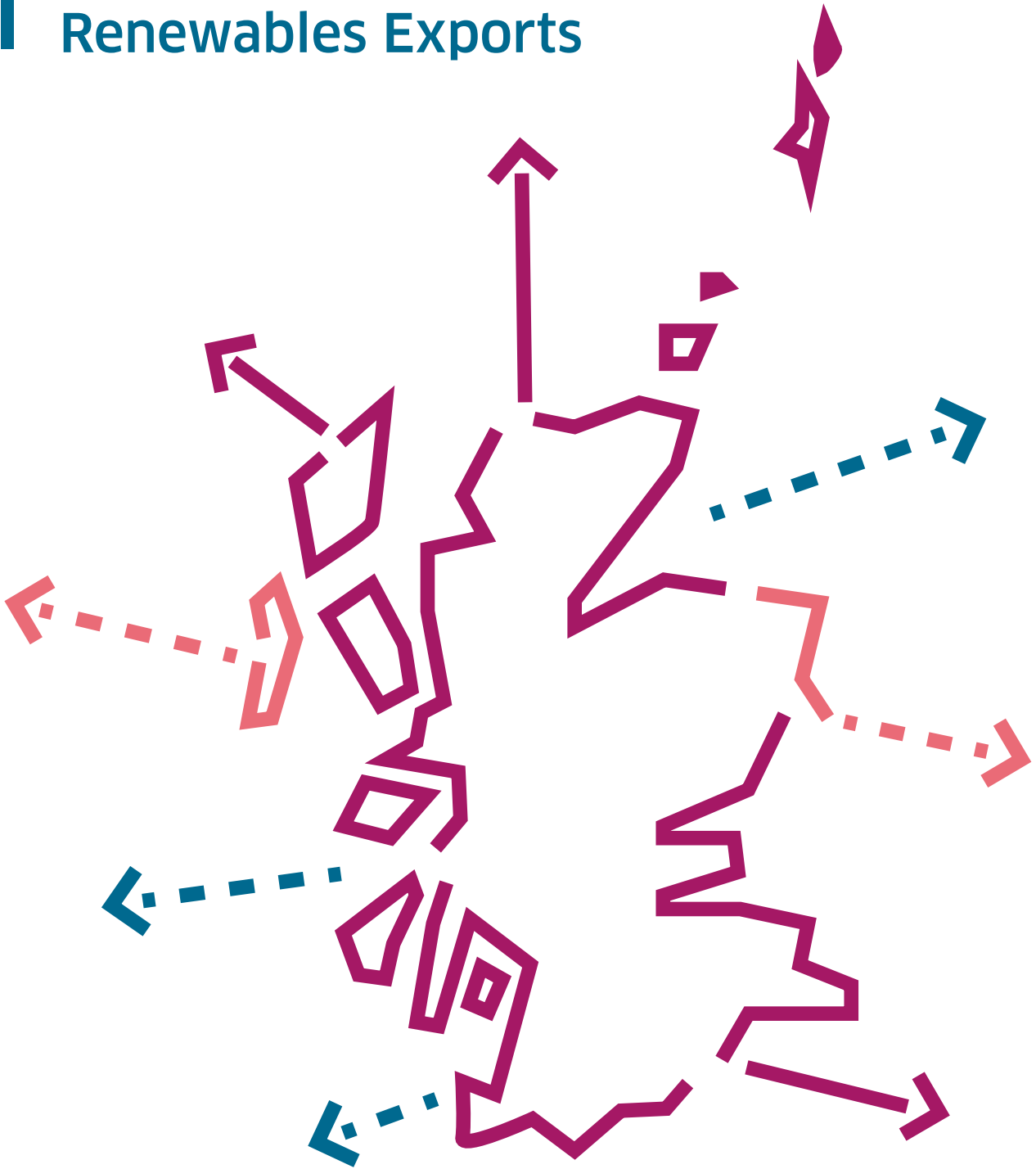


A Trading Nation – A Framework to Grow Scotland’s Renewables Exports



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1. Background: Scotland's renewables sector

In alignment with [A Trading Nation \(ATN\)](#): a plan for growing Scotland's exports, we are publishing a framework to grow Scotland's renewables exports, as a first step towards developing a more detailed action plan to realise the scale and opportunities to grow Scotland's renewables exports.

