Just Transition Commission

VOAR

Shetland, Community Benefit, and the Energy Transition

A report by Voar, produced for the Just Transition Commission

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CO-CHAIRS' INTRODUCTION

Shetland has a singular experience with energy transitions, both past and present, but there are many valuable lessons for the entire country to draw on. This independent research report is intended to provide valuable data and evidence on four key areas in particular. These are:

- Shetland's socio-economic status, including current socio-economic indicators, the labour market, emissions and inequalities.
- Community benefit approaches in the era of oil and gas
- Community benefit approaches from renewables, hydrogen, and other aspects of the energy transition
- Different models for delivering community benefit in comparable communities.

To prepare this report, the Commission has instructed a small research team at the Lerwick-based energy consultancy Voar, Daniel Gear and Tom Wills, to undertake this work over recent months. The report has also been shaped by input and advice from the think-tank Future Economy Scotland, particularly Miriam Brett. We are very grateful for their work and the insights it has provided us with as we have considered our advice on how a just transition for Shetland can be achieved, and the broader insights to be drawn from this.

Elements of the report touch on complex and contested technical matters and this research should not necessarily be taken, in whole or in part, to be the Commission's consensus view on a particular subject.

The data, evidence and analysis provided in this report should support policy-makers and others with decision-making power in shaping a just transition, for Shetland and beyond.

Professor Dave Reay
Co-Chair
Just Transition Commission

Satwat Rehman
Co-Chair
Just Transition Commission

EXECUTIVE SUMMARY

Shetland was at the forefront of North Sea oil and gas developments and the islands are now set to play an important role in the transition to net zero. With some of the strongest winds on the planet, prime development sites for hydrogen production[1], sheltered deep water harbours, established infrastructure and an experienced engineering workforce, Shetland continues to attract significant interest from international energy companies.

Decarbonisation requires new energy projects. The pace and scale of development underway in Shetland demonstrates the effectiveness of UK, Scottish and local government approaches in subsidising and enabling new developments. A just transition requires communities to get a fair deal from the projects they host - and there is doubt and debate about how and when this will happen in Shetland.

The construction of Sullom Voe Terminal (SVT) in the 1970s, and wider oil and gas activity since then, brought high quality jobs and economic benefit to Shetland, helping – along with a healthy seafood sector - to make the isles one of the wealthiest local authority areas in the UK. Despite Shetland's relative prosperity, inequality and higher living costs mean that almost half of working households live below the Minimum Income Standard[2]. Fuel poverty rates are the highest in Scotland and the finances of the Shetland Islands Council (SIC) – which have long been healthier than most UK local authorities – are now in decline[3].

The Zetland County Council Act of 1974 was instrumental in securing substantial revenues for the Shetland community. The act allowed the council to protect its coastline, plan developments effectively, and keep these revenues separate from the general council fund, whilst using the returns to bolster local services, in an archipelago where they inherently cost more. The achievements of the 1970s highlight the importance of robust policies and negotiation with industry to build community wealth from energy developments. It is worth noting that as a percentage of the total value of oil and gas that passed through Shetland, the value retained by the community was vanishingly small (a tiny fraction of one percent of the value of oil and gas shipped via Sullom Voe) yet this was still enough to create significant community wealth.

More recently, onshore wind developments have demonstrated both the challenges and the potential of community ownership and participation in energy projects. The 443 MW Viking Energy Wind Farm initially promised significant community returns through a 45% stake held by the Shetland Charitable Trust, however the project was eventually constructed as a wholly-owned SSE venture. Meanwhile, the 4.5 MW community-

[1] https://www.scottish-enterprise.com/learning-zone/research-evaluation-and-insight/2023/de-centralised-green-hydrogen-production-site-identification-and-opportunities-study
[2] https://www.shetlandpartnership.org/news/article/7/indicator-update-households-in-shetland-who-do-not-earn-enough-to-have-an-acceptable-standard-of-living
[3] https://www.shetnews.co.uk/2024/03/27/council-budget-approved-amid-significant/

owned Garth Wind Farm can generate a level of community returns comparable to what Viking Energy pays into Shetland's Community Benefit Fund, despite being one hundredth the size.

Shetland is now set to host a raft of major new generation projects: 234 MW of onshore wind[4], developed by Norwegian state-owned power company Statkraft; 2,300 MW of offshore wind[5], developed by a private consortium of Mainstream / Ocean Winds; and another 500 MW of offshore wind[6], developed by ESB, the Irish state power company. In total, the capacity of built, consented and proposed wind generation is close to 3,500 MW - approximately 70 times Shetland's peak electrical demand of around 50 MW.

Given Shetland's location at the northern end of the UK electricity grid and likely constraints on the ability to export power by subsea cable, there is increasing interest in using Shetland's green power potential to produce hydrogen and derivative fuels locally. In addition to their consented onshore wind projects, Statkraft have proposed[7] a green hydrogen / ammonia production facility at Scatsta (the unused airfield next to SVT) which could eventually require 1,000 MW of renewable power[8]. Meanwhile Sullom Voe Terminal operators EnQuest have a stated ambition - through their wholly owned subsidiary Veri Energy - of producing "one million tonnes"[9] of green hydrogen per year at SVT. This scale of hydrogen production could require up to 10,000 MW of renewable generation: 200 times Shetland's peak electrical demand. Local fishing industry representatives are deeply concerned that the currently proposed offshore wind developments could be just the start of a progressive displacement of Shetland's fishing fleet from their traditional grounds in a "spatial squeeze"[10]. Particularly as the Shetland fishing fleet remains overwhelmingly owned and operated by local families, the changing use of seas around Shetland is critical to delivering a just transition here. Local fishing representatives have called for offshore wind developers to "commit to making disturbance payments (during construction) and compensation payments for the loss of fishing access and income (during development lifespan)".

There is also the broader question of what constitues a fair deal for the wider community - and how best to deliver this. Community wealth building through ownership or direct participation tends to deliver the most value[11] and where ownership or direct participation is not possible, community benefit payments represent a justified share of resource value for communities hosting large projects with a significant impact on the local landscape, culture or livelihoods. As the scale and pace of new developments increase and the impacts of these developments are felt more keenly by local residents, calls for community benefit payments to be set

[4] https://www.shetnews.co.uk/2024/08/07/wind-projects-statkraft-hydrogen-remains/
[5] https://www.arvenoffshorewind.com/
[6] https://www.stouraoffshorewind.com/home
[7] https://www.pressandjournal.co.uk/fp/news/highlands-islands/5793136/shetland-scatsta-land/
[8] Statkraft community engagement materials seen by Voar (May 2024)
[9] https://www.enquest.com/veri-energy/new-energy-and-decarbonisation#:~:text=With%20an%20ambition%20of%20producing,help%20to%20decarbonise%20a%20number
[10] https://www.shetnews.co.uk/2022/02/16/fishermen-squeezed-out-as-scotlands-seas-become-overcrowded/
[11] https://www.aquatera.co.uk/news/community-owned-wind-farms-have-paid-their-communities-34-times-more-than-commercial-counterparts

at a higher level are likely to increase. What level of community benefit is viable and fair will vary across each sector and project, but there is a case to be made that payments should be linked to production or project revenues, rather than installed capacity. This is particularly true in places like Shetland, where the additional production associated with the strength and consistency of Shetland's wind resource would not otherwise be reflected in the share of the proceeds received by the community. Communities and local authorities also need more support to develop their capacity to participate in and own energy projects.

The recent upgrades to Shetland's electricity network, including the installation of the 600 MW HVDC link to the UK mainland, mark a significant shift in the island's energy infrastructure. While these developments support the integration of large-scale renewable projects, they have resulted in some unanticipated challenges for local and community-led projects, in cases where consented transmission-side generators are able to supply distribution-side demands ahead of new local projects. Addressing the technical and regulatory challenges to provide a route to market for distribution-side generators is essential to ensuring that community energy projects remain possible.

Shetland presents an early test case for the just transition, and the islands' recent history provides valuable insights for other communities in Scotland. By supporting communities to aim for ownership stakes or active participation in projects and working to reduce barriers to locally developed energy projects, the Scottish Government could help Shetland achieve a sustainable and fair transition, enabling the isles to set a precedent for inclusive and equitable energy developments elsewhere. The need to rapidly transition to net zero energy is clear - but how do we so matters.

Shetland's oil and gas workers do many different jobs in the industry: at Sullom Voe Oil Terminal and the Shetland Gas Plant, also on tankers, offshore platforms, anchor handlers and for local suppliers. The number of UK jobs supported by the oil and gas industry has halved over the last decade (despite new North Sea licenses) but given local energy sector employment trends[12], the jobs "hard stop" or cliff edge feared in places like Grangemouth is a less critical concern in Shetland. Indeed with consistently low unemployment rates and a pre-existing reliance on fly-in-fly-out workers to deliver major projects, the main question for delivering a just transition in Shetland is less "what will happen to the jobs?", and more "who will benefit from the resources of this place?".

[12] Voar in-house analysis

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Acronym	Meaning	Context
ALEO	Arm's-length external organization	*An organization that is formally separate from a council but is still subject to its influence or control.*
BAU	Business As Usual	*Continuation of current practices without significant changes (emissions scenario)*
CB	Community Benefit	*Payments made to communities for hosting renewable energy projects*
CfD	Contract for Difference	*UK renewable subsidy mechanism*
CWB	Community Wealth Building	*Strategic approach to making long-term investments in the well-being of the community*
FIFO	Fly-In Fly-Out	*Non-residential workers who commute to-and-from Shetland*
FTE	Full Time Equivalent	*Number of full-time workers*
GHG	Green House Gases	*Emissions*
GRDP	Gross Regional Domestic Product	*A measure of economic performance of different sectors*
GW	Gigawatts	*1GW = 1,000MW*
HVDC	High Voltage Direct Current	*The power transmission system used to carry energy generated in Shetland to the UK National Grid*
kW	Kilowatts	*1kW = 1,000 Watts of instantaneous power*
kWh	Kilowatt Hours	*1kWh is a unit quantity of energy*
MIS	Minimum Income Standard	*Benchmark that measures the level of income required to maintain a minimum acceptable standard of living*
MW	Megawatts	*1MW = 1,000kW*
NPF4	National Planning Framework 4	*National special planning strategy for Scotland*
NYDC	North Yell Development Council	*A local community development body, and community wind farm owner/operator*
ORION	Opportunity for Renewable Integration with Offshore Networks	*Shetland local authority-led initiative aimed at promoting Shetland's development into a clean energy hub*
SHEAP	Shetland Heat Energy And Power	*Lerwick's heat network / distribution scheme*
SHEPD	Scottish Hydro Electric Power Distribution	*Owner and operator of the distribution network*
SHET	Scottish Hydro Electric Transmission	*Responsible for the electricity transmission network*
SIC	Shetland Islands Council	*The local authority for Shetland*
SSEN	Scottish & Southern Energy Networks	*Energy company that is responsible for both transmission and distribution networks*
SVA	Sullom Voe Agreement	*An agreement signed between the local authority and the oil companies related to the development of the Sullom Voe Terminal*

PART 1: SHETLAND AS A JUST TRANSITION CASE STUDY

Shetland's oil and gas sector has been an important pillar of the economy for 50 years.

Shetland’s renewables present significant new opportunities for building community wealth.

1.1. Introduction

1.1.1. As an oil and gas community with an abundance of renewable and new energy potential, Shetland presents an interesting just transition case study. The isles host one of the UK's largest oil export terminals at Sullom Voe, and what will be the UK's most productive onshore wind project, Viking Energy Wind Farm. Shetland also combines world-leading offshore wind resources with some of the best deepwater harbours and onshore development sites for hydrogen-based fuels in the UK[13]. The challenges, opportunities and pitfalls of the wider national transition are intensified in this community, given for example the scale of proposed developments relative to the population, the importance of fishing to the local economy, and the presence of fuel poverty in such an energy-rich archipelago.

1.1.2. Shetland presents good examples of how communities can secure value from energy developments. Delivering a just transition here will require learning from past local experiences, as well as international best practice in community wealth building (Section 1.3).

1.1.3. The objectives of this study are to:

a) Provide a 'snapshot' of Shetland's current data profile in terms of key socio-economic indicators, economy, labour market, emissions, ownership patterns, etc. (**Part 2**)

b) Summarise how community benefit for Shetland was designed and delivered in relation to fossil fuel exploitation. (**Part 3**)

c) Analyse attempts so far to achieve community benefit for Shetland from new energy projects, identifying opportunities, barriers and risks to delivering maximum benefit to communities from the transition. (**Parts 4**, **5** and **6**)

d) Appraise different approaches and models for achieving community benefit (**Parts 7** and **8**)

Note: A broad range of policies and approaches are required to deliver a just transition, considering factors such as the role of workers and unions in shaping the labour market transition. While such matters are important, they fall outside the scope of this report.

1.2. National context

1.2.1. The Scottish Government has set out a bold ambition to deliver a just transition to net zero by 2045 – five years ahead of the UK Government. Rapid decarbonisation is essential, but who benefits from it is important. As the pace of new energy development increases, the question of what constitutes a fair deal for communities hosting energy projects is an evolving one, influenced by factors such as the local environmental, cultural and economic impacts of projects, and the likely commercial returns (and government subsidies) received by project owners. Delivered effectively, a just transition to net zero has the potential to create a new generation of well-paid green jobs, raise living standards, reduce poverty, tackle deep-rooted inequalities. Scotland bears the scars of poorly managed industrial transitions of the past. Scotland's rapid deindustrialisation devastated communities across Scotland. As the country prepares to embark on another industrial transformation, it is vital that the mistakes of the past are not repeated.[14]

1.2.2. The causes and consequences of climate and environmental breakdown are inherently linked to inequality. Future Economy Scotland research found the carbon footprint of the richest 5% of households in Scotland was 4.1 times greater than the poorest 5% of households[15]. The Scottish Government has committed to the principles of a just transition, whereby Scotland "ends its contribution to climate change "in a way that is fair and leaves no one behind"[16]. At present, there

[13] https://www.scottish-enterprise.com/learning-zone/research-evaluation-and-insight/2023/de-centralised-green-hydrogen-production-site-identification-and-opportunities-study
[14] https://www.futureeconomy.scot/publications/58-transforming-scotland-s-economy-to-deliver-a-just-transition-framing-paper
[15] https://www.futureeconomy.scot/publications/59-measuring-carbon-inequality-in-scotland
[16] https://www.gov.scot/policies/climate-change/just-transition/

remains a risk that progress made towards reducing emissions could exacerbate rather than reduce existing economic, social and regional inequalities.[17]

1.2.3. A just transition means ensuring that communities, trade unions, workers and businesses are given a meaningful stake and say over decisions that affect them; that the costs and benefits of decarbonisation are fairly shared - including by embracing more democratic forms of ownership and governance.[18] How communities participate in and benefit from energy projects is a key part of this.

1.3. Community Benefit & Community Wealth Building

1.3.1. As the terms Community Benefit and Community Wealth Building can at times be found to be used interchangeably or inconsistently, a clarification on the use of these terms in this paper may be useful:

1.3.2. **Community Benefit (CB)** refers to the practice of energy project developers making direct cash payments to communities hosting such projects. In the UK onshore wind sector, index-linked CB payments of **£5,000 per MW installed per annum** (/MWpa) have become the established voluntary industry standard[19] - although developers such as Bute Energy in Wales have opted voluntarily to pay a higher level of benefit at **£7,500/MWpa**[20], and Highland Council's Social Value Charter for Renewables Investment[21] has proposed a total contribution of **£12,500/MWpa** to community and regional funds.

1.3.3. **Community Wealth Building (CWB)** refers to the internationally recognised definition adopted by the Scottish Government[22], encompassing an approach to local economic systems change rooted in five pillars: socially just use of land and property; inclusive ownership of the economy; making financial power work for local places; fair employment and just labour markets; and progressive procurement of goods and services. See Appendix A for more details.

This paper considers three main approaches through which communities can generate community wealth from energy developments, as shown in Figure 1.

