

Energy KE Challenge Fund – Project Report

July 2023

*Shetland Net Zero Skills and Capacity Gap Analysis*Rosa Brown, Net Zero Knowledge Exchange Coordinator
UHI Shetland**Introduction**

The Scottish Government's commitment to climate action is driving an ambitious agenda for greenhouse gas (GHG) emissions reductions. Efforts to achieve net zero by 2045 require significant growth in renewable energy generation capacity and transformational changes across the economy and society to decarbonize transportation, heating, manufacturing, agriculture and land use. The scale of change for Shetland, considering the potential for floating offshore wind and the production of hydrogen and ammonia, as well as the decarbonisation of transportation and building heat in Shetland's remote and challenging environment, is expected to shift the skills and capacity requirements of the existing workforce and offer significant growth opportunities for the local supply chain.¹

Shetland has one of the best wind resources in Europe. The Burradale Wind Farm produces an average capacity factor of 52% compared to the UK average of 27.8%² and it is anticipated that Viking Wind Energy, when operational, will be one of the most productive onshore wind farms in the world.³ Shetland's industrial legacy of decades of oil and gas operations serves as a foundation to build energy transition activities,⁴ which, along with its deep-water port facilities and proximity to European markets, means it is ideally positioned to make significant contributions to national targets for onshore and floating offshore wind generation and realise ambitions of exporting its wind resource as globally traded commodities like hydrogen and its derivatives.⁵

The installed onshore wind generation capacity in Shetland currently stands at about 11MW, with a substantial increase in capacity in the near-term project pipeline. Viking Wind Energy is a 443MW project scheduled to be operational in 2024. Beau Field (72MW), Mossy Hill (48MW) and Energy Isles (126MW) are in development for operation by 2030.⁶ The first interconnection to the Scottish mainland's electrical grid, a 257km subsea cable, will put Shetland's diesel generators in standby mode and make Shetland a net exporter of renewable electricity when it is completed in 2024.

Floating offshore wind with generation capacity of 2.8GW is in the early stages of development just over 12 miles off the east coast of Shetland in the ScotWind NE1 area, and could be operational by the mid 2030's. Further floating offshore wind developments in the magnitude of 30GW (three times

¹ Climate Emergency Skills Action Plan 2020-2025: Key issues and priority actions

² Shetland Aerogenerators | Providing electricity for Shetland from renewable resources

³ The project | Viking Energy.

⁴ Shetland and North East Scotland Techno Economic Study: Executive Summary.

⁵ If we're not careful, the profits from Shetland's next big industry will go straight out the sooth mooth'- energy experts warn.

⁶ Statkraft purchases Shetland wind farm sites.

more than the current offshore capacity across the entire UK)⁷ are promoted as part of the ORION Clean Energy Project's greater vision of a regional energy hub that includes the production and export of hydrogen, decarbonisation of oil and gas operations and carbon capture and storage.

Shetland also leads the way in tidal energy with the first offshore tidal array to supply electricity to the grid installed by Nova Innovation in Bluemull Sound.⁸ The Shetland Tidal Array achieved the longest period of continuous monthly tidal stream power generation anywhere in the world, demonstrating the scalability and commercial readiness of tidal energy.⁹

Shetland's economic forecast, considering growth in both the renewables and oil and gas sectors, anticipates as many as 3,000 new jobs may be needed by 2030.¹⁰ The extent to which the local supply chain is able to participate in emerging opportunities is dependent in part on the availability of skilled workers. Identifying and anticipating skills to inform the provision of educational and training programs responsive to emerging needs is an important aspect of generating capacity in the local supply chain.^{11,12}

This gap analysis set out to determine the skills and capacity requirements of local businesses in maximising the social, economic and community benefits of the net zero transition for Shetland. It was primarily informed through direct engagement with members of the Shetland Net Zero Energy Forum (Shetland Net Zero), representing a subset of the Shetland business community with interests in the net zero transition. Self-assessment by individual businesses of their own workforce needs, along with what is known about skills and capacity requirements nationally, was presumed to be a strong indicator of what is needed in preparing for future opportunities. Outcomes of this project will directly inform the workplans of Shetland Net Zero and UHI Shetland and contribute to the objectives of other skills planning initiatives in Shetland, such as the Shetland Energy Skills Transition Group (SESTG).