At the point ATN was published, energy exports were identified as a key sectoral strength for Scotland, comprising 11% of Scotland's exports with the rest of the world.

Since 2019, much has changed. The Scottish Government's ambitious climate change legislation sets a target date for net zero emissions of all greenhouse gases by 2045. Our contribution to climate change will end, definitively, within one generation. To meet our targets, a rapid transformation across all sectors of our economy and society is now underway.

This framework will provide a strong foundation on which we can scope Scotland's renewable export opportunity. Building on our assessment of our domestic strengths and our ability to compete internationally, we will work with businesses through a coordination of government, agencies, and industries.

Scotland benefits from having a strong oil and gas industry and heritage, building upon decades worth of skills and technology innovation, and critically, the experience to embrace and build on the key opportunities offered by the energy transition. These strengths are a huge asset in helping us to achieve our target of net zero emissions by 2045 and supporting the growth of the renewables sector in Scotland. It is noted that many of the incumbent companies within the oil and gas sector today are, and have been, actively pursuing pivot activities in the energy transition. In addition, we have seen technology start-ups both from industry and from Scotland's own excellent university network, commence work on technologies for the transition.

This framework seeks to map and encourage opportunities for both existing energy players, new incumbents, and domestic technology start-ups. The emphasis of the future use of digital technologies further enhances Scotland's position. As well as our ability to transition skills and technology, and therefore talent from the oil and gas sector, our proven network of skills provision and higher education delivery (apprenticeships, training and development programmes, universities, and colleges) place Scotland at the centre of developing the future workforce.

For the purposes of the export framework, renewables exports from Scotland will be defined as: **international sales of goods and the provision of services to customers outwith the UK from Scotland**, with a focus on the following renewable sources: **onshore wind, offshore wind, marine and renewable heat (such as geothermal)**.

International sales relating to hydrogen are not included in this export plan but are being developed as part of the [Scottish Government's Hydrogen Action Plan](#).

The Fraser of Allander Institute recently published [The Economic Impact of Scotland's Renewable Energy Sector](#). Using the latest available data (2020), they calculated that Scotland's renewable energy sector had a turnover of **£3.06 billion and approximately 8,450 FTE jobs**. This is based on the definition of direct renewable energy activity used within the Office for National Statistics (ONS) Low Carbon and Renewable Energy Economy (LCREE) survey.

The ONS LCREE survey is the main source of official data on exports for this sector. This shows that since 2014, the value of Scotland's LCREE exports have increased by 30% (UK up 37%). Scotland's LCREE exports were estimated to value £384.5 million in 2020, with no statistically significant change from 2019, whereas LCREE exports for the UK decreased by 16% over the same period.

We recognise that the definition of the low carbon and renewable energy economy used by ONS is broader than the description and focus of sectors applied within this framework. In addition, the disaggregation of traditional and renewable energy exports within existing export data sets is both complex and emerging.

Therefore, to develop our understanding of current Scottish renewables exports as defined within the framework, we worked with Scottish Renewables and our enterprise agencies to both survey and engage with companies in the sector.

Thirty-five exporters responded to our initial survey, indicating Scottish renewables businesses are exporting to 39 countries, and those companies demonstrated a growth in their exports from 2019 to 2020. We held workshops with a wide range of industry representatives in each of the four sub-sectors to assess the survey results; the key themes which arose have been used to guide the development of this export plan.

- The importance of domestic growth and sales is important to developing international sales.
- We should use Scotland's existing reputation in energy exports to build our reputation for renewables exports.
- Existing skills and experience within the energy sector in Scotland can be re-harnessed and re-used to build that reputation.
- The need to define critical international markets more clearly for Scotland, based on our internationally competitive strengths and emerging areas of strength whilst establishing the opportunities.

1.1 Policy context and enablers

To create a clear and centralised framework view for the internationalisation of Scotland's renewables energy transition, this framework is underpinned by a number of existing Scottish Government policies and strategies. These create key dependencies to help maximise the sector's contribution to our overarching [National Strategy for Economic Transformation](#) (NSET), such as [Scotland's Vision for Trade](#), which identifies opportunities to improve the trading environment and ended all Scottish Government overseas trade support and promotion activities solely focused on fossil fuel goods and services. These important levers and key principles are key to supporting our energy transition to net zero following the release of the [Draft Energy Strategy and Just Transition Plan](#). (See Figure 1.)