Figure 1: Community participation models and example benefits / responsibilities

[17] https://www.futureeconomy.scot/publications/59-measuring-carbon-inequality-in-scotland
[18] https://www.futureeconomy.scot/posts/40-demystifying-just-transition-what-does-it-actually-mean
[19] https://forestryandland.gov.scot/what-we-do/renewable-energy-in-scotlands-national-forests/community-benefits-and-opportunities
[20] https://greengentowyusk.com/index.php?contentid=50#:~:text=Bute%20Energy%20is%20committed%20to,of%20the%20grid%20connections%20too
[21] https://www.highland.gov.uk/news/article/16125/social_value_charter_set_to_unlock_renewables_investment
[22] https://www.gov.scot/policies/cities-regions/community-wealth-building/

Note: Community in this context is taken to mean a group of people with a common identity, defined by a geographic boundary i.e. Shetland, or North Yell.

1.3.4. In relation to forms of community participation, in the **Passive Recipient** model, a community receives community benefit payments from the developer, as a project stakeholder. In the **Participant** model, the community takes an active role as a shareholder in the project whereas as **Owner**, the community itself is the developer. Although ownership and participation will tend to generate more value for a host community than receiving community benefit payments, not all communities will be in a position to take on such roles - or will feel comfortable doing so. Depending on the scale of a project relative to the host community and the level of community benefit payments, it is also possible that community benefit payments could generate significant community wealth.

1.3.5. This study focuses primarily on direct community benefit and wealth building from energy projects as the most impactful means of generating additional local value beyond the jobs and other indirect benefits associated with project delivery. University of Strathclyde's Centre for Energy Policy has an ongoing study considering the wider economic benefits of renewable and hydrogen developments in Shetland.[23]

1.4. Shetland as a just transition case study: main points

Ensuring that returns from the energy transition are equitably distributed between communities and asset owners is key to ensuring that the energy transition is just, and perceived as just and to securing community consent for the rapid roll-out of new energy projects
Community Benefit (CB) and Community Wealth Building (CWB) are related but distinct concepts. CB refers to compensation or disturbance payments made by energy developers to local communities hosting projects. In contrast, Community Wealth Building (CWB) is a broader economic development approach that emphasises local ownership and control of assets, aiming to build long-term, sustainable wealth within the community.
In this report we consider community participation in energy projects to take three main forms: **Passive Recipient**, **Participant** & **Owner**. Ownership and active participation of energy projects tend to generate more value for communities, but not all communities may be equipped or willing to take on these roles.

[23] https://strathprints.strath.ac.uk/88170/1/Turner-etal-CEP-2024-Maximising-the-benefits-for-Shetlands-economy.pdf

PART 2: SHETLAND'S SOCIO-ECONOMIC STATUS

Despite being rich in energy resources, Shetland has the highest rate of fuel poverty in Scotland and 47% of households live below the minimum income standard.

2.1. Shetland's history in brief

2.1.1. Shetland is the most northerly archipelago in Scotland, situated around 100 miles north-east of the UK mainland. It is made up of over 100 islands, 16 of which are inhabited. The population has most recently been estimated at 22,940, the second smallest population for any local authority area in Scotland. Over the past 20 years, the population has remained relatively stable, growing by 4.5% during that period, slower than the Scottish average population growth rate of 8.2% over the same timeframe[24].

2.1.2. Shetland has a unique cultural identity and was a Norwegian possession until 1469, when the King of Denmark and Norway pledged his rents and revenues from the isles as security for the dowry of his daughter in her marriage to James III of Scotland. As the dowry was never paid, Shetland was absorbed into Scotland in 1472[25].

2.1.3. As the Scots lairds (landlords) claimed land rights, most islanders were impoverished, subjected to evictions, economic insecurity and being stripped of land rights. Tenant smallholders were forced to fish for their lairds and to buy essential supplies from them at inflated prices. The system was known as 'truck' and kept the people in poverty and debt.

2.1.4. Towards the end of the 19th century[26], the Truck and Crofting Commissions investigated abuses of the system and Parliament passed laws to protect Shetlanders and other Scottish crofting communities.

2.1.5. After the wars of the first half of the 20th Century, Shetland enjoyed relative prosperity, with strong fishing and knitwear industries. From the 1970s, the arrival of oil and gas - and the deals that Shetland's councillors made with the oil companies - transformed Shetland's economy.

2.1.6. The inequities of the past left a mark on Shetland's collective psyche, and this is often cited in the debate about Shetland's dealings with the wind and new energy industries[27]. While the hardships faced by today's islanders are not comparable with those of previous generations, one comparison is clear: the economic potential of Shetland's land, seas, and even its air, is again raising the question of what constitutes a fair deal for Shetland's people.

[24] https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/shetland-islands-council-profile.html
[25] Gordon Donaldson, *A Northern Commonwealth: Scotland and Norway*, Edinburgh, Saltire, 1990.
[26] https://www.shetlandmuseumandarchives.org.uk/blog/the-new-year-1872-and-the-truck-commission
[27] https://shetlandwithlaurie.com/the-blog/shetlands-darkest-days-the-clearances-of-the-19th-century

2.2. Overview of the Shetland economy

2.2.1. Shetland is well known for hosting some of the largest oil and gas infrastructure in Scotland, but it is the seafood industries – fishing, aquaculture, and fish processing – which are the largest component of the local economy, creating around 4.5 times more local output value than the oil and gas industry at the last detailed measurement.

2.2.2. Recent economic indicators show that the Gross Value Added (GVA) per head in Shetland was £33,756 in 2022[28], suggesting a total regional GVA of £774 million. Previous in-depth data for Shetland's economic accounts showed an estimated total output value of £1.27 billion during 2017[29], representing a GVA of £584 million. This suggests overall economic growth in the five years between 2017 and 2022, despite COVID.

2.2.3. In 2017, the main contributors to Shetland's GRDP are £331 million of the output is in the form of employment income and £239 million in gross profits. Whilst these profits have been generated in Shetland, it is not clear from the available data what proportion of this value is retained in the isles, given the high levels of external ownership in Shetland's major industries.

2.2.4. The seafood industries represented 35% (£440m) of Shetland's total output by value, and 22% (£128m) of its GRDP. By comparison, the oil and gas industry represented 8% (£98m) of total output, and 8% (£44m) of GRDP.

2.2.5. The value of the hydrocarbons themselves are not included in these figures, as they are neither produced in nor sold from Shetland: they merely pass through the island terminals. The value of these commodities handled in Shetland will extend to several billions of pounds each year, depending on the prices of oil and gas, the dollar exchange rate, and the throughput of the oil terminal and gas plant per annum. For example, the value of oil handled by Sullom Voe Terminal between 1990 and 2023 is estimated to have been worth more than £100 billion[30], representing an average annual market value of circa £3 billion per year over that period.

2.2.6. The value of all exports from Shetland in 2017 (excluding hydrocarbons as noted in 2.2.6) was £597m compared with £422m of goods imported to Shetland. This produced a regional trade surplus of £175m.[31]

2.3. Skills and labour market

2.3.1. The Shetland skills and labour market is tight, particularly during times of increased infrastructure or project activities. There are a variety of factors which drive this, mainly population size and the availability of skills and accommodation. During large infrastructure projects, it is common for external contractors to use Fly-In-Fly-Out (FIFO) workers, a practice which can put pressure on local services, accommodation, and mainland transport links.

2.3.2. With around 13,400 people in employment in Shetland[32], the isles have one of the lowest unemployment rates in Scotland, at just 2.2% of the working population (of those aged 16 to 64 who are able to work). 61.5% were employed in full-time employment, while 38.5% were in part-time employment[33].

2.3.3. Seafood – fishing, aquaculture and fish processing – is the largest industry employment sector in Shetland, with over 1,000 Full Time Equivalent roles (FTEs) occupied by permanent inhabitants of the isles. This is followed by schools, construction, retail, social work, and public administration. The

[28] https://www.shetland.gov.uk/downloads/file/7819/shetland-in-statistics-2023
[29] https://fraserofallander.org/wp-content/uploads/2022/01/FAI_2021_Shetland_economic_accounts_2017.pdf
[30] Voar in-house analysis
[31] https://fraserofallander.org/publications/shetland-economic-accounts-2017/
[32] https://www.ons.gov.uk/visualisations/labourmarketlocal/S12000027/
[33] https://www.shetland.gov.uk/downloads/file/7819/shetland-in-statistics-2023

Shetland Islands Council (SIC) is the largest single employer in the isles, with 3,148 employees[34], accounting for around 23% of the total Shetland workforce.

2.3.4. Shetland's onshore oil and gas industry accounts for around 400 direct FTEs[35]. Given the prevalence of large UK mainland-based engineering contractors delivering services at the Sullom Voe Terminal and the Shetland Gas Plant, it should be noted that a proportion of these FTE roles are occupied by FIFO workers, rather than permanent local inhabitants. There is limited publicly available data on FIFO worker numbers, although SGP management have previously stated that they operate with a "roughly even split of local people and fly in fly out employees"[36]. Voar estimates that this could extend up to 90% FIFO workers during major project work, as additional workers are brought in.

2.3.5. There are clear beneficial aspects for the Shetland economy during major project activities, including opportunities for local supply chain participation (such as civil engineering contractors, haulage and logistics firms, plant and equipment hire, vehicle hire, etc.). On the other hand, negative socio-economic impacts are related to areas including housing availability, upward pressure on rental values impacting household budgets, and recruitment and retention challenges within local businesses impacting growth potential in other areas.

2.3.6. During the construction peak of the 103 turbine 443 MW Viking Energy wind farm, around 400 FTE roles were supported in Shetland, a large proportion of which were FIFO workers. During the 30-year operational phase of the wind farm, locally based employment is expected to average around 35 FTE roles directly associated with the project.

2.3.7. Moving forward, the transition to net zero will require a fundamental restructuring of the labour market and industrial base, including the need to support the retraining and reskilling of workers. This is particularly true for communities relying on carbon-intensive industries.

2.3.8. Shetland's oil and gas workers are employed in a diverse range of roles across a broad sweep of the industry: at Sullom Voe Oil Terminal and Shetland Gas Plant, but also on tankers, offshore platforms, anchor handlers and in the local supply chain. Given the reduced exposure to any single project and the current expectations for sector activity, the cliff edge for jobs feared in places like Grangemouth is likely to be more gradual in Shetland.

2.4. Ownership patterns

2.4.1. As is the case offshore[37], Shetland's major onshore energy assets are predominantly in private ownership. This is despite a high degree of state ownership in the projects that Shetland is set to host, such as projects led by Norwegian state-owned firms. It is noteworthy to locals that neither Scotland nor the UK state has equivalent publicly-owned energy companies or project portfolios.

2.4.2. Figure 2 provides a brief overview of the ownership of generation, grid and retail in the energy sectors of two similarly sized archipelagos, demonstrating that Shetland is an outlier amongst these and other Nordic neighbours like Iceland and Norway in having all of these functions largely in private ownership.

[34] https://www.shetland.gov.uk/downloads/file/7481/our-workforce-challenge-leaflet
[35] Voar in-house analysis
[36] https://www.shetland.gov.uk/downloads/file/6642/03-october-2022-ncc-minutes
[37] https://www.common-wealth.org/interactive/north-sea/who-owns-the-north-sea-why-it-matters

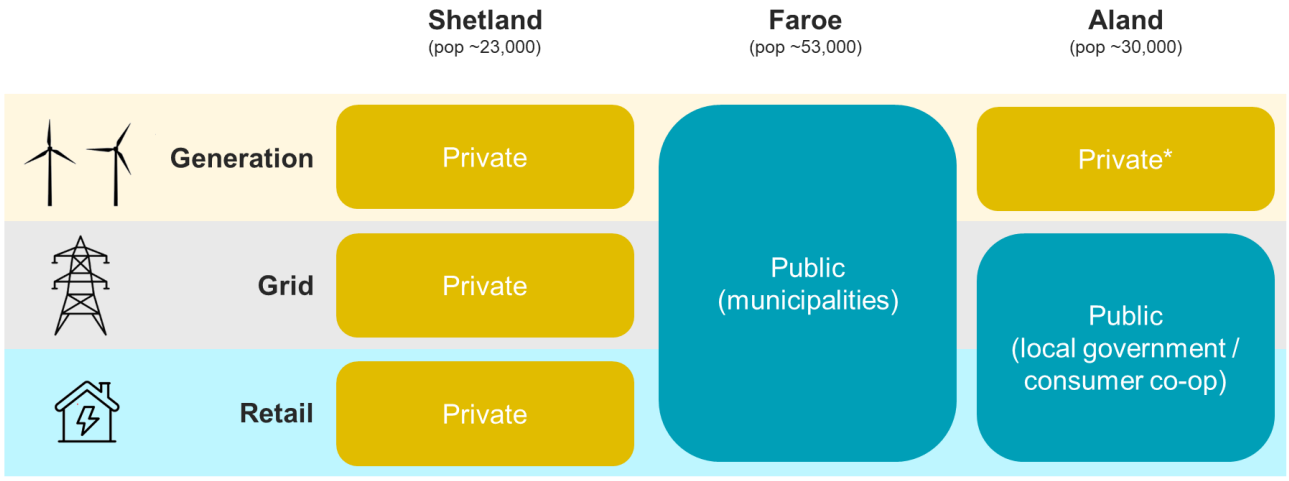

Figure 2: Nordic comparisons (energy sector ownership)

2.4.3. The 43-year-old Sullom Voe Oil Terminal has been operated by EnQuest (a listed, London-headquartered company) since 2017 on behalf of 19 partners who each have an ownership interest in the terminal. As of 2018, EnQuest were understood to hold a 15.1% stake in the terminal[38], with other non-operating partners holding various individual stakes of varying sizes, including larger partners with stakes in excess of 20%.

2.4.4. In June 2024, TotalEnergies majority stake in the Shetland Gas Plant was sold to London-based Prax Group[39], who will become operator of the facility. It is understood that they now hold the largest stake in the facility alongside the UK-Dutch independent Kistos PLC[40].

2.4.5. The 443 MW Viking Energy wind farm is wholly owned by SSE[41] a Scottish headquartered, listed electricity utility, whilst the consented Mossy Hill (36 MW), Beaw Field (72 MW), and Energy Isles (126 MW) wind farms are wholly owned by the Norwegian state-owned energy company Statkraft[42]. There is currently 12 MW of onshore wind capacity in local ownership, with an additional 7 MW understood to be in planning. 4.5 MW of the current onshore wind is in community ownership, which represents just 0.6% of Shetland's total consented wind capacity.

2.4.6. Shetland Heat Energy & Power (SHEAP), are the operators of the Lerwick District Heating scheme. SHEAP is wholly community-owned via the Shetland Charitable Trust[43].

2.4.7. Shetland's engineering supply chain is well-developed, remains largely in local ownership and has made coordinated moves to secure greater value from the energy transition[44].

2.5. Emissions

2.5.1. Per head of population, Shetland is the most carbon intensive community in Scotland. According to UK Government data, 2018 baseline carbon emissions were 75% higher than the Scottish average.

[38] https://www.enquest.com/media/press-releases/article/completion-of-magnus-transaction
[39] https://totalenergies.com/news/press-releases/united-kingdom-totalenergies-sells-its-interests-west-shetland-gas-fields
[40] https://kistosplc.com/operations-map/united-kingdom/
[41] https://www.vikingenergy.co.uk/
[42] https://www.statkraft.co.uk/newsroom/2023/statkraft-purchases-shetland-wind-farm-sites/
[43] https://sheap-ltd.co.uk/
[44] https://www.shetlandnetzero.com/; https://www.nornalliance.com/

Annual CO_2 emissions in the Shetland Council area are c.18.9 tCO_2e per capita, compared to 5.1 tCO_2e per capita for Scotland[45].

2.5.2. Shetland's current total greenhouse gas (GHG) emissions are 843 $ktCO_2e$ per annum. The emissions profile reveals significant contributions from land use changes, particularly from peatland degradation which accounts for 335 $ktCO_2e$. Agriculture adds another 100 $ktCO_2e$, largely due to livestock and fertiliser use. The residential and non-residential sectors also contribute notably, with emissions from domestic and non-domestic buildings reaching 84 $ktCO_2e$ and 96 $ktCO_2e$ respectively in 2019, primarily from heating oil and solid fuels[46].

2.5.3. Under a Business-As-Usual (BAU) scenario, emissions are projected to decrease marginally by 2045, primarily due to some efficiency gains and minor policy implementations. Specifically, by 2045, BAU projections suggest Scope 1 and 2 emissions could reduce to about 100 $ktCO_2e$ from roughly 240 $ktCO_2e$ in 2019, influenced mainly by the electrification of the grid and transport sectors post-interconnection with the UK national grid.