Methods

Information was gathered through semi-structured interviews with members of Shetland Net Zero. Interviews were guided by a series of questions that probed current and future skills and capacity needs, opportunities in the net zero transition and the existing and emerging barriers to meeting workforce requirements. Participants were asked to share their vision for Shetland in the net zero future (ideal future outcomes), to describe the current capacity of Shetland, and more specifically, the workforce capacity of their own business (where we are today) and the skills and workforce needed to meet short and long-term business objectives (the gap).

Findings

Data Collection

Shetland Net Zero is a membership-based organisation formed to 'represent, lead and champion Shetland's energy sector to become a world-leader in the transition to Net Zero, while maximizing

⁷ Offshore windfarm plans unveiled, Hundreds of floating turbines are being earmarked around Shetland's coastline.

⁸ European Case Study - Shetland Tidal Array

⁹ Nova doubles size of the Shetland tidal array

¹⁰ Shetland's energy resources

¹¹ Anticipating skill needs for the low carbon economy? Difficult, but not impossible

¹² Renewable Energy Benefits: Leveraging Local Capacity for Offshore Wind.

the social, economic and community benefits for Shetland'.¹³ It was formed in 2021 from the Shetland Renewable Energy Forum, which had been dormant for several years. Members of Shetland Net Zero are primarily private and community businesses and organisations registered in Shetland, representing power generators, engineering, fabrication and other supply chain services as well as end users of energy.

Of the 22 member organisations of Shetland Net Zero, 17 participated in this study. Member organisations varied in size from sole proprietors and micro-SMEs with fewer than 5 employees (7 in total), to medium sized businesses with up to 50 employees (8 in total), and large businesses with greater than 50 employees (3 in total). All were Shetland-based businesses, with one exception being the only Associate Member of Shetland Net Zero registered outwith Shetland. In most cases, participating organisations were represented by an owner or senior manager. Interviews were conducted in person with a few happening by phone or video conference. They generally lasted an hour or longer, and in several instances included follow up questions and/or discussion.

Information gathered in the interviews was qualitative, based on lived experiences and often reflective of Shetland's long history with the energy sector and marine environment. All participants were members of Shetland Net Zero, and, as expected, spoke knowledgeably of the energy sector and net zero transition. The scope of the interviews generally encompassed the potential socio-economic benefits of the net zero transition for Shetland and the barriers to achieving them, as well as the experiences, outlooks and future prospects of individual businesses.

Most participants clearly articulated present day challenges in meeting workforce needs and the importance of securing local benefits in the net zero transition; but spoke only in general terms of future opportunities and the specific needs and objectives of their own businesses.

Key Findings

Socio-economic and community benefits

The gap analysis explored ideas around preferred socio-economic outcomes of the net zero transition - how social, economic and community benefits can best be realised in Shetland, and opportunities for local business development. Participants spoke easily about a future vision for Shetland and several themes emerged, including local prosperity, inclusivity, business readiness and innovation.

When describing local prosperity, participants described Shetland as a future hub for renewable energy, a place that attracts business interest and talent, with long-term, well-paid jobs and a choice stake for the local supply chain. The potential fiscal benefits of renewables were frequently likened to "a second oil and gas boom" with people wanting to see the same level of financial infusion into Shetland that once flowed from the oil industry.

Prosperity was considered through the lens of widespread community benefit. Participants spoke of the need to balance the disturbances of large renewable generation projects with community sustainability and development, and to protect the vitality of other economic sectors, particularly fishing and agriculture. The high rate of fuel poverty in Shetland was often cited as an example of the disparity that exists in the face of booming energy sector growth, and a clear avenue for realizing long term positive impacts of community benefit agreements arising from large capital energy projects.