Figure 1: Strategic Connections for Delivering Renewables Exports



2. Opportunities to increase Scotland's renewables exports

Our ability to grow Scotland's renewables exports will be based on a number of enablers. But at its core, it will require our approach to renewables energy and the energy transition to be translated into international competitive advantages, which can be promoted and traded with the world.

2.1 Domestic development of sub-sectors and supply chains

The just transition to a net zero economy is a key priority for the Scottish Government and Scotland's enterprise agencies. All agencies are fully aligned to deliver the Scottish Government's net zero ambitions and to help businesses across the country grasp emerging low-carbon economic opportunities, which include exporting their products and services to overseas markets. Specific agency activities and priorities are:

Scottish Enterprise's Net Zero Framework is committed to supporting Scotland's economic transformation to net zero. Specific sections of the framework that can assist companies to trade internationally include:

- Supporting net zero innovation in existing and start-up businesses and organisations to help Scotland become a leading location for net zero, supporting businesses to access new market opportunities to improve their competitiveness and resilience.
- Delivering projects and programmes to help shift Scotland's economy to invest and innovate in a just, net zero future, building on Scotland's distinctive climate-related strengths and opportunities.

Highlands and Islands Enterprise is focussed on the Highlands and Islands' unique assets to ensure they make a significant contribution to our net zero targets, while also enabling businesses and communities to benefit from the renewable energy they require, in terms of both generation and use. Strategic opportunities include:

- Offshore and onshore wind supply chain development, wave and tidal demonstration, green hydrogen production, distribution and use, and green heat.

The early engagement in leading technology development and deployment at the **European Marine Energy Centre** in Orkney and **Wave Energy Scotland** is enabling businesses in the supply chain to gain experience and expertise that is now sought internationally. The region is also well placed to support offshore wind and green hydrogen component manufacture and project delivery. Moreover, increased domestic capability will be predicated on securing both inward investment and international trade opportunities.

South of Scotland Enterprise (SOSE) is committed to green growth alongside promotion of fairness and wellbeing and to delivery against opportunities arising from the United Nations COP26 summit in 2021. Through the Regional Economic Strategy for the South of Scotland, SOSE seeks to deliver a fairer, greener, and flourishing South of Scotland and is geared to support businesses to deliver new market opportunities and the wider NSET.

Through co-funding development of the **HeatSource** cluster builder, SOSE seeks opportunities for the region to capitalise upon the growing renewable heat market across Scotland, and to use this as a platform to secure opportunities outside Scotland.

As the specialist trade and investment arm of the enterprise agencies, Scottish Development International (SDI) will continue to build on existing mechanisms, such as the Business Support Partnership, to support businesses to access new international markets in these priority areas.

2.2 Supporting companies to transition to renewables exports

The key driver of this framework is the growing commitment of Scottish companies not only to transition to new energy renewables, but also to drive the net zero journey from within their existing oil and gas activity, and the opportunity this presents to support the growth of renewables exports within Scotland's mix of energy exports.

Evidence also shows that the large majority of existing oil and gas businesses in Scotland have active internal Environmental, Social and Governance (ESG) policies and programmes.

On 25 November 2022 the [Scottish Enterprise - Low Carbon & Renewable Energy Report 2022](#) was published. This offers a broad view of current levels of activity in the renewables sector. It encompasses and goes beyond the sub-sectors in these plans, but it clearly demonstrates the current global footprint of Scottish companies operating in the low carbon and renewable energy sector (see Figures 2 and 3).