2.5.4. Peatland restoration is a critical action to reduce Shetland's emissions. The electrification of heating in residential buildings and transportation is also crucial, given its substantial contributions to the current emissions profile. Moreover, the development of renewable energy resources is essential, not only for reducing local emissions but also for supporting broader decarbonisation goals, including the replacement of fossil-based fuels with clean alternatives (e.g. green hydrogen).

2.5.5. Challenges remain, particularly in decarbonising the marine and aviation sectors, where current technologies fall short of achieving net-zero by 2045. The economic and social implications of moving away from hydrocarbon reliance in Shetland are significant, necessitating careful planning to ensure community welfare and economic stability.

2.6. Poverty

2.6.1. Household wealth varies widely within Shetland communities. According to data from 2021, prior to the cost-of-living crisis, 47% of households in Shetland live below the Minimum Income Standard (MIS)[47]. In 2021/22, roughly 1 in 6 children in Shetland lived in poverty, after housing costs were considered[48].

2.6.2. A key paradox in Shetland's relationship with the energy industry is that despite hosting the largest oil terminal and onshore wind farm in the UK, Shetland has the highest rate of fuel poverty in Scotland[49]. This is influenced by Shetland's climate, as well as the age and condition of the local housing stock. Electricity does not cost significantly more in the isles; rather it is the amount of electricity required to heat Shetland homes that is higher.

2.6.3. Achieving a just transition in Shetland requires a coordinated plan to rapidly decarbonise the economy while reducing social, economic and regional inequalities, alleviating poverty, and increasing living standards – particularly for low- and middle-income households.

[45] https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2019
[46] https://www.shetland.gov.uk/downloads/file/6460/shetland-net-zero-route-map
[47] https://www.shetlandpartnership.org/news/article/7/indicator-update-households-in-shetland-who-do-not-earn-enough-to-have-an-acceptable-standard-of-living
[48] https://www.shetlandpartnership.org/downloads/file/65/annual-child-poverty-action-report-2022-23
[49] https://www.shetland.gov.uk/news/article/2380/fuel-poverty-in-shetland-to-hit-96-

2.7. Shetland's socio-economic status: main points

Shetland has high incomes compared to the Scottish and UK averages, but 1 in 6 children live in poverty, and 42% of working households in Shetland live below the Minimum Income Standard (2021/22 data). This is linked to inequality and the fact that the cost of living in Shetland is up to 65% higher than equivalent household budgets in UK urban areas.
Shetland has some of the lowest levels of unemployment in the country, with the small population creating a tight labour market. Resourcing large projects is often achieved using Fly-In-Fly-Out (FIFO) workers, meaning that major infrastructure projects may not significantly contribute to increasing local employment levels. Indeed, the net impact on the local economy may not be wholly positive, as established local businesses may struggle to recruit or retain staff whilst large projects put a premium on locally-based workers.
Despite strong local supply chain capabilities, Shetland's energy wealth is largely controlled by external entities. This feature, common with many areas in Scotland and the UK – yet different to Shetland's Nordic neighbours – suggests there are structural political barriers to securing local influence, control, and ownership of energy developments.

PART 3: COMMUNITY WEALTH FROM THE OIL AND GAS ERA

In the 1970s, Shetland's political leaders negotiated with the oil and gas industry and used an act of parliament – the Zetland County Council Act – to build significant community wealth.

3.1. Zetland County Council Act (1974)

3.1.1. When considering Shetland's community benefit from the oil and gas era, the Zetland County Council (ZCC) Act of 1974 is an important starting point[50]. This was the legal framework to allow Shetland to receive oil-related funds, which contribute to the wealth of the community, and aimed to assure the wellbeing of Shetlanders and their descendants. The ZCC Act was the result of a determined and consistent campaign by a number of visionary local councillors, backed by Shetland and Orkney's then MP Jo Grimond.

3.1.2. As soon as the discovery of oil off the coast of Shetland was announced in 1971, the Zetland County Council (known after 1975 as the Shetland Islands Council) realised it would need additional legal powers to:

a) Protect the islands' 1,600-mile-long coastline;

b) ensure the oil and gas developments were properly planned;

c) and to keep local oil revenues separate from the council's General Fund, and thus clear of 'clawback' by central government[51].

3.1.3. ZCC already had the powers to establish a charitable trust or other Arm's Length External Organisations (ALEO) but had not used these powers. ZCC was also the planning authority for any developments on land, however the position was less clear below the high tide mark, where the Crown Estate had extensive rights to control development.

3.1.4. The need for action was urgent, as land speculators had already moved in to the Sullom Voe area and one development company called Nordport Ltd (a name co-opted from the Council's own working title for the development) was proclaiming the council's proposals to be unnecessary – business would provide the solutions.

3.1.5. In 1972 the Zetland County Council promoted a private bill through parliament to give it the following powers:

a) To designate areas of coastal land and foreshore and to undertake the compulsory purchase of development sites. These were the sites for Sullom Voe Terminal, Sella Ness & Scatsta. The aim was to prevent a "free for all" by controlling development and benefiting the whole community rather than a handful of individuals or land speculators.
b) To regulate developments in coastal areas up to three miles from shore. This would later extend to the 12-mile territorial limit.
c) To establish the council as the harbour authority for most of Shetland's coastal waters (outside of Lerwick & Broonies Taing).
d) The ability to participate in financial markets, to borrow and take part in projects and commercial endeavors, to receive income from rents and other payments.

The returns on the commercial harbour activities were to be used firstly for the upkeep of the harbour infrastructure, secondly to keep the council Harbour Account in surplus and thirdly **"for any other purpose which in the opinion of the Council is solely in the interests of the county or its inhabitants."**

3.1.6. These were bold and far-sighted proposals at the time. The oil industry alongside some local landowners and some businesspeople opposed them, as did the then-Conservative Government. Shetland's special powers did not have an easy passage through parliament but in the end a Commons Select committee found in favour of the bill following some concessions. In 1974 the newly elected Labour Government ensured it became law as the Zetland County Council Act 1974. These

[50] https://www.legislation.gov.uk/ukla/1974/8/pdfs/ukla_19740008_en.pdf
[51] Jonathan Wills, *A Place in the Sun*, Edinburgh, Mainstream, 1991.

powers have since been used in several harbour developments across Shetland, unconnected with Sullom Voe.

3.2. Subsequent agreements related to Sullom Voe Terminal

3.2.1. Of equal importance were the agreements entered into by the council and the oil companies in the years 1976 to 1978:

a) **The Disturbance Agreement** specified the 'disturbance payments' the industry would make to the council during and immediately after the disruption caused by the arrival of this massive construction project. These payments, totalling some £81 million by the year 2000, formed the capital of the Shetland Charitable Trust, which, through careful investment, is now worth £377 million. The Charitable Trust in turn funds three independent local trusts – Shetland Amenity Trust, Shetland Recreational Trust, and Shetland Arts, all of which act as ALEOs to carry out functions that would otherwise be the sole responsibility of the council[52].
b) **The Sullom Voe Association Agreement** (SVA) set up a joint council-industry organisation to control the building, operation and eventual demolition, removal and restoration of the oil and gas terminal site. The SVA is regarded by some as a useful forum for discussion. It does however have extensive legal powers, and these may be regarded as a precedent for local authority involvement with industry.
c) **The Ports and Harbours Agreement** arranged for the council to build and own the tanker loading jetties, using oil company money, and to charge berthing fees and what amounted to a small local tax on every barrel of oil that passed over the jetties. This funding mechanism has kept the **Sullom Voe Harbour Account** in surplus, and in turn allows the council to make non-charitable financial assistance available on commercial terms to local start-up businesses.

3.2.2. The oil companies also agreed that the council, not the industry, would employ harbour pilots and port control staff and charge for their services. This set the precedent of the local authority carrying out a key commercial function in connection with a major industrial development. A further deal established a joint venture company in which the council were partners, who had the exclusive right to own and charge for the use of the tugs needed to berth the tankers in the port.

3.2.3. Almost as soon as the Shetland agreements were signed, oil company lawyers began picking holes in them, leading to a decade and a half of petty wrangling over the wording of some clauses, and some loss of revenue to the council as a result[53].

3.2.4. In 1995/96, the oil companies put pressure on the council to reduce its charges in the face of low oil prices[54]. The threat was that offshore loading of the oil direct to tankers could be more cost effective than transporting it via pipeline to Sullom Voe. Whether real or constructed, the council bowed to this threat, and agreed to reduce charges in return for Brent and Ninian oil continuing to be brought through the terminal. This represented:

a) A 50% reduction in terminal rent;
b) Foregoing a final payment of £1.2 million for the council-owned jetties in 2000;
c) An end to the Disturbance Payments by 2000, which were worth c. £3 million per year;
d) Agreement to reduce port charges, which have subsequently been increased.

[52] https://www.shetlandtimes.co.uk/2009/04/03/politics-what-is-the-shetland-charitable-trust
[53] Jonathan Wills, *A Place in the Sun*, Edinburgh, Mainstream, 1991.
[54] Dundas & Wilson, *Shetland's Oil Monies and their Governance*, 2008.

3.3. Revenues for Shetland from Sullom Voe Terminal

3.3.1. There are a variety of revenue sources that the community were able to derive from Shetland's oil and gas sectors, and these have changed over the years. Figure 3 sets out the annual cash-flows from the various Sullom Voe Terminal related activities[55, 56, 57].

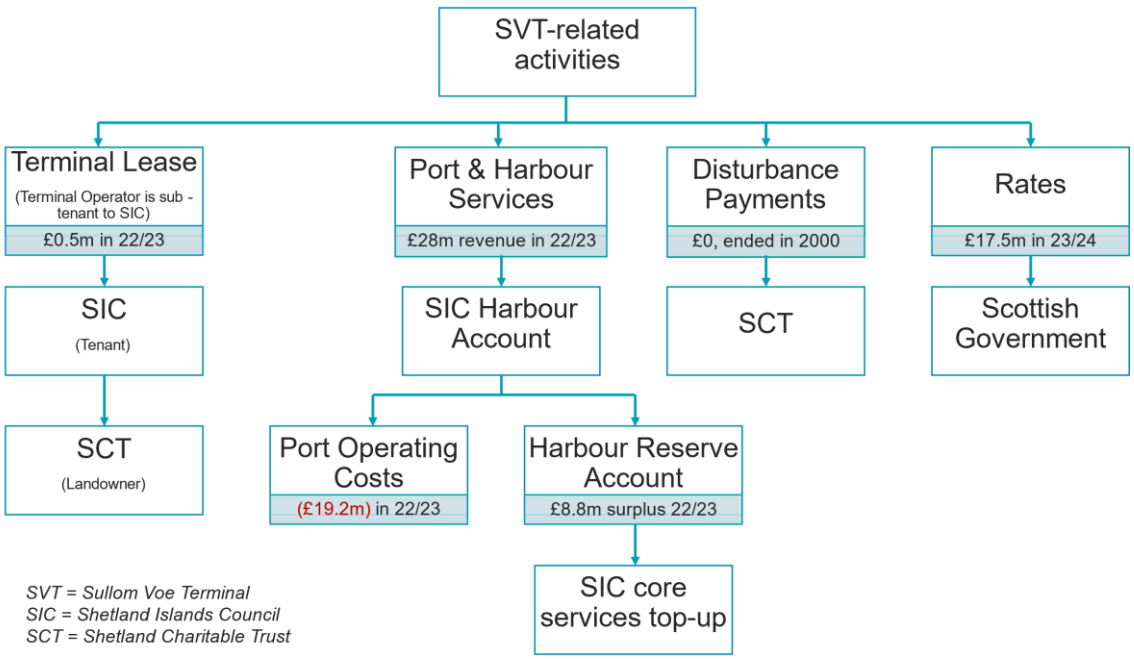

Figure 3: Community income from the Sullom Voe Terminal

[55] https://www.shetland.gov.uk/downloads/file/7312/shetland-islands-council-audited-annual-accounts
[56] https://www.shetlandcharitabletrust.co.uk/assets/files/presentation-for-public-sessions-on-eoi.pdf
[57] https://www.shetnews.co.uk/2023/07/10/council-seeks-to-renegotiate-sullom-voe-lease/

3.3.2. The oil-related cash flows have resulted in the accumulation of significant reserves for the Shetland community, however, revenues from the oil and gas industry have been in steady decline, with the SIC now making “unsustainable” draws on these capital reserves[58].

3.4. Shetland Gas Plant

3.4.1. Between 2010 and 2016, the Shetland Gas Plant, adjacent to the Sullom Voe Oil Terminal, was the largest construction project in the UK. During the project peak, over 2,000 workers were on-site[59], the vast majority of whom were FIFO workers.

3.4.2. The SIC secured a leasing agreement with Total (now TotalEnergies) for the new gas plant which was structured to provide both steady and variable income to the community. Initially, before production began, Total negotiated to pay a reduced rent of £100,000 per year. Once production commenced (2 years behind schedule) the rent was increased to £550,000 per year[60].

3.4.3. In addition to the fixed rent, Total also agreed to a quarterly production-based levy, calculated based on the volume and value of gas and oil condensate flowing through the Laggan-Tormore pipeline. This levy was designed to ensure that the Shetland community benefited financially as gas prices rose and new fields were connected to the pipeline.

3.4.4. This did not necessarily represent a stable income for the community, however, as returns through this levy could be highly volatile. £745k of levy was paid to the council in 2018, whilst just £3k was paid in 2020[61].

3.4.5. The lease agreement for the 112-acre site covered a 30-year term with options for termination or extension. The council convenor at the time emphasised that the financial benefits from the fixed and variable rents were secondary to the broader economic activity expected from the plant. This was estimated to be worth around £200 million over 30 years, although it is understood that this calculation included the rateable value of the site[54]. In 2024, the rateable value was £10 million per year[62].

3.4.6. TotalEnergies signed an agreement to sell Shetland Gas Plant, along with its entire interest in the West of Shetland gas fields, to Prax Group in June 2024[63]. At the end of the lease, the plant operator will be required to notify the council two years before winding down operations, dismantling the gas plant, clearing the site of debris, and restoring the stored peat over the site.

[58] https://www.shetnews.co.uk/2024/03/27/council-budget-approved-amid-significant/
[59] https://www.powerinfotoday.com/europe/building-the-shetland-gas-plant-uk-laggan-tormore/
[60] https://www.shetlandtimes.co.uk/2011/05/03/total-to-pay-550000-in-rent-into-council-coffers-plus-gas-production-levy
[61] https://www.shetnews.co.uk/2021/04/02/low-wholesale-price-sees-sic-gas-plant-income-take-a-dip/
[62] https://www.saa.gov.uk
[63] https://totalenergies.com/news/press-releases/united-kingdom-totalenergies-sells-its-interests-west-shetland-gas-fields

3.5. Community wealth from oil & gas: main points

The Zetland County Council Act (1974) empowered Shetland to control and benefit from oil developments. Shetland's ability to control harbour and development activities set a powerful example of local government shaping industrial developments.
Through strategic planning, robust lobbying and negotiation, Shetland's political leaders bolstered the long-term financial health of the islands. **The success of local political leaders in prioritising robust negotiation over cordial relationships secured agreements with energy companies that have contributed significantly to the quality of life for Shetlanders for the last 50 years**.
Revenues from the oil and gas industry did not adequately address poverty or inequality in Shetland and these funds are now in decline, underscoring the need for new, ambitious approaches to community wealth building.

PART 4: COMMUNITY BENEFIT FROM RENEWABLES TO DATE

Shetland’s experience highlights the potential of community wealth building approaches in supporting a just transition.

4.1. Current onshore wind overview

4.1.1. As shown in Figure 4, in addition to the 443 MW Viking Energy Windfarm, Shetland currently hosts three multi-MW community and locally owned wind farms – as well as many smaller sub-MW installations such as a 0.9 MW turbine at North Hoo Field and the 0.6 MW Nova tidal array (not shown).