¹³ Shetland Net Zero Energy Forum Constitution

Other aspects of community sustainability that were identified as positive outcomes of emerging opportunities, include enabling local and community ownership of future energy assets, addressing disparities in fuel costs and other economic inequities (for example, increasing and improving the local housing stock and establishing fixed links to island communities), creating a positive environment for entrepreneurship and investing in opportunities that interest and engage young adults to remain or return to Shetland.

Business certainty and preparedness were recognised as essential to a positive socio-economic forecast, with local businesses wanting to be able to identify and benefit from emerging opportunities by planning for the resources and additional capacity required. Participants also spoke of business certainty in terms of long-term supply contracts as a means of enabling innovation by local entrepreneurs.

Most, if not all, participants expressed concerns that Shetland will be constrained in realizing positive outcomes of the net zero transition due to the “wicked problems” that exacerbate difficulties in recruiting and retaining skilled workers and for which there are no easy solutions. These include the small and aging population base, high employment and low unemployment rates, housing shortages and the outward migration of students to university.

Transmission capacity constraints of the Shetland electrical grid were identified as barriers to the further development of private and community owned energy generation projects and to the utilisation of electric heat and transportation in some areas.

Participants frequently referred to learnings gleaned from past experiences with the energy sector. The *Zetland County Council Act 1974*, which gave the Shetland Islands Council powers over how oil gas would be developed in the seas around Shetland was lauded for its political foresight and the fiscal benefits it continues to bring Shetland. Conversely, the Viking Wind Energy Project was often described as a lost opportunity for securing long-term financial benefit for Shetland (relative to the forecast income of the project), both in its ownership model and community benefits package.

Other examples described by participants of how experience with the oil and gas sector could shape new relationships with the renewables sector include the scope of opportunities provided the local supply chain, with the value of local expertise (for example, knowledge of working in remote and extreme environmental conditions) often overlooked in the past, until problems were encountered by larger firms with little experience working in Shetland; early and collaborative planning to meet the housing accommodation requirements of traveling workers to create legacy housing projects and better integrate workers with the community; and, awareness of limitations within Shetland’s workforce and the impacts to one sector when there is a significant recruitment drive into another, as was the case with the construction of the Shetland Gas Plant.

Skills and capacity

It became apparent early in the study that results were not going to form a quantitative assessment of skills needs. Participants acknowledged the strong economic forecast for the Shetland supply chain over the next several decades and spoke about existing challenges in recruiting time-served tradespeople. However, when asked about the specific skills needed to grow business opportunities, participants often provided broad and vague answers, referring instead to adapting to chronic skills and capacity shortages and the ongoing (and often unsuccessful) effort of recruiting and retaining employees.

Participants acknowledged chronic skills gaps and shortages across all types of engineering – electrical, structural, mechanical and instrumentation, and skilled trades – welders, pipefitters, blasters, painters etc. Concerns were also raised about the capacity of the building and construction sector, particularly the micro-SMEs, to meet required qualifications for new building construction standards for efficiency (PAS 2035). Some participants also spoke of the difficulty retaining the services of local contractors that are currently working on construction of the Viking Energy Wind Farm, of attracting interest from contractors beyond Shetland and the onerous and expensive process of recruiting employees from outside the UK.

Participants also spoke of the strengths of the Shetland workforce - the “get it done” attitude, the versatility and experience working in harsh conditions. A strong sense of community and commitment to the long-term sustainability of Shetland was evident in how participants spoke about opportunities of the net zero transition.

Streamlining and the diversification of business activities to match the availability of skilled workers is one approach Shetland businesses have taken to address chronic workforce shortages – making do with what’s on hand. The oil and gas sector continues to be a significant contributor to the Shetland economy providing a stable income stream that allows for business growth and scaling up of the workforce to meet the opportunities that future offshore wind developments may bring. Local firms utilize transferable skillsets across the oil & gas and renewables sectors.

