular in the Space sector and around Space Tech Expo Europe, which taking place in Bremen each year.

As a return visit this time to Scotland, a delegation with companies and organisations from Bremen headed by Senator Vogt will be coming [OUT OF SCOPE] as well as additional SDI programme from 9. September on.

FYI – please see the list of current participants of the delegation:

[REDACTED]

Further to that I have managed to recruit [REDACTED], Head of Space Department at German Aerospace Association (BDLI) to come over and be a speaker (1-2 speaking slots) at the conference, as well as [REDACTED], Head of Procurement at OHB, so I could arrange 1-2 speaking slots for him as well.

Many thanks in advance for your feedback ideally today EOD or tomorrow morning.

Best regards,

[REDACTED]

Senior International Trade Manager
Financial & Industrial Technologies



#SCOTLAND
ISNOW



Scottish Development International (SDI)
Kasernenstrasse 27 | 40213 Düsseldorf | Germany
[REDACTED]

Scottish Development International | www.sdi.co.uk
Scottish Enterprise | www.scottish-enterprise.com

Sign up for our monthly Exporting and International Markets email updates [here](#)

For information on business support from across all of Scotland's public sector, conveniently in one place, please visit: www.FindBusinessSupport.gov.scot

To find support for your business from across Scotland's public sector, visit:
[FindBusinessSupport.gov.scot](http://www.FindBusinessSupport.gov.scot)
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<http://www.scottish-enterprise.com>

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Follow us on Facebook at <http://www.facebook.com/scottishenterprise>

Head office and contact details:

Atrium Court
50 Waterloo Street
Glasgow
G2 6HQ
[REDACTED]

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From: [REDACTED]

Subject: RE: FM / NRW MP potential meeting

Date: 09 September 2024 13:47:01

Attachments: [image002.png](#)

Hi

That's ok [REDACTED]. We're keen just to get FM's confirmation that he's happy in principal. These may not be logistically all deliverable and that's ok.

[REDACTED]

Deputy Head | UK, EU and International Relations Team

Scotland House - 5th Floor | 58 Victoria Embankment | London | EC4Y 0DS

[REDACTED]

[@ScotGovLondon](#)



From: [REDACTED]

Sent: Monday, September 9, 2024 1:07 PM

To: [REDACTED]

Subject: RE: FM / NRW MP potential meeting

Hi [REDACTED],

[REDACTED]

I'd suggest that they could discuss closer energy cooperation, and the potential for Scotland to supply NRW with green hydrogen for industrial use [OUT OF SCOPE]

[REDACTED]

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From: [REDACTED]
Sent: Monday, September 9, 2024 2:02 PM
To: [REDACTED]

Subject: FM / NRW MP potential meeting

Hi [REDACTED]

Can you please confirm you're content with this on the potential FM / MP NRW meeting? I was wondering if there is one sentence on what the discussion would be about? This will sit in a sub with other engagements that we need to send up by noon tomorrow, so [REDACTED] can discuss with FM tomorrow PM. So please let us know by 10am tomorrow.

Meeting with the Minister-President of Nord-Rhein Westphalia, Hendrik Wüst	<ul style="list-style-type: none">• You would meet the First Minister equivalent of this German state, with whom SG has an MoU on economic cooperation.• Nord-Rhein Westphalia is Germany's industrial powerhouse with a population of 18 million, a GDP similar to Poland and strong hydrogen export ^[OUT OF SCOPE]• [OUT OF SCOPE]
--	---

[REDACTED]

Deputy Head | UK, EU and International Relations Team
Scotland House - 5th Floor | 58 Victoria Embankment | London | EC4Y 0DS
[REDACTED]
[@ScotGovLondon](#)



From: [REDACTED]

Subject: RE: FOIs re. Germany visits - follow-on proactive publication - request for information by COP 04/09

Date: 03 September 2024 16:21:00

Attachments: [image001.png](#)

In similar vein – this look OK for Munich? Copying to [REDACTED] also for any thoughts.

Background

First Minister John Swinney visited Munich from 13-15 June [OUT OF SCOPE]

with a particular focus on clean energy and green hydrogen exports.