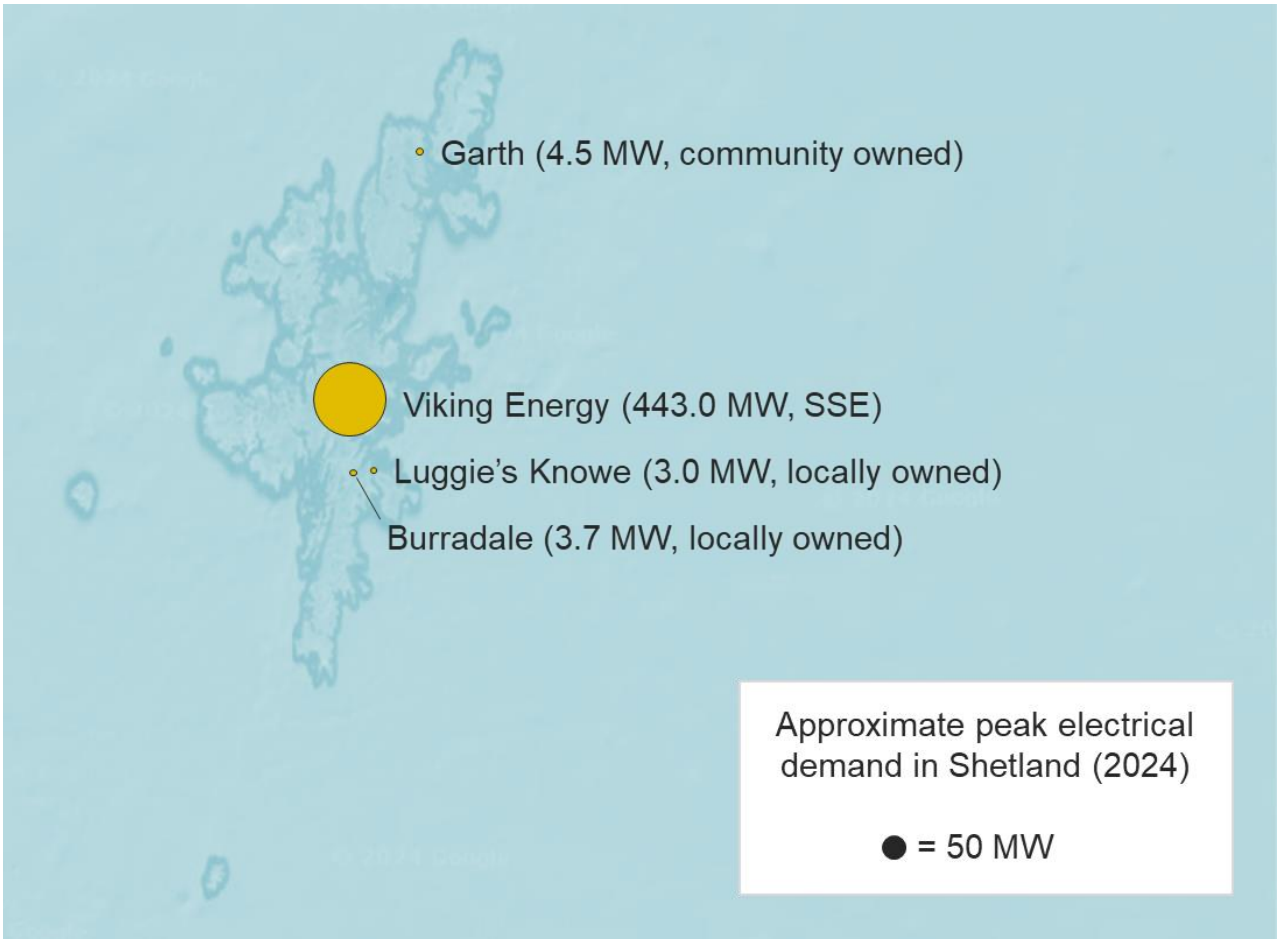

Figure 4: Current onshore wind projects

4.2. The Viking Energy Wind Farm

4.2.1. The Viking Energy Wind Farm ("Viking") will produce enough power for around 500,000 homes[64] and provided the needs case for Shetland gaining its first connection to the UK transmission grid (Section 6.1). Viking is the UK's largest onshore windfarm by output, and likely to be one of the most efficient wind farms on Earth, thanks to the strength and consistency of Shetland's wind.

4.2.2. Viking began as a partnership between a local company (Viking Energy Ltd) established to represent the interests of the SIC, and SSE, each of whom would be equal partners in the development - with one share each. The early concept was for 170 turbines producing 600 MW.

4.2.3. In late 2007, it was agreed that the majority ownership (90%) of the local company (Viking Energy Ltd) would be transferred from the SIC to the Shetland Charitable Trust (SCT). This ensured separation between any potential returns from Viking, and the council's general fund - thereby avoiding an impact on the council's core funding, which is calculated using the local government revenue support grant formula. The remaining 10% of the 'local' stake was retained by the owners of the Burradale Windfarm, whose expertise was valuable in progressing the project, and brought

[64] Viking Wind Farm | Renewable Energy Solutions in Shetland (vikingenergy.co.uk)

confidence to lenders. This meant that by 2007, the ownership structure of the project was 45% community owned, 5% privately locally owned, and 50% SSE owned.[65]

4.2.4. The proposed funding was to require a relatively limited amount of the Shetland Charitable Trust's capital. Around £31 million of community funds would be the total sum required to remain on an equal partner footing with SSE up to the point of first power[66]. The much more significant project capital costs – c.£350 million for the community share of the project – would be funded through non-recourse project financing, whereby the only security required by the lender is the project assets themselves. This arrangement ensured that the main funds of the trust would not be at risk.

4.2.5. Through securing a Contract for Difference (CfD) or similar guarantee such as Renewable Obligation Certificates (ROCs) on the value of Viking's generation, the Charitable Trust would have been able to largely de-risk the investment for the community. Since the borrowing costs would be known, and the project revenues would be known (underwritten by a state commitment through a CfD mechanism), the trust could have a high degree of certainty that the project would earn a surplus before any borrowing commitments were made.

4.2.6. In 2008, it was calculated that, after all borrowing and capital costs, Shetland stood to earn[67]:

(a) An overall return of £25 to £30 million every year including:

(i) £18 million profits on average to the Shetland Charitable Trust.

(ii) £1 million in direct 'community benefit payments' *(the project preceded the standardised £5,000 of community benefit per MW of installed capacity).*

(iii) £2.7 million in rent to landowners and crofting tenants.

(iv) £4 million in wages, business opportunities and other local benefits.

(b) After the major capital debt was paid off following c.15 years of operation, the project would have the potential to generate up to £80 million per year for the Shetland Charitable Trust (almost the same in a single year as the oil industry paid in disturbance payments between 1978 and 2000).

4.2.7. Viking proved to be a controversial issue among Shetland residents. In 2008, a group called Sustainable Shetland was formed, which opposed the wind farm due to its perceived excessive scale and impact on the Shetland environment, and later brought legal action against the development consent, which had been granted by then-Scottish Government Energy Minister Fergus Ewing in April 2012[68]. The Scottish Government's energy consents unit received 2,736 objections to the project and 1,114 notices of support[69].

4.2.8. In September 2013, Sustainable Shetland secured a legal success, with Lady Clarke of Calton's decision to overturn consent for the windfarm on the basis that the Scottish government had failed to take proper account of its obligations under European nature legislation[70]. However, this victory was short-lived, as Scottish Ministers appealed the decision, and by July 2014, the Court of Session ruled the appeal to be successful[71]. Sustainable Shetland then raised sufficient funds to bring their case to the UK Supreme Court but the Supreme Court rejected their case[72].

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[65] https://www.shetnews.co.uk/2024/09/03/short-history-viking-energy-wind/
[66] https://www.shetlandtimes.co.uk/2011/03/18/bankers-will-tell-trustees-viking-windfarm-would-be-a-sound-investment
[67] *Windylights brochure, Issue 2*, 2008.
[68] https://www.shetlandtimes.co.uk/2012/04/04/viking-energy-windfarm-wins-approval-from-energy-minister
[69] https://www.shetlandtimes.co.uk/2011/02/16/anti-viking-protest-group-claims-large-majority-against-windfarm
[70] https://www.shetnews.co.uk/2013/09/24/judge-rules-against-viking-wind-farm/
[71] https://www.pinsentmasons.com/out-law/news/viking-energy-appeal-decision-should-remove-any-lingering-doubt-for-industry-over-section-36-consents-says-expert
[72] https://www.supremecourt.uk/cases/docs/uksc-2014-0216-judgment.pdf

4.2.9. The judicial reviews were, however, significant to the overall prospects of community involvement in the project, as the delays caused project progress to stall. With no guarantee on the sale price of the power generated, and therefore no way to guarantee that the revenues would be higher than the cost of borrowing, the risk profile of the project for SCT had significantly changed.

4.2.10. In May 2019, SSE and the SCT finalised a restructuring agreement[73] whereby the SCT would leave the original investment in the project in exchange for a "preferred annual return"[74] linked to the value of the wind farm's output, and the project would be developed as a wholly-owned SSE venture. Due to the risk profile at the time, and SSE's intention to progress the project with the absence of a CfD, SCT were unable to go ahead with their original ownership share in the project. The agreement with SSE ensures that the trust will receive returns from the project without commercial risk.

4.2.11. In April 2020, OFGEM approved the construction of the 600 MW interconnector cable, which would allow the export of Vikings 443 MW to the UK national grid from Shetland[75].

4.2.12. SSE subsequently secured CfDs for Viking in two tranches in 2022[76] and 2023[77]. With 100% of the project's generating capacity now covered by a state-backed guarantee on the power purchase price, the risk profile of the project had returned to a level that would have been more acceptable to the SCT, had the option for participation remained available.

4.2.13. SSE has committed to paying the industry standard minimum level of community benefit – £5,000 per installed MW per year – into the independently managed Shetland Community Benefit Fund[78], a cooperative established by Shetland's 18 community councils to manage and disburse proceeds from commercial renewable energy developments.

4.2.14. When Viking is operational later this year, it will provide £2.2 million per year[79] to the Shetland Community Benefit Fund: the equivalent of £96 per Shetland resident, per year.

4.2.15. Viking was a controversial project from the outset, with an anti-wind farm independent candidate Billy Fox polling 2,845 votes (around 30% of those cast) in the 2011 Holyrood election[80]. A significant portion of the Shetland population had reservations about the project, and some of those that supported it did so on the understanding that half of the returns would be staying in Shetland. In addition to the visual impact of the turbines, the required grid upgrades meant additional pylons in the central Shetland mainland for transmission lines which many in the community had hoped would be undergrounded[81].

4.2.16. According to SSE figures[82], the construction of Viking resulted in £80m of investment in the local economy and directly employed 85 local people during peak construction. 50% of land lease payments are also made to crofting tenants where they exist on the project.

[73] SSE correspondence, 23/08/2023
[74] https://www.shetlandcharitabletrust.co.uk/viking-energy-wind-farm
[75] https://www.ofgem.gov.uk/press-release/ofgem-approves-600mw-shetland-transmission-link
[76] https://www.sserenewables.com/news-and-views/2022/07/sse-renewables-secures-cfd-contract-for-viking-energy-wind-farm/
[77] https://www.sse.com/news-and-views/2023/09/sse-renewables-secures-0-6gw-of-new-uk-onshore-wind-generation-contracts/
[78] https://www.shetnews.co.uk/2024/04/06/new-viking-community-benefit-fund/
[79] https://www.sserenewables.com/news-and-views/2024/05/major-step-forward-for-largest-onshore-wind-community-funds-in-the-uk/
[80] https://www.shetlandtimes.co.uk/2011/05/06/scott-holds-onto-shetland-seat-despite-strong-challenge-from-fox
[81] https://www.shetnews.co.uk/2023/05/11/government-approves-plans-for-new-overhead-power-lines/
[82] SSE correspondence, 23/08/2023

The Garth Wind Farm

4.2.17. The Garth Wind Farm is a leading example of what is possible from a community-owned renewable development. The 4.5 MW 5-turbine development is owned by the North Yell Development Council (NYDC) and was built in 2017 at a cost of £8.3 million[83].

4.2.18. The NYDC was established following World War Two to support the recovery of the community in the North of the island of Yell. The boundaries of the NYDC catchment area have not changed since, and the organisation supports a population of around 250 as well as a number of wider schemes.

4.2.19. Despite the Garth Wind Farm being around 1/100th the size of Viking, in a good year the project can generate a comparable level of return[84] for the North Yell community fund as Viking pays into the Shetland Community Benefit fund (£2.2m)[85].

Figure 5: Shetland examples of community benefit and wealth building

[83] https://www.northyell.co.uk/community/projects/garth-wind-farm
[84] Interview with NYDC, September 2024
[85] Shetland Community Benefit Fund (scbf.org.uk)

4.3. Burradale Wind and Luggie's Knowe Wind Farms (Shetland Aerogenerators)

4.3.1. Burradale was commissioned in 2000 as the first significant windfarm to be built in Shetland[86]. The 3.7 MW Burradale project is owned by Shetland Aerogenerators, a local company majority owned by two Shetland families[87]. As shown in Figure 6 below, Burradale is one of the world's most productive windfarms, generating an annual average of greater than 50% of installed capacity, compared with the UK average which is under 30%. In 2005, one of the Burradale turbines achieved a capacity factor of 57.9% - a world record. Shetland Aerogenerators also owns the Luggies Knowe windfarm, which consists of a single 3 MW turbine at present. The company support a number of local community groups and initiatives with discretionary benefit payments and also contribute £10,000 per year to the Shetland Community Benefit Fund[88].

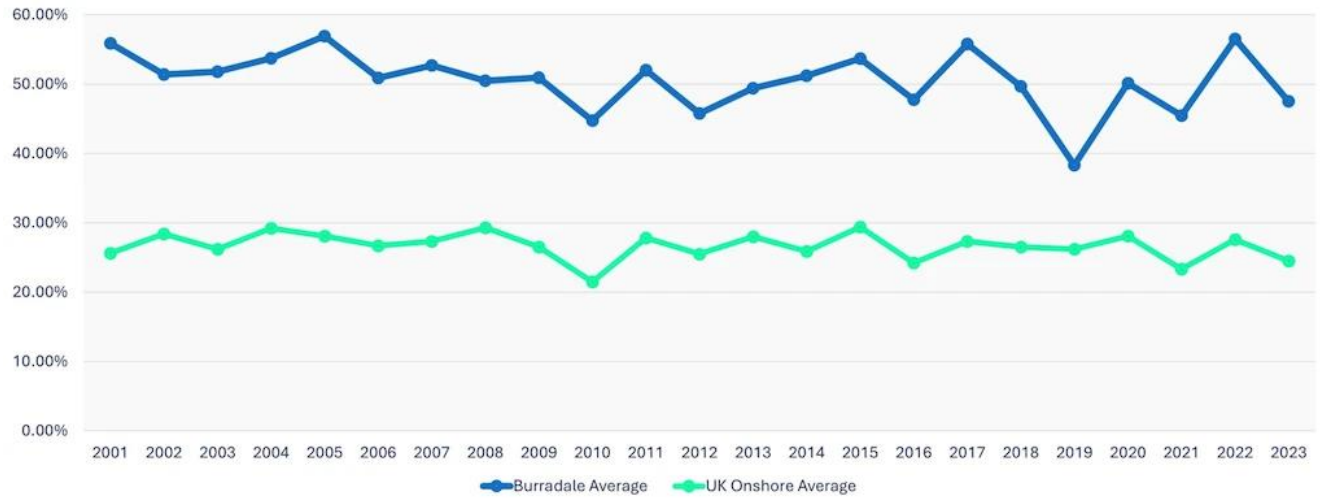

Figure 6: Shetland Aerogenerators Burradale Windfarm Capacity Load Factor[89]

4.4. Shetland Community Benefit Fund

4.4.1. Shetland Community Benefit Fund is an independent community interest co-operative set up by the islands' 18 community councils to negotiate and administer community benefit funds. SCBF is in contact with the developers of future wind projects (see Part 5) but there has been no final decision on the value or distribution of these funds.[90]

4.5. Shetland Heat Energy & Power (SHEAP)

4.5.1. SHEAP are the operators of the Lerwick District Heating scheme, which is one of the largest heat networks in Scotland and supplies affordable low carbon heat to over a thousand properties. It represents one of Shetland's most successful community energy developments.