Figure 2: Scottish Enterprises Global Profiles of Businesses in Sector Survey

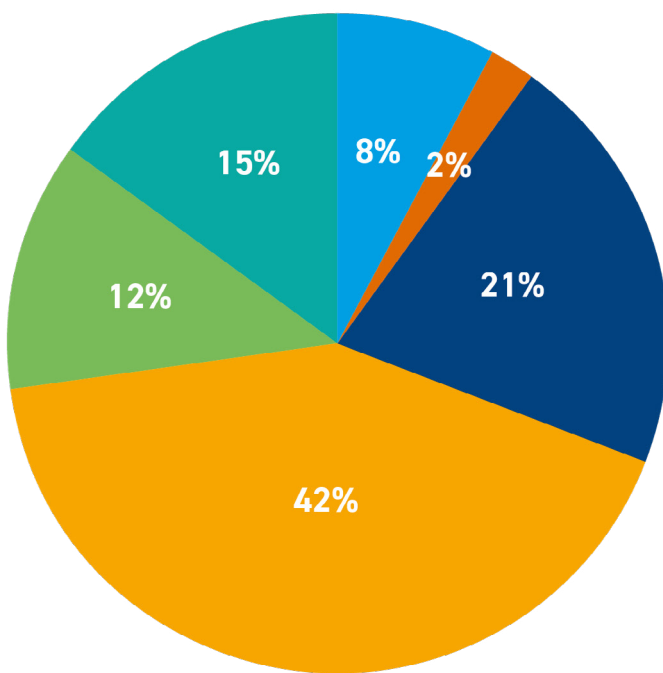


As mentioned above, the report confirms that three in four of the energy businesses surveyed were currently involved in low carbon and renewable energy. Of the 23% of businesses that said they were not currently involved in the low carbon and renewable energy sector, 58% plan to become more involved in the low carbon and renewable energy sector within the next year/three years/five years. This is a demonstration of Scottish companies, early commitment to the transition and a process which these plans seek to enhance and support.

Figure 3: Scottish Enterprises, Energy Businesses

1.1 Current focus of energy businesses

We asked energy businesses what their current focus was with a range of answer options from 'sole focus is low carbon & renewable energy sectors' to 'sole focus is oil & gas'. Response results in pie chart below:

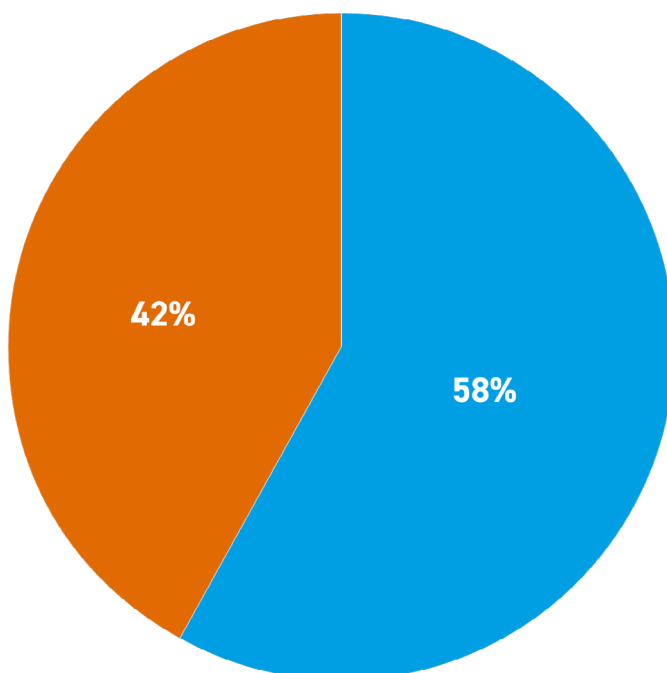


- Sole focus is low carbon & renewable energy sectors (8%)
- Not involved in oil & gas or low carbon & renewable energy sectors (2%)
- Sole focus is oil & gas (21%)
- Main focus is oil & gas but also involved in the low carbon & renewable energy sectors, at least to some degree (42%)
- Main focus is low carbon & renewable energy sectors but also involved in oil & gas, at least to some degree (12%)
- Equal focus on oil & gas and low carbon and renewable energy (15%)

Three in four energy businesses said they were currently involved in low carbon & renewable energy.

1.2 Businesses not currently in the sector, plans to become involved

We asked the 23% of businesses that said they were not currently involved in the low carbon & renewable energy sector, whether or not they had any plans to become involved in the future. Response results in pie chart below:



- Have no plans to become more involved in the low carbon & renewable energy sector in the foreseeable future (42%)
- Plan to become more involved in the low carbon & renewable energy sector within the next year/three years/five years (58%)

58% of those businesses said yes, they do plan to become involved in the future.

2.3 Critical strengths and International Markets

The Scottish Government is drawing together a range of data sources, including information from the International Energy Agency (IEA) to allow us to assess global demand, across countries and sub-sectors, for Scottish renewables exports.

In addition, enterprise agencies are mapping the capabilities that SDI will then match to the international demand and opportunities for the Scottish supply chain. The sub-sector opportunities identified in specific international markets will be nuanced, taking account of local factors such as the strength of domestic supply chains, and geographical advantages relating to Scotland's strengths.