Another strategy employed by Shetland businesses to meet staffing capacity is to be actively involved in training. This includes in-house training of existing employees to expand their capabilities for skilled work, increasing staffing capacity to take on the services previously provided by contractors, and the multi-year investment (and risk) of taking on apprentices. Strategies for addressing chronic shortages have become entrenched in business plans, which support long-term retention and upskilling of the existing workforce and strive to balance workloads with the availability of contractors, or temporary workers outwith Shetland.

With it being ‘near on impossible’ to recruit a time-served tradesperson, apprentices play an important role in building the future workforce. Participants in this study focused on work-based learning opportunities, wanting to see more school leavers take up apprenticeships as an education pathway to a rewarding career and a viable alternative option to leaving Shetland for a university degree. Participants also spoke of the strategic importance of retaining existing employees by structuring a flexible work environment, and offering a good benefits package and employment terms and conditions that promote gender equity in the workplace.

A further aspect of business readiness for the net zero transition that was mentioned by only a few participants is climate adaptation and corporate responsibility for carbon emissions - carbon accounting and reporting, statutory and industry requirements to reduce emissions.

Discussion

This study set out to describe the skills and capacity requirements of local businesses in maximising the social, economic and community benefits of the net zero transition. What the findings revealed however is a local business community readily able to speak about chronic skills shortages and barriers to building the Shetland workforce, but reticent to share insights into the specific needs of their own business development plans.

Shetland businesses may not be preparing for future growth in supply chain opportunities and skills needs in part because the opportunities are not well understood and information that is available does not provide enough certainty for investment in skills and capacity development. Without business confidence in how future supply chain opportunities will manifest, businesses may be wait for economic opportunities to be proven before risking investment in skills development. Planning for emerging opportunities may also be curtailed by existing workforce shortages that hamper current business growth.

These findings contradict a presumption of the study design, that local businesses have the information required to self-assess future growth opportunities and corresponding workforce development requirements. That this does not appear to be the case provides insight into how initiatives toward readying the supply chain and training providers for emerging opportunities in the net zero transition can better meet the needs of the local business community, particularly with regard to the timely availability of relevant information about emerging opportunities.

Describing the skills and capacity requirements of the net zero transition is a daunting proposition, not just for Shetland. Government commitments to emissions reduction targets have created a rush of economic opportunities that have large-scale implications for the UK workforce;¹⁴ in the energy transition, as well as in construction, transport, manufacturing, and agriculture and land use management.¹⁵ Estimating future workforce needs are difficult, especially for industries that are developing fast and are driven by technology, such as offshore wind¹⁶ and when the potential for job creation is hinged on future government policy and funding.¹⁷ Understanding the timing of demand is a further complexity as activity in the oil and gas sector declines and opportunities in renewable generation, alternative fuels and carbon capture, utilisation and storage continue to grow.¹⁸

Business growth cannot be based on media announcements of renewable energy projects, which are often pitched as overly ambitious and provide only limited information about workforce requirements not supported by evidence.¹⁹ For example, Cerulean Winds announced multi-billion-pound plans in 2021 to develop floating wind projects on four sites in Crown Estate Scotland's Innovation and Targeted Oil and Gas (INTOG), and projected the project would create 200,000 new roles within the floating wind and hydrogen sectors.²⁰ As it turned out, Cerulean Winds did not submit a bid to INTOG and just a few years after the initial announcements were made is no longer advancing the proposed project.²¹ Similarly, recent headlines in the Shetland Times²² that read "Offshore windfarm plans unveiled" and "Hundreds of floating turbines are being earmarked around Shetland's coastline" were announcements of ambition, offering nothing concrete for which a local business could begin preparing for.