4.5.2. In 1997, the Shetland Charitable Trust agreed to proceed with the development of the Lerwick District Heating Scheme, following the approval for Lerwick's waste to energy incineration plant. The district heating system uses heat from the incineration of Shetland's waste as well as waster heat from Lerwick Power Station, to heat homes, businesses, council buildings, leisure facilities and care homes in Lerwick. By 1998 the first customer had been connected, and today the scheme serves over 6,000 people. In the years that SHEAP has been operating, the company has consistently delivered heat at a more affordable cost per kWh than electricity or other alternatives, and any excess profits are

[86] https://www.shetlandaero.co.uk/projects
[87] https://find-and-update.company-information.service.gov.uk/company/SC136227/officers
[88] https://www.scbf.org.uk/funding/sacbf
[89] https://www.shetlandaero.co.uk/impact/data
[90] https://www.scbf.org.uk/about

returned to the Shetland Charitable Trust as Gift Aid, enabling further local investment in Shetland's institutions and local initiatives.[91]

4.5.3. SHEAP continue to add new domestic and commercial connections to their network and there may be potential for the company to take additional waste heat from future new energy projects such as electrical substations or hydrogen-based fuel production facilities, supporting further expansions of the district heating scheme.

4.6. Community benefit from renewables to date: main points

The Viking Energy Wind Farm as originally conceived would have been one of the largest community participation stakes in a UK renewables project, with a 45% community stake and 5% owned by local businesses. The community involvement was ultimately lost due to delays and the associated uncertainty relating to Shetland's National Grid connection and a Contract for Difference.

The Garth Wind Farm exemplifies successful community ownership, delivering significant financial returns directly to the small population of North Yell. Despite being 1/100th the size of Viking, the project earns the North Yell community roughly the same as Viking contributes to the Shetland Community Benefit Fund scheme. This project highlights the direct economic potential of locally owned renewable energy projects.

The Lerwick District Heating scheme, operated by Shetland Heat Energy and Power (SHEAP), is a model of community energy success. The scheme provides affordable, low-carbon heat to thousands of customers in Lerwick, with profits reinvested into local initiatives.

[91] https://sheap-ltd.co.uk/brief-history

PART 5: NEW ENERGY PROJECTS

As the scale and pace of new energy development increases, what constitutes a fair deal for local communities?

5.1. Planned wind generation pipeline

Figure 7 provides an overview of the operational and planned onshore and offshore wind projects (circle areas proportionate to installed generation capacity - for an indication of the area of land and sea that these developments occupy, see Figure 11).

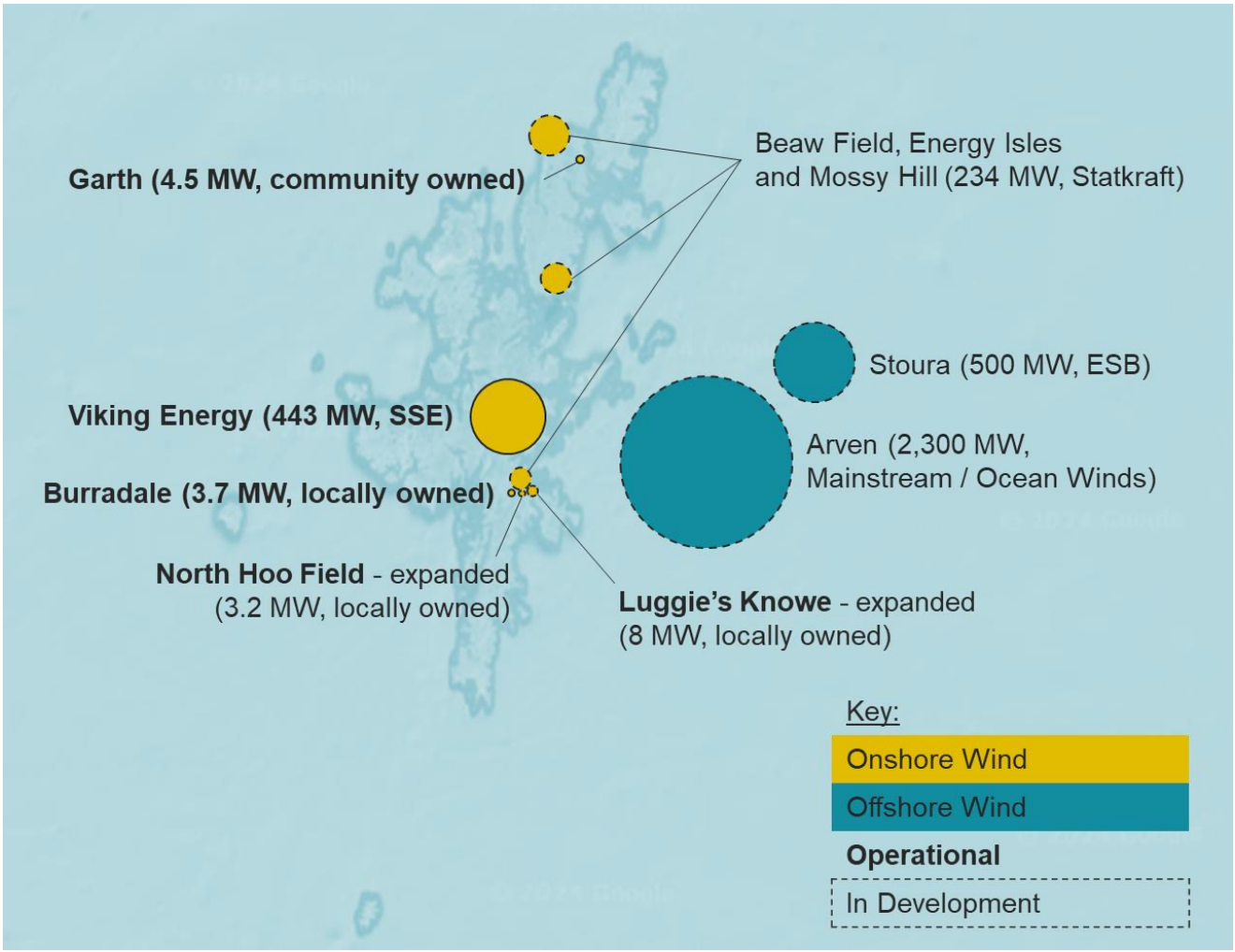

Figure 7: Onshore and offshore wind projects (operational and in development)

The following sections discuss these developments in more detail.

5.2. Statkraft Wind Farms (Mossy Hill, Beaw Field, Energy Isles)

5.2.1. The Norwegian state-owned energy company Statkraft (Europe's largest renewable power producer) now owns three large, consented windfarm developments in Shetland:

- Mossy Hill (36 MW, 8 turbines[92]) – located just outside Lerwick
- Beaw Field (72 MW, 17 turbines) – at the southern end of the island of Yell
- Energy Isles (126 MW, 18 turbines) – in the north-east of the island of Yell

[92] The project was previously proposed as a 12-turbine, 49.9 MW project, before the number of turbines was reduced in August 2024 - https://www.shetnews.co.uk/2024/08/07/less-turbines-height-statkraft-revises/

5.2.2. Plans for a new substation to allow Mossy Hill Windfarm connect to the 132kV transmission network under construction between Kergord (at the centre of the Viking Energy project) and Gremista in Lerwick were shared at a community consultation event in May 2024[93].

5.2.3. Statkraft's latest community update[94] estimates the benefits from these 3 projects to be:

- Construction jobs – 30 FTEs
- Operations jobs – 6 FTEs
- Construction spend – £40m
- Operations spend – circa £0.8m per annum
- Rates (non-domestic) – circa £2m per annum
- Community benefit – circa £1.2m per annum

5.3. NE1 Offshore Wind projects

5.3.1. There are two floating offshore wind projects in early development in the Scotwind NE1 area east of Shetland (Figure 8), both of which are targeting first power in the early 2030s:

5.3.2. The 500 MW Stoura Offshore Wind Farm developed by ESB (the Irish state-owned utility)

5.3.3. The 2,300 MW Arven Offshore Wind Farm (consisting of two sites: Arven and Arven South), developed through a 50-50 partnership between Ocean Winds and Mainstream Renewable Power

5.3.4. Both developers have been proactive in engaging with the Shetland community and supply chain.

5.3.5. In December 2022, the SIC Chief Executive set out that regarding community benefit from these schemes[95] "we would as a council currently expect that there is at least a matching of the onshore provision [£5,000 per installed megawatt per year], but also a willingness to consider other provisions. That might be investment in infrastructure, or it may be actually resolving the question about the Shetland Tariff and finding a way of addressing the high energy usage and the high costs that exist in Shetland". At the time of publication, no agreement had yet been reached on this topic.

[93] https://projects.statkraft.co.uk/mossy-hill/
[94] *Statkraft Shetland Projects Update,* Summary Slides, March 2024.
[95] https://www.shetnews.co.uk/2022/12/08/council-sets-out-community-benefit-expectations-as-offshore-wind-developers-visit-the-isles/

5.3.6. A number of other areas around Shetland were identified for offshore wind projects in the Innovation and Targeted Oil and Gas (INTOG) seabed leasing round, however as shown in Figure 8 all awarded INTOG projects areas (shown in green) were to the south of Orkney. Longer term, there is however significant potential for further offshore wind developments, particularly as green hydrogen production scales up (5.4).

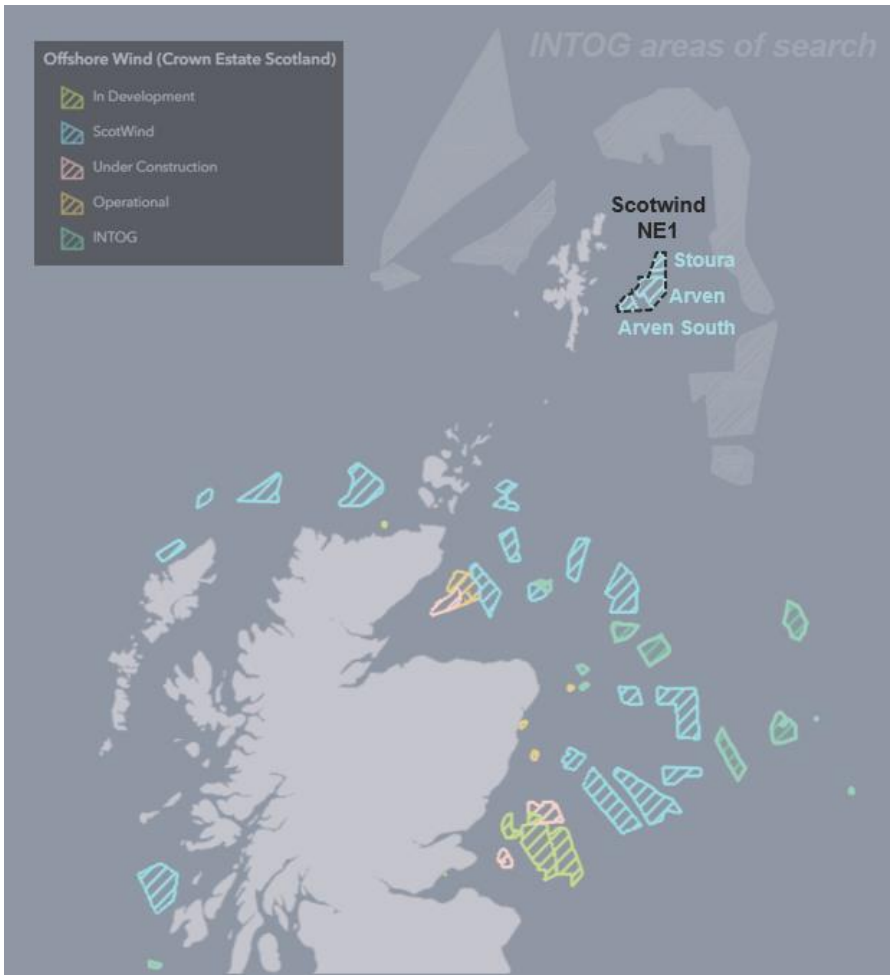

Figure 8: East of Shetland (NE1) and wider Scottish offshore wind development areas[96]

[96] Based on: https://www.crownestatescotland.com/scotlands-property/offshore-wind/current-projects

5.4. New hydrogen and carbon capture opportunities

5.4.1. Shetland has a major advantage for the production of hydrogen, thanks to its exceptional wind resources. Since about 70% of the cost of producing hydrogen is tied to the price of electricity, the more efficiently and therefore more cheaply that the electricity can be generated, the lower the cost of the hydrogen could be. Not only does hydrogen have its own market, but it's also essential for creating synthesised hydrocarbons, methanol, ammonia, and other exportable commodities.

5.4.2. Sullom Voe Terminal operators EnQuest have set up a new wholly owned subsidiary, Veri Energy to develop their plans to turn the area into a green energy hub. EnQuest will remain the operator of the terminal, while supporting new energy developments on site. The proposals mooted to date include hydrogen, synthetic fuels and carbon capture and storage. EnQuest also intends to decommission the site's gas-fired power station and connect the terminal into the local electricity network. In 2022, EnQuest's Annual Report highlighted "the Group's success in securing exclusivity from the Shetland Islands Council to progress its proposed new energy opportunities on the Sullom Voe site".[97]

5.4.3. Scatsta Airfield is owned by SIC and previously serviced offshore oil and gas flights before it closed in 2020. This is a large, 100+ hectare site with extensive hard standing. Scatsta is flanked by deep water suitable for the development of import/export jetties. A report by Ironside Farrar considered the potential of 57 sites across Scotland for large scale hydrogen production and ranked Scatsta joint first.

5.4.4. The SIC invited expressions of interest for projects at Scatsta from prospective developers in 2022, and in 2023 confirmed that it was in talks with Statkraft and partners (Aker and Mainstream Renewable Power) about developing Scatsta for future energy production. In January 2024, Statkraft confirmed their plans for up to 1GW of hydrogen and ammonia production at Scatsta.[98]

5.4.5. Scatsta and Sullom Voe are not only vital local assets but hold national importance as potential sites for large-scale hydrogen (and derivative) production. These sites have the space for up to 18GW of hydrogen production equipment (equivalent to 40 Viking Wind farm's worth of power demand). At the largest scale of operation, these facilities could be generating tens - if not hundreds - of millions of pounds in profit annually. Without changes to the current trajectory, however, very little of this value looks set to remain in Shetland.

5.4.6. As reported in Shetland News in August 2024[99], Statkraft is actively exploring potential sites in Shetland for green hydrogen production, with ongoing discussions regarding the use of land near the former Scatsta Airport. Although no agreements have been finalised, technical feasibility studies are underway to ensure the appropriate scale and technology for these projects. Statkraft is also understood to be considering other locations, such as a site outside of Lerwick[100], for hydrogen production. The company is optimistic about Shetland's potential for green hydrogen, citing the region's renewable resources and existing expertise from the oil and gas industry as key advantages. Statkraft hope to provide more detailed information about their hydrogen plans later this year.

5.4.7. In May 2023 EnQuest announced that it had successfully secured carbon storage licences in the first round of UK carbon sequestration licensing[101], issued by the North Sea Transition Authority (NSTA). The licences cover the Northern North Sea 1 and Northern North Sea 2 areas, situated about 99 miles northeast of Shetland. The regions include the Magnus and Thistle fields, which EnQuest currently operates, as well as the Tern and Eider fields. These locations feature extensive, well-mapped deep storage formations, and are connected to the Sullom Voe Terminal (SVT) in Shetland by existing pipelines.

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97 https://www.enquest.com/fileadmin/content/Annual_Reports/Annual_Reports_2023/41076_EnQuest_AR22_SR_spreads.pdf

98 Statkraft presentation to Shetland Net Zero Energy Forum, March 2024

99 https://www.shetnews.co.uk/2024/08/07/wind-projects-statkraft-hydrogen-remains/

100 https://www.shetnews.co.uk/2024/06/14/statkraft-exploring-potential-another-hydrogen/

101 https://www.enquest.com/media/press-releases/article/enquest-plc-awarded-offer-of-carbon-storage-licences

5.5. The Potential Scale of Future Developments

5.5.1. Comparing the scale of currently proposed renewables and new energy projects, it is clear that despite hosting the UK's largest onshore windfarm by output, Shetland appears to be in the early stages of a much larger scale of development. There is 234 MW of onshore wind capacity yet to be built (excluding any community or locally owned project expansions), 2,300 MW of offshore wind capacity in the pipeline and over 10,000 MW of green hydrogen production if the stated ambitions of developers are realised (Figure 9).