During the visit, the First Minister [OUT OF SCOPE]

He also hosted a business roundtable on green hydrogen for 12 Bavarian companies with existing investments or potential capability to support the Scottish supply chain, [OUT OF SCOPE]

Objectives/achievements/outcomes

[OUT OF SCOPE]

to promote Scottish clean energy and particularly hydrogen in one of our key target markets; [OUT OF SCOPE]

Activities undertaken

- **14 June:**
- [OUT OF SCOPE]
-
- Hydrogen business roundtable with Bavarian companies
- [OUT OF SCOPE]
-
-
- [OUT OF SCOPE]
-

[REDACTED]

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From: [REDACTED]

Subject: RE: Innovate UK | Hydrogen GBIP, Germany | Innovation Visit Agenda (subject to change)

Date: 21 August 2024 16:04:05

Attachments: [image001.png](#)

OFFICIAL

[OUT OF SCOPE]

OFFICIAL

From: [REDACTED]

Sent: Thursday, August 15, 2024 3:05 PM

To: [REDACTED]

Subject: RE: Innovate UK | Hydrogen GBIP, Germany | Innovation Visit Agenda (subject to change)

OFFICIAL

Thanks for sight of this ^[REDACTED] it is looking really strong. To note that Hamburg already has port facilities to store small amounts of shipped hydrogen (e.g. from the UAE), which might make for an interesting visit, if there is time.

[OUT OF SCOPE]

[REDACTED]

[REDACTED]

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OFFICIAL

From: [REDACTED]

Sent: Thursday, August 15, 2024 2:39 PM

To: [REDACTED]

Subject: FW: Innovate UK | Hydrogen GBIP, Germany | Innovation Visit Agenda (subject to change)

OFFICIAL

Hi ^[REDACTED]

Hope you're having a lovely summer!

I promised to share the Innovate UK Hydrogen 'GBIP' programme with you once it had started to shape-up, given there are a couple of Scottish delegates joining. Please see latest attached. Let me know if you'd like to join for any of it and I can check with Innovate UK (who are leading on the programme overall).

Obviously this comes with the caveat that it's still a few months away and therefore may be subject to change!

All my best,

[REDACTED]

From: [REDACTED]

Subject: RE: Meeting Note - Minister for Business meeting with Bremen Delegation.

Date: 18 September 2024 15:02:00

Attachments: [image003.png](#)
[image004.png](#)
[image005.png](#)
[REDACTED]

Thanks [REDACTED] (Doesn't look too bad, as minuted – cudos to [REDACTED])

[REDACTED]

[REDACTED]

[REDACTED]

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From: [REDACTED]

Sent: Wednesday, September 18, 2024 11:02 AM

To: [REDACTED]

Subject: FW: Meeting Note - Minister for Business meeting with Bremen Delegation.

FYI

From: [REDACTED]

Sent: Wednesday, September 18, 2024 9:29 AM

To: Minister for Business <MinisterforBusiness@gov.scot>

cc: [REDACTED]

Subject: Meeting Note - Minister for Business meeting with Bremen Delegation.

Dear PO,

Please see the linked meeting note from Mr Lochhead's engagement with Senator Kristina Vogt and a delegation from Bremen on the 10th September in St Andrew's House. [REDACTED]

Kind regards,

[REDACTED]

Export Promotion Policy Officer

Directorate for International Trade and Investment | Scottish Government |

5 Atlantic Quay | 150 Broomielaw | Glasgow | G2 8LU

Email: [REDACTED]

Find us on Twitter [@DITScotland](https://twitter.com/DITScotland)



From: [REDACTED]

Subject: RE: Policy view | Scotland's relationship with Germany

Date: 28 August 2024 17:27:43

Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)

Thanks ^[REDACTED]

Please confirm if content – will progress to SpAds in next five minutes or so

Draft lines

A Scottish Government spokesperson said:

“Scotland has a strong relationship with Germany and we are committed to further developing cultural, economic and political links.

“We welcome the role that a new UK-Germany treaty could play in furthering those aims.

“Particularly in relation to the development of key North Sea infrastructure that can support a net zero transition, including the development of pipelines for green hydrogen export from the UK and Scotland to Germany.