To align our export potential with this global demand, through this framework we will:

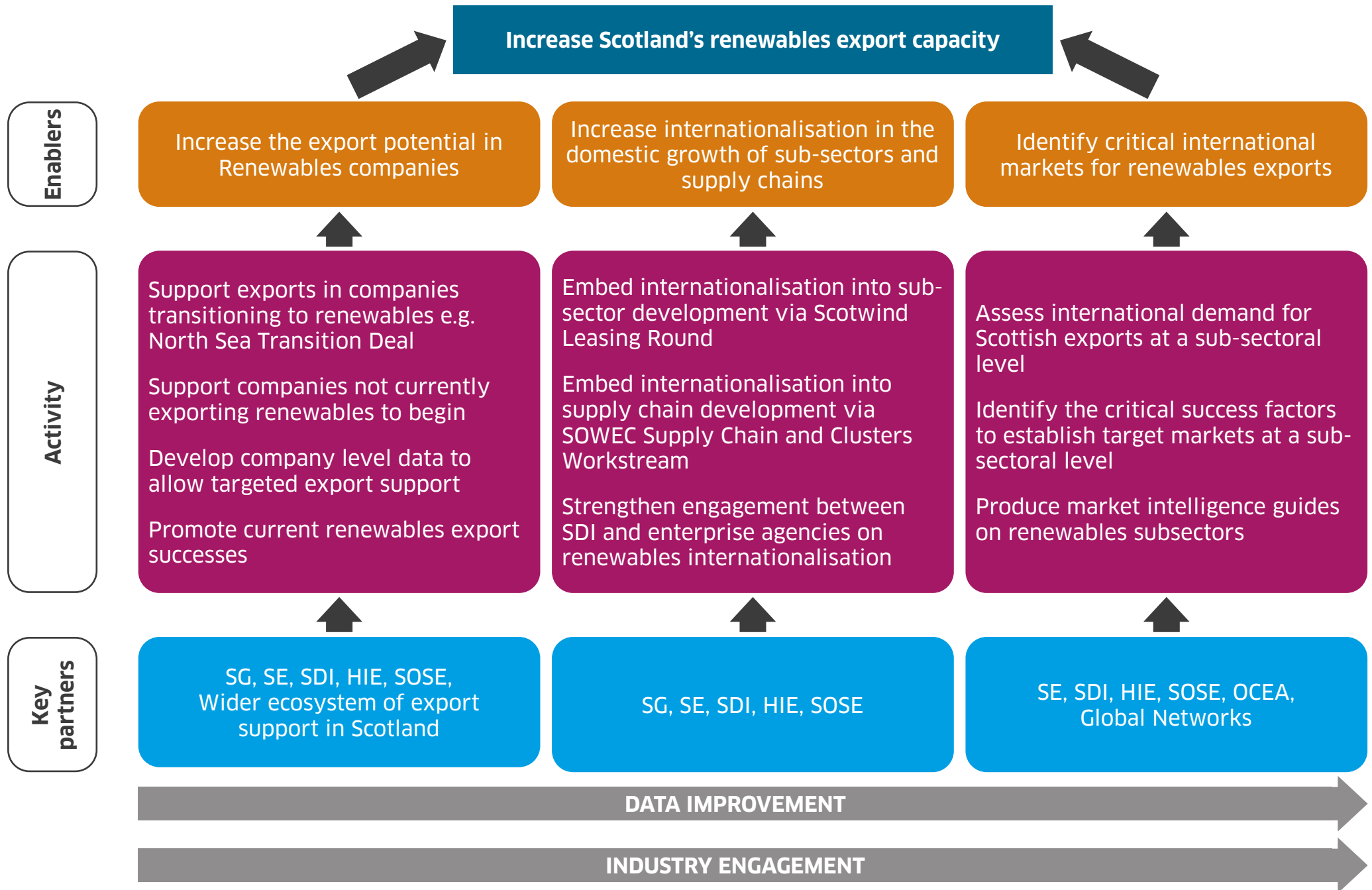
- Undertake a mapping exercise of our domestic supply chain, including their export potential, to provide more information on capabilities and help understand our export potential better. This would provide an overall sense of our supply chain as well as identifying companies we can target for future export support whilst highlighting future market opportunities.
- Develop our understanding of the export opportunities presented by the growth of Scotland's renewables sub-sectors and supply chains, starting with offshore, onshore, heat and marine.
- Undertake a detailed analysis of the characteristics within international markets, such as the strength of their existing supply chains to identify distinctive competitive advantages for Scotland.