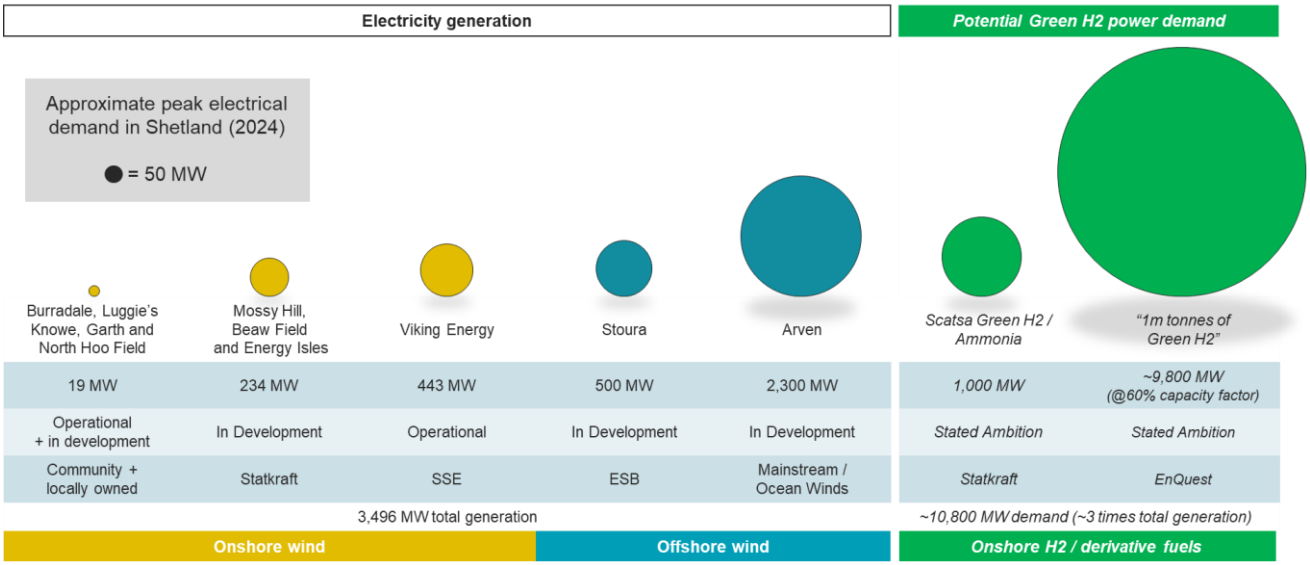

Figure 9: Renewables generation capacity and developer plans for green hydrogen production

5.5.2. Furthermore, it is worth noting that:

a) The total amount of built and proposed wind generation capacity (onshore and offshore) is approaching 3,500 MW
b) The total stated developer ambitions for green hydrogen could require up to 11,800 MW of generation capacity
c) Ignoring the possibility that some power could be supplied to Shetland from the UK mainland, the additional generation capacity that would be required to deliver these stated hydrogen ambitions could be in the order of 7,300 MW

5.5.3. Although there remains a high degree of uncertainty around when exactly (and indeed, if) all proposed projects will be built, it is perhaps understandable that the local fishing community is increasingly concerned that the NE1 offshore wind projects could be the start of a much greater scale of development, with associated impacts on the ability of Shetland's predominantly locally-owned fishing fleet to access their traditional grounds. Another consideration is the large volumes of brine that any desalination facilities providing water to green hydrogen projects would produce, and how this would be disposed of.

5.5.4. Figure 10 sets out the scale of coming onshore and offshore wind development relative to existing community and locally owned projects (shown in black at the bottom of the graph).

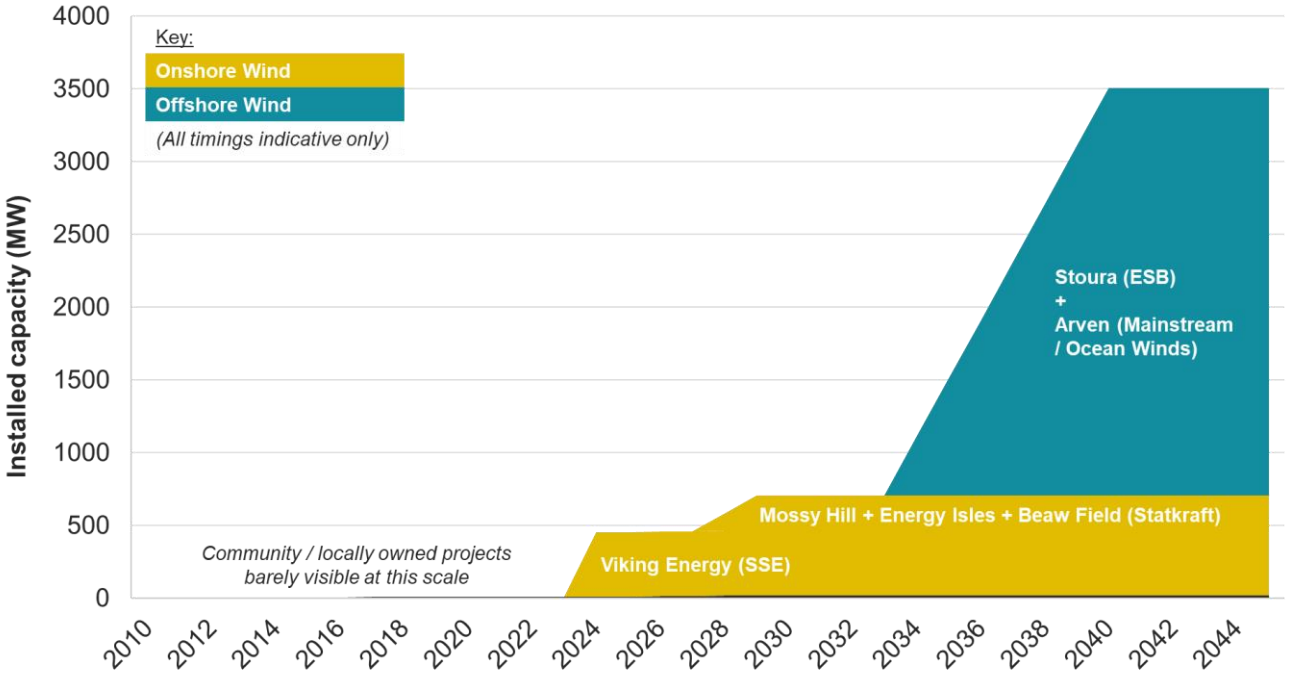

Figure 10: Indicative build-out timelines for onshore and offshore wind projects

5.6. New energy projects: main points

Shetland is seeing significant growth in wind energy ambitions. The combined total of built and proposed onshore and offshore wind projects is close to 3,500 MW: seventy times Shetland's current peak electricity demand of around 50 MW.

Shetland's exceptional wind resources and port infrastructure make it a prime location for large-scale green hydrogen production and export. Sites of strategic national importance like Scatsta and Sullom Voe – owned by the SIC and the Shetland Charitable Trust respectively – are under consideration for hosting major hydrogen projects.

The pace and scale of development in Shetland underlines the need to secure a fair deal for local residents - particularly as the current trajectory seems unlikely to replicate the benefits of the oil and gas era, and new project proposals are likely to emerge in the coming months and years.

PART 6: SHETLAND'S ELECTRICITY NETWORK

There is currently no easy path for new community-owned energy projects in places like Shetland, due to rules and regulations governing UK electricity grid connections.

6.1. Electricity network developments

6.1.1. As shown in Figure 11, Shetland's electricity grid has historically operated separately from the UK electricity network, however with the energisation of the 600 MW HVDC link to the UK mainland in 2024 and the subsequent connection of the local distribution network to the UK transmission system in 2025/26, a new 'Grid Supply Point' (GSP) in Lerwick will link Shetland-based generators to the national network for the first time. A programme of further upgrades is planned (6.1.6), to support the expansion in onshore and offshore wind projects and potential West of Shetland oil and gas electrification projects.

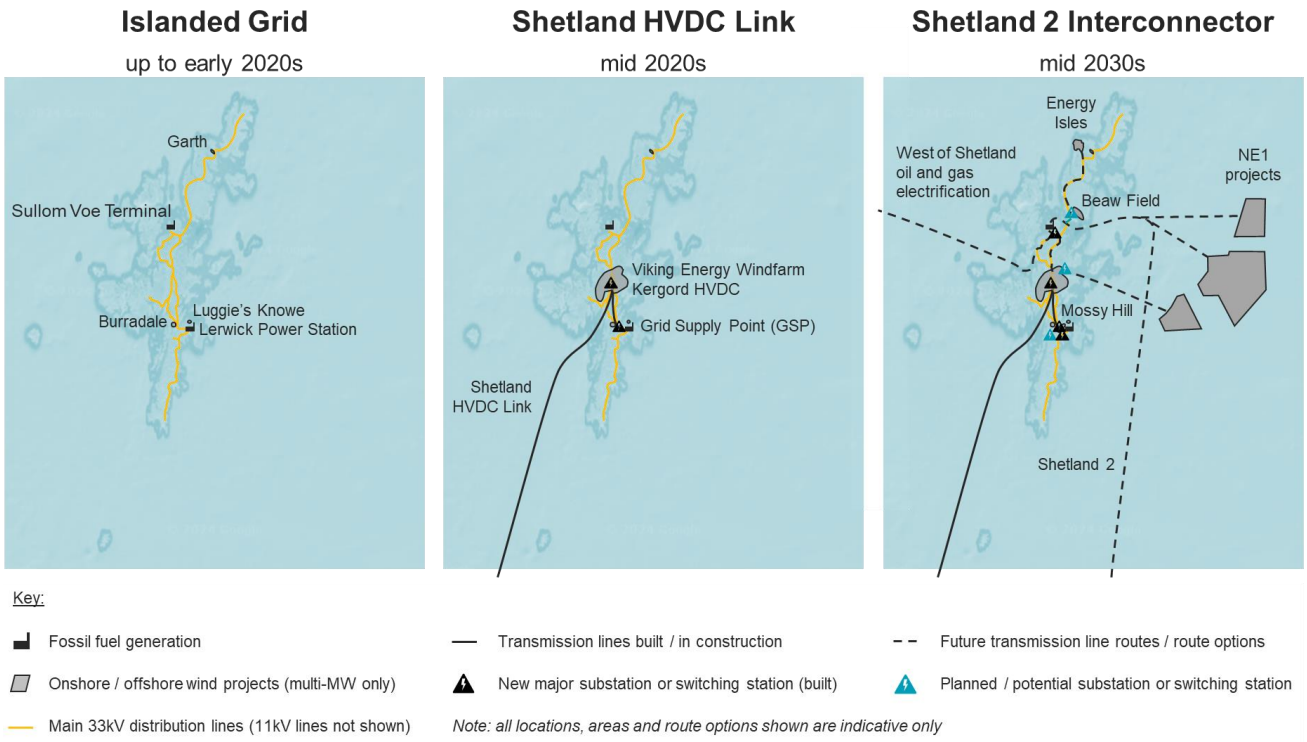

Figure 11: Upgrades to the Shetland electricity network

6.1.2. The majority of Shetland's electricity is currently generated by the Lerwick Power Station, a 72.8 MW heavy fuel oil / light gas oil generator, which has provided reliable power to Shetland since 1953. Once the GSP goes live, the Lerwick Power Station would remain in standby mode as a back-up should there be any issues with the HVDC link. The Sullom Voe Terminal power station also occasionally plays a role in providing power to the Shetland grid, although this generator is currently due to be decommissioned by the end of 2025 when its Industrial Emissions Directive derogation will lapse. After this point, the Sullom Voe Terminal operations will be electrified via connection to the local electricity distribution network.

6.1.3. There is however a concern amongst some local developers and community groups that locally-led renewable generation projects aiming to generate power for local use on the Shetland distribution network have been made unviable because of the GSP arrangements[102]. The reasons for this are technically complex, however the essence of the issue is that due to oversubscription of the 600 MW interconnector export capacity with circa. 677 MW of consented transmission-side generation in Shetland (Viking plus the Statkraft projects), large generators' power will at times be delivered into the local distribution network, via the GSP. Any new community-led developments would only be able to deliver power into the local distribution grid in cases where they were not impacting or displacing the route to market for generation power on transmission-side of Shetland's network. The result is that rather than *supporting* the development of community-led generation capacity on the local distribution

[102] Ref. private correspondence with developers – see also https://www.stornowaygazette.co.uk/business/no-room-on-the-grid-for-community-renewables-4639701

network, the GSP project will tend to *supply* distribution network demands using transmission-side power.

6.1.4. The current regulatory system for connections, governed by Ofgem, is on a 'first come, first served' basis. Given the need to provide often significant financial securities and the additional process of projects wishing to connect from the distribution system to transmission, there are more barriers for distribution connected projects to enter this queue compared to larger transmission schemes. Securities, liabilities and cancellation costs act to marginalise smaller, local-owned projects.

6.1.5. The GSP has specifically been scaled to meet Shetland's projected future peak demand. The implication of this is that all of Shetland's demand can be met by the Grid Supply Point, which takes its power from the National Grid Electricity Transmission network. This means that locally or community-owned generators do not have a straightforward business case as they will rarely be able to provide power through the local electricity distribution network. **At present, without reform to the connections system or significant growth in local power demand, it is exceptionally challenging if not impossible for other Shetland communities to replicate the success of Garth wind** farm (Section 0).

6.1.6. According to SSEN's website[103], the Shetland Renewable Connections project will include:

- A new 132kV Substation at Kergord, connected to the HVDC Convertor Station and link.
- A new 132/33kV Grid Supply Point (GSP) at Gremista with two single trident circuits connecting to Kergord 132kV substation.
- A new 132kV connection from Mossy Hill Wind Farm, which "tees" into one of the above trident circuits running to Kergord.
- A Northern Substation Hub, with connection back to Kergord (Location of hub, route of connection and voltages still to be determined. Initially 132kV)
- A new 132kV substation on Yell, connected to the Northern Hub, including subsea cable between Yell and mainland Shetland, underground cable and overhead line.
- A new 132kV circuit between Energy Isles wind farm and the Yell substation.
- A new 132kV circuit between Beaw Field wind farm and the Yell substation
- A new 1.8GW HVDC convertor station and link to Scottish mainland, from the Northern Substation hub.

Note: SSEN Transmission are still determining the optimum network design for Shetland: the above represents their current draft proposals. These are subject to the usual development processes, including consultation with stakeholders.

6.1.7. During the development of the Shetland grid options, Scottish Hydro Electric Power Distribution (SHEPD) and Scottish Hydro Electric Transmission (SHE-T), both part of the SSE Group, engaged with governmental bodies and industry stakeholders, including BEIS, the Scottish Government, SHE Transmission, and National Grid Electricity System Operator. SHEPD's 2019 "DSO Recommendation" emphasised significant consumer savings by proposing a "full system" solution (i.e. one that considered both transmission and distribution infrastructure requirements in Shetland) that would save UK consumers £145 million compared to the next best alternative.

6.1.8. During the 2019 consultations on the 'needs case' for Shetland's connection to the National Grid, there was a push for a larger interconnector than the proposed 600 MW link. Stakeholders argued

[103] https://www.ssen-transmission.co.uk/projects/project-map/shetland-renewable-connections/

that SHE-T underestimated Shetland's renewable energy potential. Despite these responses, the project was approved to proceed with the recommended 600 MW HVDC link, adequate to enable the Viking Energy wind farm to export power.

6.1.9. In August 2024, before the 600 MW HVDC link was fully commissioned, a second HVDC link ("Shetland 2") was recommended by the National Grid ESO to support 1.8 GW of NE1 offshore wind development and reduce reliance on diesel backup generation.[104] Ofgem's short consultation window from 1st to 30th August 2024 for the proposed regulatory funding and approval framework for onshore transitional Centralised Strategic Network Plan 2 (tCSNP2) projects, of which Shetland 2 is part, provides very limited opportunity for community input.

6.1.10. It is worth noting that the Scottish Government's National Planning Framework 4 (NPF4)[105] includes commitments to strengthen "policies to ensure meaningful community engagement in the planning process" and encourage "community-led planning initiatives and local decision-making". Such commitments are likely to continue to come into tension with national climate and infrastructure development targets.

6.2. Shetland's electricity network: main points

The Viking Wind Farm now has a connection to the UK National Grid via a 600 MW HVDC link, and Shetland's distribution network is set to be connected via a Grid Supply Point in 2025/26. This integration supports the expansion of wind energy projects but raises concerns about the impact on locally led renewable initiatives.

During the 2019 consultation for the 600 MW interconnector needs case, many of the respondents argued that a larger connection was necessary to support the planned developments at the time (800 to 1,000 MW). Shortly after construction of the 600 MW HVDC link was completed in 2024, National Grid recommended a second larger link be installed to support further wind energy development.