“We hope that this renewed focus on European relationships heralds a reset in the UK’s relations with the EU.”

From: [REDACTED]

Sent: Thursday, July 18, 2024 4:21 PM

To: [REDACTED]

Subject: Readout from discussion with Baden-Württemberg Staatskanzlei

Hi all,

Good meeting this morning with [REDACTED], Baden-Württemberg's (BW) Head of International Opportunities. Quick readout of points of interest below:

- [OUT OF SCOPE]

- [REDACTED]

- [OUT OF SCOPE]

-

- We discussed the hydrogen roundtable that Angus Robertson led in Stuttgart, and the opportunities to use BW-derived tech to lower hydrogen price points and support Scottish export. I noted that next steps will be to link the participants up with ETP and offer a session on federal govt funding streams for joint projects. [REDACTED] can you take this forward in my absence? [REDACTED] I assume [REDACTED] is the best starting point on the ETP side?

- [REDACTED]

- [OUT OF SCOPE]

[REDACTED]

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From: [REDACTED]
Subject: RE: Submission - IGH Conference 2024 - Engagement Reports (RWE, Hydrogen Scotland, Masdar & Dr Philipp Steinberg)
Date: 11 September 2024 14:46:00
Attachments: [image001.png](#)

I don't seem to be able to access it....could I be added?

[REDACTED]

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From: [REDACTED]
Sent: Wednesday, September 11, 2024 3:07 PM
To: [REDACTED]
Subject: RE: Submission - IGH Conference 2024 - Engagement Reports (RWE, Hydrogen Scotland, Masdar & Dr Philipp Steinberg)

Hi [REDACTED]

I believe the reference is to the Scottish Enterprise project database, link below.

Can I ask that it is not shared externally, thank you

Database - [Scottish Hydrogen Projects.xlsx \(sharepoint.com\)](#)

Regards,
[REDACTED]

From: [REDACTED]
Sent: Wednesday, September 11, 2024 9:39 AM

To: [REDACTED]

Subject: RE: Submission - IGH Conference 2024 - Engagement Reports (RWE, Hydrogen Scotland, Masdar & Dr Philipp Steinberg)

[REDACTED]

[REDACTED]

Ich arbeite von Montag bis Freitag ganztags. Ich sende diese E-Mail zu einer Zeit, die meinen Arbeitszeiten entspricht, und wenn dies außerhalb Ihrer normalen Arbeitszeiten liegt, erwarte ich nicht, dass Sie antworten, bevor Sie das nächste Mal zur Arbeit kommen.

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From: [REDACTED]

Sent: Wednesday, September 11, 2024 9:47 AM

To: [REDACTED]

Subject: FW: Submission - IGH Conference 2024 - Engagement Reports (RWE, Hydrogen Scotland, Masdar & Dr Philipp Steinberg)

Hi [REDACTED]

Engagement reports from H2 conference in London.

Regards,
[REDACTED]

From: [REDACTED]

Sent: Monday, September 9, 2024 6:09 PM

To: Cabinet Secretary for Constitution, External Affairs and Culture 2024

<CabSecCEAC@gov.scot>

Cc: Cabinet Secretary for Net Zero and Energy <CabSecNZE@gov.scot>; Minister for Climate Action <ministerforca@gov.scot>; [REDACTED]

[REDACTED]

Subject: Submission - IGH Conference 2024 - Engagement Reports (RWE, Hydrogen Scotland, Masdar & Dr Philipp Steinberg)

PS/ Cabinet Secretary for Constitution, External Affairs and Culture
PS/ Cabinet Secretary for Net Zero and Energy
PS/ Minister for Climate Action

Please find attached the engagement reports from the bilateral meeting that took place at the Investing in Green Hydrogen conference. The reports provide a detailed account of discussions held and outline the key actions agreed upon during the meeting.

Officials will work to deliver the actions.