In its 2022 report to Parliament, the UK's Climate Change Committee identified data gaps in skills needs 'a risk to realising the pace and scale of the future net zero workforce', and called for greater

¹⁴ Mission Zero: Independent Review of Net Zero.

¹⁵ Climate Emergency Skills Action Plan 2020-2025: Key issues and priority actions.

¹⁶ Skills and Labour Requirements of the UK Offshore Wind Industry 2018 to 2032.

¹⁷ Green Jobs in Scotland. Transition Economics.

¹⁸ Climate Emergency Skills Action Plan 2020-2025: Key issues and priority actions.

¹⁹ Green Jobs in Scotland: An inclusive approach to definition, measurement and analysis

²⁰ Ambitious £10 billion offshore project could bring lower energy costs and more jobs

²¹ No successful applications in oil and gas offshore wind leasing round for seas off Shetland.

²² Offshore windfarm plans unveiled; Hundreds of floating turbines are being earmarked around Shetland's coastline.²³ Progress in Reducing Emissions: 2022 Report to Parliament.

progress in building an evidence base for future skills needs.²³ The Scottish Government's *Climate Emergency Skills Action Plan*²⁴ prioritises strengthening the evidence base on future skills needs and the supply of skilled people, and the sharing of information about emerging skills needs to support the skills provision across education, training and work-based learning. The plan recognises that differences exist between local and regional economies and will look to research on the specific skills needs of Scotland's islands to inform a plan update later in 2023.²⁵

Insight into future skills and capacity needs for Shetland can be gleaned from current workforce challenges experienced by the local business community. Difficulties recruiting and retaining skilled workers is a common issue throughout the UK, with 59% of businesses reporting a lack of qualified applicants for the roles on offer²⁶ and 78% of small firms unable to recruit suitable applicants.²⁷ Unemployment rates in the UK are at record lows and the number of job vacancies are at record highs,²⁸ yet pressures facing the local labour market are greater in Shetland. Job seekers represent only 0.4% of the Shetland population (compared to 1.4% in Scotland and 1.1 in Great Britain) and in 2021 there were 1.12 jobs for every person aged 16-64, (compared to 0.81 in Scotland and 0.85 in Great Britain).²⁹ This coupled with the small population, housing shortages,³⁰ remote location and increasing reluctance of many people to relocate for work purposes³¹ puts local businesses at a further disadvantage in competing with other UK employers for skilled workers from a very limited pool.

The shortage of engineers throughout the UK, with it estimated the UK is short approximately 20,000 engineering graduates annually,³² also predicts ongoing challenges in meeting the capacity for engineering expertise in Shetland. Occupations in the UK energy sector that are currently in short supply include many engineering specialities (protection engineer, control engineer, planning/development engineer, project engineer, quality, health, safety and environment engineer, design engineer, substation electrical engineer and commissioning engineers) as well as technical roles in business and commercial occupations, maintenance technicians, customer service and stakeholder engagement, telecommunications and digitisation, data analytics, marketing and communications, site manager, commercial capabilities, planners, project manager, quality surveyors, jointers, and substation fitters.³³ Skillsets crucial to growth of offshore wind energy, although not currently in short supply, include: asset and project management, leadership, technical skills – mechanical, electrical and control & instrumentation, blade and turbine technicians, and IT

²³ Progress in Reducing Emissions: 2022 Report to Parliament.

²⁴ Climate Emergency Skills Action Plan 2020-2025: Key issues and priority actions.

²⁵ Draft Energy Strategy and Just Transition Plan

²⁶ Business insights and impact on the UK economy.

²⁷ Scaling Up Skills: developing education and training to help small businesses and the economy

²⁸ Alternative measures of underutilisation in the UK labour market.

²⁹ Labour market profile – Shetland Islands

³⁰ Highlands and Islands housing crisis hampering economic growth.