Working with our international networks and industry, we will develop detailed market intelligence on these sub-sectors to support the delivery of this export plan.

There are also existing sources of data within the industry itself, which can help to assess export opportunities for Scotland, and critical markets. The Scottish Offshore Wind Energy Council (SOWEC) produced a report on [Offshore Wind International Export markets - a guide for Scottish Exporters](#). In that document is the Attractiveness Index, which provides a strong example of how our support for exporters can be guided by analysis with sub-sectors.

On completion of the mapping, we will implement a coordinated government, agency and industry approach to realising the sector's export growth potential, aligned with Scotland's 'A Trading Nation' strategy. The diagram below (see Figure 4) provides a framework model through which a range of partners in Scotland can realise the opportunity to grow Scotland's renewables exports. Across the framework, a partnership approach with industry leads and voices will be critical in delivery. Through this plan we will draw on existing forums, such as the Scottish Government Trade Board, and industry engagement across energy policy delivery, identifying opportunities to enhance the export growth agenda within them.

Figure 4: Framework to Increase Scotland's Renewables Export Capacity



3. Actions and next steps

This framework provides a structure through which we can identify and deliver the actions required to grow Scotland's renewables exports. The sector and its opportunities for export growth are evolving rapidly, and as such the actions required to deliver growth must be agile and regularly reviewed.

Within the next 12 months we will finalise a full Renewables Exports Action Plan. The Plan will identify short-, medium- and long-term ambitions, setting out the identification of critical renewables export priorities for Scotland against the delivery of critical dependencies. This will establish how we can grow the number of Scottish renewables companies and develop their international competitive advantages, including through development of domestic supply chains.

The previous two sections have identified Scotland's current strengths in renewables and the opportunities to grow Scotland's renewables exports. This section sets out the actions the Scottish Government, agencies and industry will take to do this, as well as the progress we have made.

3.1 Improving our understanding of renewables export growth opportunities

As [defined within ATN](#), energy was one of the top five export sectors for Scotland in 2019. However, as identified in Section 1, the nature of the energy sector is rapidly evolving, as too are the means through which Scotland will create energy exports in the future.

To ensure this export plan takes an evidence-based approach, we have identified a number of actions that will allow us to develop a baseline against which Scottish renewables exports can be established and tracked in future.

Actions we will take:

- **Data Improvement** – Pilot a data gathering exercise that will commence early 2023; this activity will help provide direction on future international markets and inform enterprise agencies operating plans.
- **ONS LCREE Data** – Explore the ONS LCREE data as a potential source for tracking progress of Scotland's renewable exports.
- **ATN Definition Of Energy Exports** – Revisit our definition of Energy Exports within ATN, to ensure it meets Scotland's transition to renewable forms of energy and the scope for export growth in key commodities such as hydrogen. This work will also inform the development of the Hydrogen Sector Export Plan in 2023.

Progress to date:

- **Energy Transition Data** – The Scottish Government commissioned a study to develop a methodology that will measure Scotland's net zero and climate adaptation economy. This will help identify where there are trade and investment opportunities across Scotland's net zero and climate adaptation supply chains, including renewables.

3.2 Opportunities to support renewable exporters

To ensure that Scotland is strongly positioned to capitalise on the economic opportunity presented by renewables, we will continue to support companies to take advantage of opportunities in other countries that require tailored market knowledge and insight.

Actions we will take:

- **Supply Chain Mapping** – We will produce a comprehensive data set of company information and capabilities across the Energy supply chain. This will allow us to better understand our strengths, both as a sector- and company-level mapping supply chain.
- **Identify Renewables Exporters** – The Enterprise agencies through SDI will continue to work with partners, through the Business Support Partnership, key stakeholders, and industry bodies, to identify future renewables exporters, assessing their capability, and exploring opportunities with them.
- **Target Markets** – Enterprise agencies and partners will work together to support companies to access expertise to help them navigate new emerging markets.