Kind regards,

[REDACTED]

[REDACTED]

Hydrogen Policy Manager | Hydrogen Regulation and International Engagement
Team | Scottish Government
Atlantic Quay, Glasgow, G2 8JX

Many thanks,
[REDACTED]

**Deputy Private Secretary/Diary Manager to the First Minister
Office of the First Minister**

5th Floor | St Andrew's House | Regent Road | Edinburgh | EH1 3DG
Email: FirstMinister@gov.scot

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From: [REDACTED]

Sent: Wednesday, August 7, 2024 9:47 AM

To: First Minister <FirstMinister@gov.scot>; Cabinet Secretary for Net Zero and Energy <cabsecfornze@gov.scot>

Cc: [REDACTED]

Subject: Submission - Meetings with German Ambassador - Thursday 3 October 2024

**PS/ First Minister
PS/ Acting Cabinet Secretary for Net Zero and Energy**

Purpose

1. To inform the First Minister and Acting Cabinet Secretary of a request to meet with the German Ambassador to the UK, Miguel Berger, who will visit Edinburgh on Thursday 3 October.

Priority

2. Routine.

Background

3. [OUT OF SCOPE]

4. The Consulate have indicated that the Ambassador would like to discuss shared priorities including renewables, hydrogen [OUT OF SCOPE]

Recommendation

6. Officials advise that the First Minister and Acting Cabinet Secretary agree to meet separately with Ambassador Berger on 3 October, subject to diary availability.
7. Meetings with the First Minister and Ms Martin would provide a good opportunity to reiterate our messaging around green hydrogen, particularly in light of Germany's recently published Hydrogen Import Strategy which explicitly references Scotland, as well as our forthcoming Hydrogen Sector Export Plan.

Conclusion

9. The First Minister and Acting Cabinet Secretary are invited to note the contents of this submission and indicate whether they agree with the above recommendation.

Thanks,
[REDACTED]

European Relations Policy Adviser – Central Europe | European Engagement
Directorate for Culture and External Affairs | Scottish Government
[REDACTED]



From: [REDACTED]
To: [Cabinet Secretary for Constitution, External Affairs and Culture 2024](#); [REDACTED]
Cc: [REDACTED]

Subject: RE: TO CLEAR | Herald: Scotland's relationship with Germany
Date: 28 August 2024 18:31:04
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)

Thanks ^[REDACTED] issuing this now for duty comms

From: [REDACTED] **On Behalf Of** Cabinet Secretary for
Constitution, External Affairs and Culture 2024
Sent: Wednesday, August 28, 2024 6:22 PM
To: [REDACTED]
cc: [REDACTED]

Subject: Re: TO CLEAR | Herald: Scotland's relationship with Germany

Hi ^[REDACTED]

Grateful if this can go on spad clearance, thanks.

[REDACTED]

From: [REDACTED]
Sent: Wednesday, August 28, 2024 5:59:29 PM
To: Cabinet Secretary for Constitution, External Affairs and Culture 2024
[REDACTED]

[REDACTED]

Subject: TO CLEAR | Herald: Scotland's relationship with Germany

Cab Sec/PO

Please see below draft lines, as agreed with officials and SpAds, in reaction to an enquiry from the Herald about Scotland and Germany's relationship after the Prime Minister met the German Chancellor. The deadline for this asap (Duty Comms colleague is copied in), so would be extremely grateful if you would confirm if content or happy to go on SpAd clearance.

Kind regards

[REDACTED]

Draft lines

A Scottish Government spokesperson said:

“Scotland has a strong relationship with Germany and we are committed to further developing cultural, economic and political links.

“We welcome the role that a new UK-Germany treaty could play in furthering those aims.

“Particularly in relation to the development of key North Sea infrastructure that can support a net zero transition, including the development of pipelines for green hydrogen export from the UK and Scotland to Germany.

“We hope that this renewed focus on European relationships heralds a reset in the UK's relations with the EU.”

Query

Just to see if I can get a comment from the FM on UKG and German Government starting work on new co operation agreement.

Good to get Scottish response.

And what would SG like to see in it?

Tweet from German ambassador to UK

<https://x.com/GermanAmbUK>

[REDACTED]

News | Media Manager

Constitution, External Affairs and Culture Communications

The Scottish Government, St Andrew's House, Edinburgh

[REDACTED]

www.gov.scot/news