³¹ Towards Net Zero: The implications of the transition to net zero emissions for the Engineering Construction Industry

³² Skills and Labour Requirements of the UK Offshore Wind Industry 2018 to 2032. Energy & Utility Skills Limited

³³ Skills and Labour Requirements of the UK Offshore Wind Industry 2018 to 2032. Energy & Utility Skills Limited

skills, scientists – marine biology, geophysics, hydrography and oceanography, as well as advanced first aid and rescue.³⁴

Looking to future opportunities, Skills Development Scotland³⁵ identified 5 areas of increased economic activity in the net zero transition: energy transitions, construction, transport, manufacturing; agriculture and land use management.

Energy - An estimated four-fold increase in the amount of renewable energy deployed in Scotland is required to meet net zero targets³⁶ and achieve a fully zero-carbon electricity supply by 2045. Most new roles in the energy sector will build on existing skillsets from oil and gas, industrial research, manufacturing and civil engineering.³⁷

Construction - Skills and labour requirements in the building sector are driven by government targets for increased energy efficiency of the building stock and deployment of zero emissions heating technologies. Workforce requirements include knowledge and skills of retrofit, heating systems and heating networks, and will require the upskilling of existing roles and adaptation of training. Existing labour shortages within the sector include building envelope specialists, project managers, electricians, plumbers and plasterers,³⁸ and are exacerbated by an aging workforce with a third of construction workers over the age of 50.³⁹

Transport - Transport is the single largest emitter of greenhouse gas emissions. The shift to ultra-low emission vehicles will require short training courses to reskill electricians and mechanics, as well as people to undertake training in maintenance, installation and sales, emergency and roadside assistance, and repair of vehicles and network points.

Manufacturing - Changes to the manufacturing sector brought by the net zero transition are expected in the reduction of energy loss in manufacturing processes, and in technological innovations that reduce waste and improve the capture of emissions. Most of the essential core skillsets are already present in the workforce, and only requiring upskilling.

Agriculture and land use management - Agriculture and land use contribution to achieving net zero by reducing emissions and increasing the amount of carbon dioxide absorbed through peatland restoration. Findings of a study commissioned by NatureScot showed there will be significant growth in jobs in nature-based sectors such as blue carbon, woodland planting and restoration and peatland restoration.⁴⁰

Furthermore, there are knowledge and capacity-building needs associated with the target of the Scottish Government's Draft Energy Strategy and Just Transition Plan⁴¹ to maximising community benefit and ownership of energy projects by achieving 2GW of community owned energy by 2030.

³⁴ Skills and Labour Requirements of the UK Offshore Wind Industry 2018 to 2032. Energy & Utility Skills Limited

³⁵ Climate Emergency Skills Action Plan 2020-2025: Key issues and priority actions.

³⁶ Climate Emergency Skills Action Plan 2020-2025: Key issues and priority actions.

³⁷ Climate Emergency Skills Action Plan 2020-2025: Key issues and priority actions.

³⁸ Toward Net Zero: The Implications of the transition to net zero emissions for the Engineering Construction Industry. ECIBT

³⁹ Toward Net Zero: The Implications of the transition to net zero emissions for the Engineering Construction Industry. ECIBT

⁴⁰ Supporting a Green Recovery: an initial assessment of nature-based jobs and skills.

⁴¹ Draft Energy Strategy and Just Transition Plan – delivering a fair and secure zero carbon energy system for Scotland.

In effort to determine specific opportunities for leveraging local capacity in solar energy⁴², onshore wind⁴³ and offshore wind⁴⁴, the International Renewable Energy Agency (IRENA) found that local benefits are maximised by leveraging existing economic capacities, and by increasing local competitiveness through industrial upgrading programmes, supplier development programmes, promotion of joint ventures, development of industrial clusters and investment promotion schemes.