Progress to date:

- **Scotland's Industry Directories** – Published in 2019, the directories map the businesses operating across Scotland's renewables sector. The enterprise agencies are undertaking significant work to update this directory making it much more comprehensive.
- **Renewable Export Support** – SDI supports a wide portfolio of renewable companies to increase their export potential across the segmented model of export support within ATN. Currently there are particularly strong representation of the sector in both the Solid Performer and Sleeping Giant segments.
- **Scottish Development International** – Provides a wide range of support for new and existing exporters that is signposted on the [Scottish Enterprise Exports and International Markets site](#). This includes:
 - Access to international market research and guides on specific market and sector opportunities.
 - Support to start exporting through the 'Preparing to Export' programme.
 - Businesses can also get expert advice through the GlobalScot network.

3.3 Internationalisation of Scotland's sub-sectors and supply chains

We will build on the domestic development of Scotland's renewable sub-sectors and supply chains, to embed an internationalisation and exporting mind-set within them.

Actions we will take:

- **GlobalScots** – We will engage with our network of renewable energy GlobalScots on a sub-sectoral basis to develop focused groups to support the delivery of this framework.
- **Climate Emergency Skills Actions Plan** – Published in December 2020, the [Climate Emergency Skills Action Plan](#) sets out clear direction for the changes needed in the skills system, allowing Scottish firms and workforces to capture a share of growing international markets and maximising the transition to net zero for Scotland.

Progress to date:

- **The ScotWind Programme** – Scotland is at the forefront of the global development of offshore wind, helping deliver supply chain benefits and high-quality jobs that will make the climate transition a fair one.

3.4 Identify critical international markets for renewable exports

SDI already has a robust approach to supporting our exporters, and will continue to promote Scottish interests overseas and strengthen Scotland's international relationships.

Actions we will take:

- **International Markets** – We will continue to assess SDI's global footprint of in-market specialists to ensure they support the transitional nature of Scotland's energy exports.
- **International Promotion** – In line with Scottish Government's [Vision for Trade](#), SDI will continue to promote and build relationships by showcasing Scottish companies transitioning to renewable energy, and the innovative companies in this space, by establishing Scotland's international trade and investment presence at key industry events.

Progress to date:

- **International networks** – To support and grow companies' ambition to establish future exporting capability, we are using our extensive international network, including SDI's network of in market specialists, GlobalScots and trade envoys, to gather crucial market intelligence.
- **Sub-sectors** – SDI is enhancing its understanding of the sub-sector opportunities in Onshore Wind, Offshore Wind, Heat and Marine – with a view to developing trade propositions on each.

This plan provides a strong foundation on which we can build Scotland's renewables export capacity. Working together across government, industry, and agencies we will also work with key partners to explore whether a distinct Renewables Sector Export Plan delivery group would provide additional value in this context. From there a detailed action plan covering key opportunities will continue to be developed to support this plan, bringing direction, focus and commitment, to each of the actions identified and those we will identify as our industry develops.

4. Acknowledgements

We acknowledge the help and input of our SDI in-market specialists, members of the GlobalScot community across the world who attended workshops with the team, as well as our current Trade Board members from the sector.

There has been extensive industry engagement across the renewables sector to gather data and intelligence and we thank them for their time and input. The team developing the export plan has also worked with member organisations who work with companies in the sector on a daily basis, who have provided insights, advice, and assistance to direct next steps.

Offshore Energies UK supports members with export visibility and networking through a variety of different methods, including:

- Working to increase visibility of upcoming global oil, gas, and renewables activity and projects, supported through regular discussions at Supply Chain Forums.
- Developing supply chain business outlook and new energy capability and capacity reports.
- Identifying supply chain skills requirements to support wider energy diversification, including conducting a recent industry skills shortage survey.
- Sharing key export events that will interest member organisations.
- Leveraging support and capabilities provided by UK Export Finance and other exporting bodies.

Scottish Renewables is the voice of Scotland's renewable energy industry. They have a vision for a Scotland leading the world in renewable energy, working to grow Scotland's renewable energy sector and sustain its position at the forefront of the global clean energy industry.

The Energy Industries Council (EIC) is the leading energy supply chain trade association providing dedicated services to help members understand, identify, and pursue business opportunities in the global energy sector. Established in 1943, the EIC is an independent not-for-profit organisation with more than 800 members. Its main objective is to identify international business opportunities across the entire energy spectrum, share know-how, and support members' business development activities by providing specialised information, consulting services, data, insight, events, networking, and promotional services.

The EIC also works cooperatively with Governments to enable policy developments, which work for the energy supply chain and create a positive, sustainable impact on the global energy industry.



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