The structure of the new Shetland grid presents significant challenges to the viability of future locally-led generation projects. This is because the GSP acts as a 'route-to-market' for some transmission-side power, meaning new community renewables on the distribution grid in Shetland are at the back of the queue for supplying local demand.

[104] https://www.shetnews.co.uk/2024/03/19/national-grid-recommends-second-transmission/
[105] https://www.gov.scot/publications/national-planning-framework-4/

PART 7: SECURING VALUE FROM FUTURE DEVELOPMENTS

There is a broad range of possible approaches to enable communities to benefit from energy projects.

7.1. The Current Standard in Community Benefit

7.1.1. Community benefit schemes are optional packages of support – typically though not exclusively in the form of financial contributions – that renewable energy companies offer to cultivate a good relationship with host communities, address potential concerns and offset negative impacts, while protecting and enhancing the developer's public image. Such schemes represent an important and justified mechanism for sharing the resource value of a place with local residents.

Note: as discussed in 1.3, this study focuses primarily on direct (as opposed to indirect) community benefits and the opportunities to maximise these through community ownership, participation and direct payments. Strathclyde University are currently working on a holistic review of the wider economic benefits of coming energy projects[106].

7.1.2. In the UK, a community benefit payment of £5,000 per MW installed generation capacity per annum has come to be seen as an industry standard for onshore wind projects, endorsed by the Scottish Government in their 2014 "Good Practice Principles for Community Benefits from Onshore Renewable Energy Developments"; in the 2019 update of those same principles[107]; and in the 2022 onshore wind policy statement. The origins of the £5,000 value can be traced back to 2010, when Forestry and Land Scotland first proposed this level of annual community benefit.[108]

7.1.3. Meanwhile, Renewable UK endorsed this benchmark for England in February 2024: "it makes sense to set a standard level for community benefit funds across the UK of £5,000 per megawatt of capacity. Communities can expect consistency across the country. It also provides certainty for investors and developers about the expectations placed on them".[109] Although such principles have yet to be established in other sectors, the Scottish Government Good Practice Principles for Community Benefits[110] states that "other onshore technologies should aspire to this level". The UK Government is to publish voluntary guidance on community benefits from electricity transmission network infrastructure[111], with a view to developing a mandatory policy approach on electricity bill discounts and benefit payments in 2024.

7.1.4. Some onshore wind developers have voluntarily offered a higher level of CB payment (e.g. Bute Energy in Wales[112] who have committed to pay £7,500 per MW per annum).

7.1.5. Shetland has some of the best wind resources on the planet: wind turbines installed here (onshore or offshore) will produce significantly more electricity than they would do in many other places. When community benefit is fixed by installed capacity, host communities in Shetland end up with a smaller share of the proceeds than elsewhere. This generally remains the case even when increases in construction, transmission and local circuit costs are accounted for.[113]

7.1.6. In June 2024 Highland Council published their Social Values Charter for Renewables Investment[114], which – along with a broad range of proposed investor and local authority commitments encompassing housing, skills and training – suggested that developers pay a total of £12,500 per MW installed per annum: £5,000 per MW for the host community and £7,500 per MW into a strategic regional fund. Correspondence seen by Voar suggests that there has been strong industry pushback to Highland

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106 https://strathprints.strath.ac.uk/88170/1/Turner-etal-CEP-2024-Maximising-the-benefits-for-Shetlands-economy.pdf
107 https://www.gov.scot/publications/scottish-government-good-practice-principles-community-benefits-onshore-renewable-energy-developments/
108 https://forestryandland.gov.scot/what-we-do/renewable-energy-in-scotlands-national-forests/community-benefits-and-opportunities
109 https://www.renewableuk.com/news/665077/Industry-aligns-with-Government-on-onshore-wind-benefits-for-local-communities-.htm
110 https://www.gov.scot/publications/scottish-government-good-practice-principles-community-benefits-onshore-renewable-energy-developments/
111 https://www.gov.uk/government/publications/community-benefits-for-electricity-transmission-network-infrastructure
112 https://bute.energy/investment-in-south-wales-wind-farm-to-generate-new-jobs-and-help-to-reduce-energy-bills/
113 Voar in-house analysis
114 https://www.highland.gov.uk/meetings/meeting/5003/highland_council

Council's proposals, with developers arguing that the commitments proposed by Highland Council could make some projects unviable.

7.1.7. In August 2024, a precedent was set for securing community benefit payments from offshore wind projects with an announcement that the developers of the Spiorad na Mara windfarm west of Lewis (Northland Power and ESB) had committed to paying £5,000 per MW installed per annum for that project.[115]

7.1.8. The transition to net zero requires vast areas of land and sea to be developed for renewables. As the scale and pace of these developments increases and impacts are felt by host communities, the question "who benefits from the resources of a place?" will only become more important. In this context, what was industry standard for onshore wind in the 2010s may not seem so reasonable in the late 2020s - and the pressure for other energy projects to contribute more to affected communities is likely to increase. As a minimum, it seems reasonable to argue that the £5,000 per MW baseline established in 2010 should be adjusted in line with inflation, which would bring it to around £7,500 in 2024 prices.

[115] https://www.thenational.scot/news/24536934.community-group-secures-millions-funding-offshore-wind-farm/

7.2. Community Owned Renewables in Scotland

7.2.1. According to Community Energy Scotland's 2022 UK State of the Sector Report, there were 103 community energy organisations active in Scotland and a total of 82 MW of community-owned electricity (89% onshore wind, around 8% hydro and around 3% solar).[116] This represents less than 0.6% of Scotland's total installed renewable capacity.

Note: had the Viking Energy Windfarm project gone ahead as originally envisaged, the Shetland Charitable Trust would have had a 45% stake in a 443 MW project – likely the largest community stake ever secured in any UK energy project.

7.2.2. A 2021 report by Aquatera[117] compared the financial benefits arising from private and community owned windfarms and found that on average, community wind farms provide an annual average return of £170,000 per installed MW – 34 times the industry standard of £5,000 MW, with one project returning 60 times that benchmark value at £300,000 per installed MW.

7.2.3. According to Community Energy Scotland, reducing support mechanisms and entrenched regulatory barriers (see also 6.1.3are making development of community owned schemes challenging. The Scottish Government CARES (Community and Renewable Energy Scheme) programme provides the majority of development funding for new community owned schemes, while most new project funding comes from community share offers.

7.3. Shetland Energy Development Principles

7.3.1. In 2022, SIC councillors approved a set of energy development principles to guide energy developers, engage with government agencies and help achieve a just climate and energy transition. The principles identify four key areas of action: Environmental Protection, Sectoral Co-existence, Local Supply Chain Integration and Benefits to the Shetland Community.

7.3.2. Regarding community benefit, the key points from the SIC's Shetland Energy Development Principles[118] include statements that:

(a) *All projects on Shetland and in the waters around Shetland, i.e. where Shetland is the nearest landfall […] should regard the Shetland Islands as the Host Community and make arrangements with the whole Shetland community and its representatives regarding community benefit.*

(b) *Shetland Islands Council believes that £5,000 per installed Megawatt (indexed) or c2.5% of generation value is also an appropriate quantum for Community benefit payment to the Shetland community for all offshore wind projects anywhere within the Shetland sea area and regardless of distance from shore" and "that same c2.5% of value should be the quantum for all Oil and Gas developments in the waters around Shetland". The SIC have also since made it clear that they see the aforementioned level of benefit as appropriate for hydrogen and derivative fuel production projects.*

(c) *All Community Benefit arrangements should cover the full life of production or generation and not be artificially time-bound.*

(d) *That c2.5% of value quantum provides an appropriate basis to scale any energy contributions as an additional mechanism to cash payments […] further research and engagement should be*

[116] https://communityenergyscotland.org.uk/wp-content/uploads/2022/06/UK-State-of-the-Sector-Report-2022_Full_Version.pdf
[117] https://www.pointandsandwick.co.uk/news/community-owned-wind-pays-communities-34-more-than-private/
[118] https://www.shetland.gov.uk/climate-change-3/shetland-energy-development-principles#:~:text=Campaign%20at%20all%20levels%20to,all%20significant%20proposals%20and%20solutions (Appendix 1,p13-15)

carried out to determine whether energy contributions could be a viable and beneficial additional route to secure the most impactful Community Benefit outcomes.

7.3.3. Although the SIC energy development principles do not consider the case for greater community ownership or control over future energy projects, they nonetheless set out a clear position that the Shetland community should receive community benefit from oil and gas, offshore wind, and hydrogen/derivative projects at a level consistent with the industry standard in onshore wind.

7.4. The ORION Project

7.4.1. The Opportunity for Renewable Integration with Offshore Networks (ORION) project was established by Shetland Islands Council in 2020 to market Shetland's potential for new energy developments, amid concerns that a sudden cessation of operations at the Sullom Voe Terminal could have devastating impacts on local employment and Harbour Account revenues. The three stated aims[119] of the ORION energy hub project were to:

(a) "Enable offshore oil and gas sector transition to net zero by electrification, utilising initially onshore and then offshore wind, sustaining thousands of jobs and security of supply."

(b) "Transform Shetland's current dependency on fossil fuels to affordable renewable energy to address fuel poverty and improve community wealth"

(c) "To create a green hydrogen export business on Shetland at industrial scale by harnessing offshore wind power and creating new jobs"

7.4.2. In January 2020, the initiative was presented to councillors, which led to the allocation of resources and staffing for three years, funded by the council's Harbour Account. By mid-2021, significant developments included the appointment of an oil industry adviser, collaboration with the Oil and Gas Technology Centre, and the formation of an industry steering group made up predominantly of energy companies such as BP, EnQuest, Equinor, Shell, TotalEnergies, Siccar Point Energy and SSE. This industry steering group was intended to provide guidance to ensure the project's success, to provide funding support, and to ensure the interests of these parties were recognised in the initiatives.

7.4.3. Regular bi-weekly meetings between the Sullom Voe Terminal incumbent operator EnQuest and SIC officials focused on exploring electrification and transformation possibilities within the Sullom Voe Region. There is no publicly available indication of community participation or shared ownership discussions having taken place during this phase, however the minutes from these discussions are not publicly accessible for review.

7.4.4. In November 2021, a petition was submitted to the SIC at Lerwick Town Hall, opposing the broad delegation of decision-making powers to non-elected council officials and highlighting the significant long-term impact these decisions could have on the community[120]. Despite the concerns raised, the council approved the delegation of authority to the Chief Executive (or their nominee) in dealings with private entities and governmental representatives.

7.4.5. While the ORION project was managed effectively by the local authority, successfully showcasing Shetland's geographic and natural resource advantages, and generating significant international interest in Shetland's development potential, it remains unclear what progress was made in advancing opportunities for community ownership, participation or wealth building.

[119] https://onepetro.org/SPEOE/proceedings-abstract/21OE/3-21OE/469034
[120] https://www.shetnews.co.uk/2021/11/24/councillors-respond-to-concerns-from-petitioners/

7.5. Shetland Climate Change Strategy

7.5.1. In December 2023, the SIC Climate Change Strategy 2023-2027 was approved by councillors along with an associated Action Plan and framework for monitoring and reporting on progress[121]. The strategy includes a commitment to delivering a Just Transition by maximising the social, economic and environmental co-benefits to the council and community.

7.5.2. The SIC Climate Change Strategy is a comprehensive document which highlights the co-benefits that could flow from investment in net zero projects. It also specifically highlights "the economic potential for local or community ownership of future revenue generating projects".[122]

7.5.3. In January 2020, the SIC recognised the urgency of the climate crisis, declaring a climate emergency. This declaration was the first step in commissioning an extensive investigation into Shetland's baseline emissions and net zero pathways through the 'Net Zero Route Maps'. These studies outlined pathways to reducing greenhouse gas emissions, both for the SIC's own operations, and Shetland as a whole.

7.5.4. The development of the SIC's Climate Change Strategy built on this work through extensive stakeholder engagement and public consultations. The strategy was co-developed with all service areas within the SIC to improve the likelihood of effective integration across operations, and to ensure alignment with national policies. In taking this approach, the SIC aimed to balance the need for ambitious climate-focussed actions with the practicalities of implementation across all areas of council service.

7.5.5. The resulting strategy and action plan covers the period from 2023 to 2027. It aims to guide Shetland towards achieving net zero emissions by 2045, aligned with Scotland's broader climate target. The strategy addresses areas such as energy, buildings, transport, and nature-based solutions, and has established actions and owners for each area.

7.5.6. The council has committed to regular progress reviews and annual reporting, ensuring that actions remain on track and that the strategy can be adapted in response to new data and changing circumstances. The strategy has a strong focus on decarbonising the council's vehicle fleet, including transitioning ferries and planes to low-emission alternatives. Improving energy efficiency across public buildings and supporting peatland restoration efforts feature strongly, with a central commitment to achieving a just transition for Shetland.

7.6. Shetland Energy Strategy

7.6.1. The SIC is also developing Shetland's first Energy Strategy, with four priority long-term outcomes:

a) **Reduce emissions**: Bring Shetland land and marine based energy emissions to net zero and contribute to national targets through the export of clean energy.
b) **Secure affordable energy**: Secure all Shetland energy consumption from affordable islands-based generation
c) Create and retain local wealth: Generate £100m a year of diversified economic revenue to the Shetland economy
d) **Skills and capacity development**: Local supply chain adapted and grown to support new industries in clean energy employing 500 people in Shetland

7.6.2. The energy strategy currently remains in draft form[123] after the council voted in March 2024 to delay its publication[124] following concerns raised by Shetland Net Zero Energy Forum (and some councillors)

[121] https://www.shetland.gov.uk/climate-change/sic-climate-change-strategy#:~:text=On%20Wednesday%2013%20December%202023,need%20for%20a%20Just%20Transition
[122] https://www.shetland.gov.uk/climate-change/sic-climate-change-strategy, p16
[123] https://www.shetland.gov.uk/downloads/file/7624/shetland-energy-strategy-draft-
[124] https://www.shetnews.co.uk/2024/03/28/energy-strategy-remain-draft-now/

that it lacked “vision, priorities and focus”[125]. Voar understands that the SIC is now actively reviewing how best to maximise community benefits and wealth building from the energy transition.

7.7. Spectrum of community value realisation

7.7.1. Within each of the three broad model of community participation introduced in 1.3 (and discussed with reference to specific Shetland examples in 0), there is a wide range of project-specific configurations that are open to communities seeking to secure value from energy developments. Figure 12 lists some examples of these in descending order, from those models which typically return the most value through ownership and participation, to those typically generating less value via community benefit payments.