IRENA completed an assessment of the types of jobs, and material and equipment requirements along the value chain to provide decision makers with the information needed to match education and training programs to emerging needs and to identify areas with the greatest potential for local value creation. With information provided by project developers, a collaborative approach to skills forecasting takes the onus off the individual businesses to decipher emerging opportunities and de-risks skills provision. Setting clear targets provided a stable and predictable environment for attracting investment into the sector.⁴⁵

Policy and practice implications of the findings

Shetland businesses may not be planning for future skills needs in part because the opportunities are not well understood, and businesses do not have the certainty they require to invest in skills and capacity development. The Shetland Islands Council's Energy Development Principles (2022) outline an appropriate level of participation and local benefit arising from the energy transition and include the expectation that developers will work with Shetland agencies and companies to understand opportunities and key investment requirements in infrastructure and skills to facilitate and unlock local supply chain involvements. While collaborative capacity-building initiatives such as the Shetland PLC and 4-Shetland further engagement with NE1 project developers, there does not currently exist a formal avenue of communication between the business community, industry experts and project developers, of the wider opportunities arising from the energy transition.

An ongoing dialogue of current and emerging information about local opportunities and skills requirements of the net zero transition will support the local supply chain and possibly provide some assurance to counter the wait-and-see approach to skills and capacity investment. Facilitating this type of information exchange between industry experts, project developers and the local business community is well aligned with objectives of Shetland Net Zero, in supporting the availability of training in Shetland, research and the development of enabling policies.

Strengths and limitations of the study

Participants in this study represented a small and diverse subset of the Shetland business community, which, along with the data collection methods employed resulted in a narrative discourse of individual opinions rather than the collection of quantifiable data. While both a strength and weakness of the study, the information gathered captures a snapshot in time and is a starting point for ongoing engagement with the Shetland business community.

Other data collection methods, such as surveys, may have yielded more quantitative data, but the 'meet and greet' approach that was employed as the primary means of engaging with study

⁴² Renewable energy benefits: Leveraging local capacity for solar PV

⁴³ Renewable energy benefits: Leveraging local capacity for onshore wind

⁴⁴ Renewable energy benefits: Leveraging local capacity for offshore Wind

⁴⁵ Renewable energy benefits: Leveraging local capacity for solar PV

participants served as an icebreaker for wide ranging, candid discussions, while also supporting the development of Shetland Net Zero and the knowledge exchange role of UHI Shetland.

Recommendations for Further Work

1. The Shetland Net Zero Energy Forum was formed to, “Represent, lead and champion Shetland’s energy sector to become a world-leader in the transition to Net Zero, while maximising the social, economic and community benefits for Shetland.” Established in 2021 and still in the early stages of building its foundations and membership base, this study points to a clear role for Shetland Net Zero in facilitating communication between the business community and opportunities arising from the net zero transition. Shetland Net Zero can further strengthen its contribution and role by:
 - Building its membership base to better represent the number and diversity of Shetland businesses engaged in the net zero transition
 - Developing the capacity of Shetland Net Zero role to represent its members in discussions with developers, HIE and other stakeholders in relation to business development opportunities
 - Contributing to the ongoing assessment of skills and capacity needs to support business readiness for smaller companies, including the construction and building sectors
 - Facilitating information sharing and collaboration among all members.
2. Workforce development and local training provisions
 - Continued evaluation of skills and capacity needs on a sector-by-sector basis, engaging beyond the membership of Shetland Net Zero to better capture quantitative data
 - Development of Shetland Net Zero in its capacity to represent the Shetland net zero business community, particularly the smaller businesses and micro-SME’s, and facilitating information exchange around emerging opportunities, workforce gaps and the provision of skills
 - Collaborative planning for the skills transition (SESTG), providing clarity on demand to de-risk the provision of skills and capacity
 - Development of local skills provision (UHI Shetland/Skills Academy)
3. Research and knowledge exchange
 - Evaluation of ownership and financing models to support the development of community owned energy assets (e.g., onshore wind and distributed heat)
 - Grid impact studies to scope opportunities for stranded generation assets and new community energy projects, including active network management, wheeling and private wires
 - Socio-economic assessment of Shetland’s working population to strategize targeted recruitment to green jobs

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