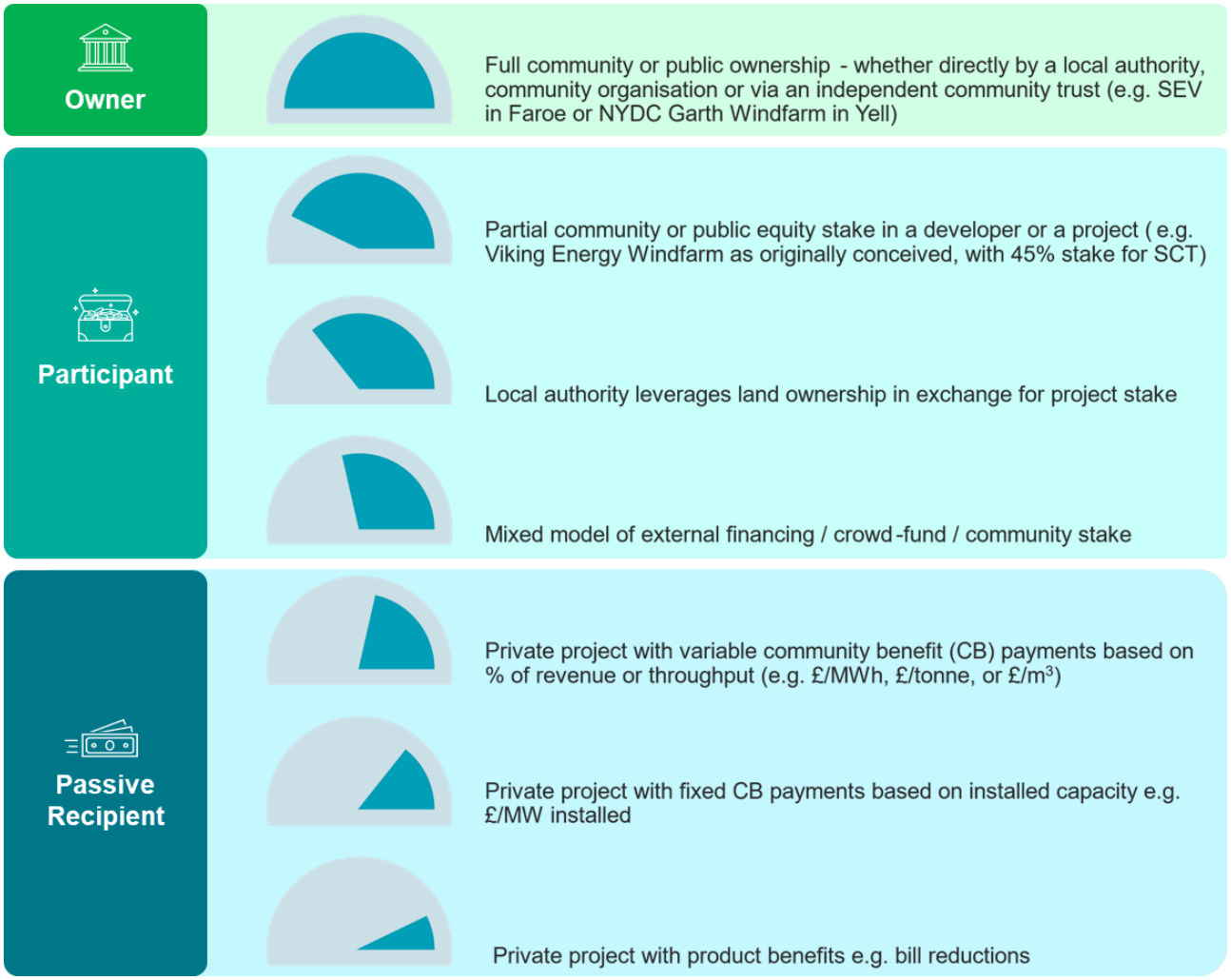

Figure 12: Indicative spectrum of community value realisation

7.7.2. This spectrum is intended as a general overview of some available models. It is important to note that the more ambitious schemes typically require more capital, assets, risk appetite – or at the very least “sweat equity”, whereby a community earns a stake in a project by carrying out or supporting the up-front development work to identify sites, secure consents, etc. This list is not definitive, nor is the order here set in stone: some of these schemes could be combined and (while not typically the case) it is possible that product benefits such as affordable (or free) electricity could represent greater value for a given community than an equity stake or community benefit payment in particular cases.

[125] https://www.shetnews.co.uk/2024/02/28/industry-expresses-grave-concern-lack/

7.8. Securing value from future developments: main points

Currently, UK onshore wind projects typically offer communities £5,000 per megawatt of installed capacity each year (index-linked from first power) and a precedent has now been set for payments of this level in offshore wind.
Despite their potential, community-owned renewable energy projects in Scotland face significant hurdles due to structural regulatory challenges as well as competition with international energy companies for grid connections, land and subsidy support.
Community wealth building approaches (see Appendix A for more details) can help ensure that more of the economic benefits and resource value from developments remain within the communities that host these.

PART 8: CONCLUSIONS

Community ownership and participation can deliver greater gains than community benefit schemes.

8.1. Conclusions

8.1.1. Shetland is a community of extremes, facing unique challenges as one of the smallest and least populous local authority areas in Scotland: hosting Scotland's largest oil terminal, yet suffering the highest fuel poverty rates; and hosting the UK's most productive onshore windfarm, yet earning lower community benefit relative to the output of those turbines.

8.1.2. The lessons from Shetland's energy sector are broad and varied. They range from the lost opportunities of the Viking Energy project to some of the most successful instances of community wealth building observed anywhere in the UK. As Shetland transitions to renewable energy, it is vital that community ownership and participation is structured to ensure substantial and lasting returns. The historical community benefits derived from the oil and gas sector provide a blueprint for negotiating future energy developments. Shetland could leverage its past successes by insisting on legal frameworks and community-centred agreements that build significant community wealth. In doing so, Shetland could provide an example for other areas to follow.

8.1.3. Through various novel means, Shetland was able to build and retain significant community wealth from the oil and gas industry (see Part 3). This precedent has led some local politicians to question whether Shetland should accept business-as-usual approaches with regards to new energy. Culturally, Shetland has strong Nordic links: Lerwick is closer to Tórshavn and Bergen than Edinburgh, and the benefits of municipal and state ownership of energy in Faroe and Norway have been witnessed first-hand by many Shetland residents. Bolstering Shetland's socio-economic resilience requires more than community benefit payments. A Community Wealth Building (CWB) approach based on an ambitious interpretation of the CWB principles adopted by the Scottish Government could capitalise on Shetland's natural resources to secure the future prosperity and wellbeing of islanders. By aligning the strategic use of its assets and resources with the Community Wealth Building principles advocated by organisations such as the Democracy Collaborative, the Centre for Local Economic Strategies and Future Economy Scotland, Shetland could secure a sustainable and prosperous future for its community.

8.1.4. Securing a fair share of the value from Shetland's energy developments in the current economic and political climate is a challenging task which requires local authorities and communities to develop their own tools and capacities, including using their soft power to shape national policies and influence decision makers. A case can be made that the apolitical nature of local government in Shetland (where most councillors have no party allegiance and some are on record as saying they consider their work to be non-political) acts as a brake on more progressive action. In addition, it could be argued that the absence of a clear and ambitious strategy, coupled with the delegation of decision-making on energy sector strategy to council officials, tends to diminish Shetland's democracy and the capacity to secure policy changes that might better serve the long-term interests of Shetland residents.

8.1.5. The means for achieving a fair deal for communities include, but are not limited to:

(a) The **political leadership** to aim for ambitious outcomes and **political alignment** to follow through on these aims (in the case of local authorities).

(b) Developing **energy sector knowledge and experience** to understand the nature of the opportunities and risks in each community; to define and implement effective strategies; and to negotiate effectively with well-resourced international energy developers.

(c) Securing **greater control and influence over energy planning** e.g., devolution of planning powers to local authorities, with more specialist energy planning bodies empowered by robust local planning policies – to ensure that the scale, pace and location of future developments are acceptable to host communities.

(d) Establishing grid access and **viable routes to market** for community-generated electricity in the distribution grid. For example, by reserving space in the distribution grid for community-

generated electricity or otherwise seeking to ensure that Grid Supply Points (nodes connecting local distribution grids to the national transmission grid) do not adversely affect new community energy projects. Developing local uses for power is a possible workaround where grid access is not available, although this is typically more costly and technically complex than securing a connection to the distribution grid. The securities, liabilities and cancellations costs associated with new connections also merit review.

(e) Leveraging local content stipulations and the application of the **community wealth building principles** outlined in the Scottish Government's National Planning Framework 4, to maximise jobs and business opportunities for local communities.

(f) Making use of and strengthening **community right to buy powers** to secure strategically important sites and infrastructure / buildings for community wealth building, and leveraging the value of existing land assets to secure returns from energy projects.

(g) Referencing and learning from **existing best practice examples of community benefit and wealth building**, to support the case for greater community returns.

(h) Prioritising policies and approaches that rapidly expand locally-driven community wealth building energy projects as part of the Scottish Government's upcoming Community Wealth Building Bill.

8.2. Conclusions on maximising community value and delivering a just transition

8.2.1. Figure 13 considers three priority outcomes that could help realise greater community value from energy projects, and thereby support a just transition.

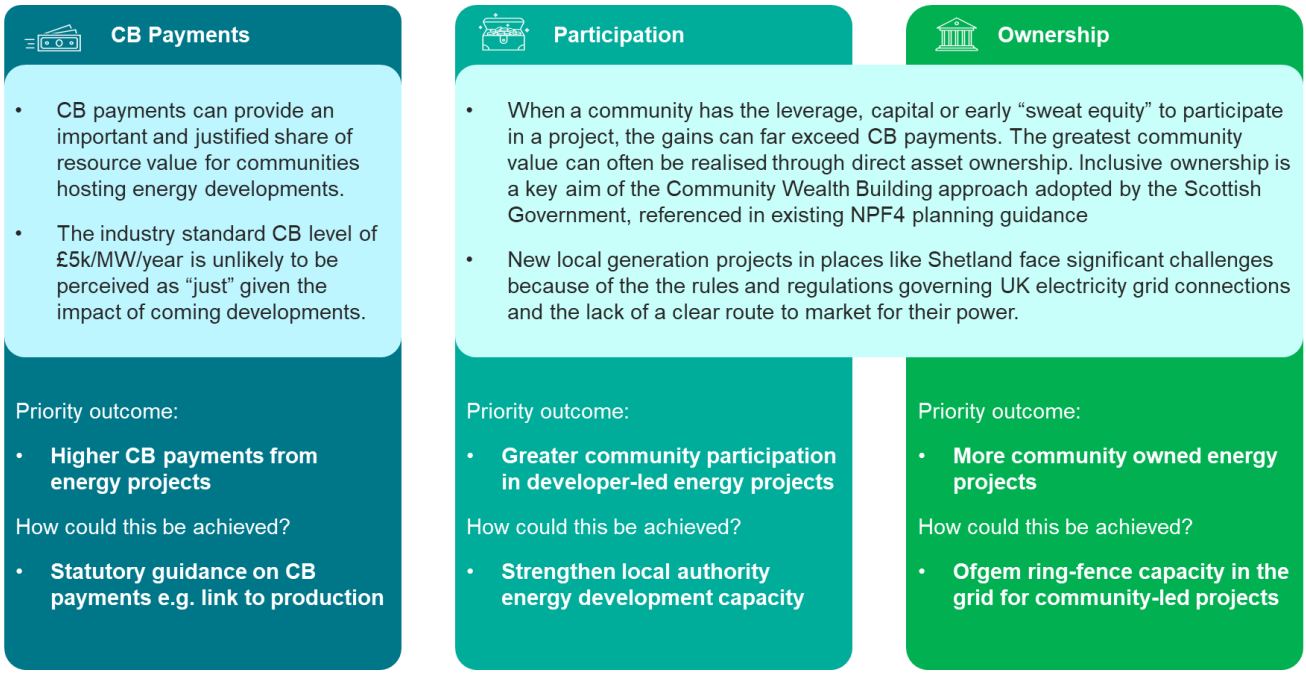

Figure 13: Means of realising greater community value from energy projects

9.1. Scope

9.1.1. This report was produced by **Voar** for the **Just Transition Commission**. It builds on an initial briefing which was shared with the Commission ahead of their visit to Shetland in May 2024. The report covers Shetland's interactions with energy developments past and present, with a specific focus on how community benefit has been achieved through the oil and gas era, and now the opportunities and challenges to achieve the same in the new energies era.

9.2. Authors

9.2.1. The authors of this report are:

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9.2.2. Voar is an energy transition consultancy. We provide services to project builders, government agencies and policymakers. The analysis in this paper has been undertaken independently by Voar. Any errors or omissions are our own. We are committed to providing high quality technical and socio-economic insights and would welcome feedback and dialogue on the contents of this report.

9.2.3. This study was supported with advisory input from Future Economy Scotland.

Appendix A – Community Wealth Building Definitions

Pioneered in the US by The Democracy Collaborative, Community Wealth Building is a model rooted in sustainability and redistribution that seeks to build power from the ground up through democratic ownership, where the objective is changing the flow of wealth so that it is more generative rather than extractive. At its heart, it is about the transfer of physical and financial assets into the hands of local economies and communities. As the Centre for Local Economic Strategies sets out, Community Wealth Building is centred on the following key pillars:[126]

(a) **Socially just use of land and property**: Land is an expression of economic power, and concentrated ownership of land and property continues to be a key driver of inequality. If stewarded through more equitable forms of ownership and management, land and property can be a source of local wealth generation centred on climate and environmental stewardship and social justice.

(b) **Plural ownership of the economy**: Central to the vision of CWB is scaling generative businesses – like small enterprises, community-owned initiatives, co-operatives, worker owned firms, and social enterprises – in which the wealth created is shared broadly between owners, workers and consumers, allowing wealth to flow through to local people and places – and back to them – rather than being extracted.

(c) **Making financial power work for local places**: The financial power principle of CWB is focused on increasing flows of investment within local economies by harnessing and recirculating the wealth that exists, as opposed to focusing on attracting external capital.

(d) **Fair employment and just labour markets**: CWB aims to increase employment opportunities as well as noticeably improving the quality and pay of jobs in a local area. As major employers, anchor institutions can make a significant impact on the livelihoods of people in the local community by taking measures such as the promotion of inclusive employment practices and paying the real Living Wage.

(e) **Progressive procurement of goods and services**: When it comes to how money is spent and how services are procured by anchor institutions, cost is often the dominant determining factor in who gets the contract. Critical considerations like workers' rights, climate and environmental considerations and social value are often given much less priority. CWB aims to develop dense local supply chains of businesses likely to support local employment and retain wealth locally.

While sometimes viewed as separate agendas, the origins, visions and missions of a just transition to net zero and Community Wealth Building are complimentary. If brought together, they can be a powerful force to tackle the intertwined crises facing Scotland's economy:[127]

b) Enabling a just transition for land and property: How land is owned, used and managed and use is key to achieving the Scottish Government's ambitions to deliver a just transition to net zero, scale up Community Wealth Building, and create a wellbeing economy. A report for Community Land Scotland explores how different landowner business models align with the principles and objectives of Community Wealth Building, concluding that community ownership delivers the strongest alignment.[128]

c) **Scaling plural ownership to decarbonise local economies**: Shareholders that are, for example, geographically remote and focussed on profits and share price are not well positioned to guide companies into a new era of climate and environmental sustainability. In contrast, the expansion of democratic business ownership can support a wide range of intertwined goals relating to climate,

[126] https://cles.org.uk/community-wealth-building/what-is-community-wealth-building/
[127] https://www.futureeconomy.scot/publications/63-rewiring-local-economies-community-wealth-building-for-a-just-transition
[128] https://www.communitylandscotland.org.uk/wp-content/uploads/2022/08/Report-2022- Community-Wealth-Building-and-a-Just-Transition-to-Net-Zero.pdf

environmental and economic justice. At a UK level, one in five social enterprises addresses the climate emergency as part of its core social/ environmental mission.[129]

d) **Mobilising green local financial power:** There is a need to channel sources of credit towards productive local investment, connecting lenders with localities by rapidly increasing flows of green investment within and to local economies, and to scale up models of democratic and locally-oriented financing that are geared to addressing - not deepening - climate and environmental crises.

e) **Promoting fair work for an equitable transition**: A just transition is not only geared to creating green jobs and supporting the reskilling and retraining of workers in carbon-intensive sectors. It is about delivering secure, well paid, unionised jobs through urban and rural Scotland alike. The parallel goals of Community Wealth Building and a just transition are again highlighted: both seek to actively reduce social, economic and regional inequalities, alleviate poverty, and increase living standards through fair work.

f) **Creating climate-resilient procurement:** The power of procurement can be used to reduce climate and environmental breakdown through, for example, giving weighting to environmental impacts in procurement decisions and targeting spending toward local low carbon suppliers along a green supply chain. Using procurement to protect and improve the environment - ensuring places where people live and work are cleaner and greener - is central to the wider goal of creating social value.[130]

The Democracy Collaborative identified the following attributes that successful community wealth building strategies have in common:[131]

(a) **Place-based**: Ensuring a “loyalty to geographic place” and developing local assets – including land, buildings and the natural environment – in ways that ensure that wealth stays local and is broadly shared.

(b) **Local, broad-based ownership**: Minimising absentee ownership, and ensuring that assets are broadly held and locally rooted over the long term, so that income recirculates locally.

(c) **Large local multipliers**: Prioritising local spending and investment to keep money circulating in the community and minimise wealth leakage from local economies.

(d) **Collaborative decision making**: Ensuring that a wide range stakeholders beyond the government and private sector are able to influence decision making, including local residents. Inclusive, well-paid jobs: Prioritising the creation of inclusive, well paid, local jobs in order to underpin living standards and economic security.

[129] https://www.socialenterprise.org.uk/app/uploads/2022/05/State-of-Social-Enterprise-Survey-2021-compressed.pdf
[130] https://cles.org.uk/wp-content/uploads/2020/06/FINAL-Restoring-public-values.pdf
[131] https://www.communitylandscotland.org.uk/wp-content/uploads/2022/08/Report-2022-Community-Wealth-Building-and-a-Just-Transition-to-Net-Zero.pdf