ISLANDS STRATEGY

ED3-S17

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OVERVIEW OF THIS DOCUMENT

PURPOSE OF THIS DOCUMENT

This strategy document covers all SSEN island groups, in North Scotland as well as the Isle of Wight. The island communities we serve are considered in six broad groups: Shetland; Orkney; Outer Hebrides; Inner Hebrides: Islay - Jura; Inner Hebrides: Mull, Coll & Tiree; Isle of Wight.



Figure 0.1: Isle of Wight Network

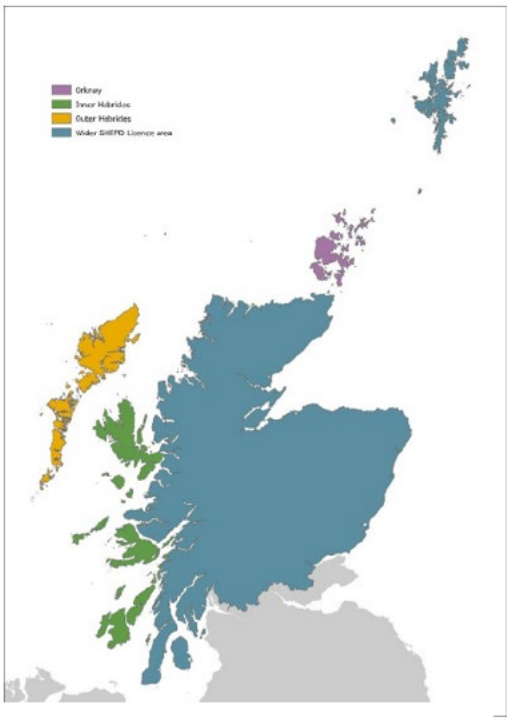


Figure 0.2: Scottish Islands Licence Areas

The energy infrastructure connecting islands to the mainland electricity grid forms a unique element of the GB energy system. Island groups are connected through a blend of subsea network infrastructure that is currently, in Scotland, complemented by back-up supplies from SSEN Distribution owned Diesel Embedded Generation (DEG) stations.

This landscape is changing. Rising requirements for electricity coupled with strong local aspirations for decarbonisation and community generation means we need to consider the future needs of the islands and how we can deliver this most efficiently. At the same time new Scottish Government legislation requires our embedded generation fleet to meet new stringent environmental requirements or be removed from the system. This Strategy document describes how we will approach the investments needed to deliver significant steps forward in both these areas through both reducing reliance on DEG and increasing energy capacity for island communities.

This work builds on the groundwork established in ED2 through the Hebrides and Orkney Whole System Uncertainty Mechanism (HOWSUM). Through HOWSUM and the associated Strategic Development Planning process we set out longer-term strategies for island decarbonisation and resilience. We noted that these were living strategies to be updated as insights develop. These strategic plans and the associated ED2 development funding have allowed us to already progress many island needs including Ofgem's endorsement of the cross-price control plans for Islay - Jura.

For our ED3 submission we have updated these strategies gathering additional stakeholder insights to inform future needs. Given the significant cost of island network investments and their potential impact on customer bills, affordability has been a central consideration in developing our ED3 strategy. We are seeking ex ante funding where the need, scope and efficient costs of the proposed intervention are sufficiently mature and evidenced. Where further assessment

is required to determine the most efficient solution and establish robust cost certainty, we are seeking development funding only. This will allow us to fully consider and develop options using our LRE Build and Flex Framework, assessing network, flexibility, generation and hybrid solutions. We will then use our proposed Islands Re-opener mechanism to request future construction funding once this development work is complete. Underpinning each island design is an island specific cost benefit analysis which ensures the future island resilience reflects the full range of risks and impacts for each island group. Within this document cost forecasts for both ex-ante development activities and forecast costs for potential ED3 options are quoted at an aggregated level for each island group. This enables maximum transparency and minimises the need for redacting this document

In ED3 we will deliver the already agreed projects associated with upgrades to Islay and Jura for [redacted]. We will develop further the ED3 works associated with other island groups, including consideration of non-network solutions, to finalise efficient, full costed options for [redacted] of potential ED3 projects. The cost submission and therefore development of these works is dependent on Ofgem maintaining a re-opener mechanism for Islands.

This strategy document should be read in conjunction with

(ED3-S01) Load Related Expenditure Annex

(ED3-S02) Long-term Integrated Network Plan

(ED3-S10) DSO Strategy

(ED3-S05) Delivery Strategy

SSEN_ED3_CrossoverAnnex – for detailed of crossover expenditure between RIIO-ED2 and ED3

(ED3-S20) Regulatory Framework Annex – for details of our proposed Islands Re-opener.

OUR ED3 COMMITMENTS, BENEFITS AND FUNDING REQUEST

By the end of 2033, we will strengthen resilience to island communities, reserving non-compliant embedded diesel generation for exceptional, unplanned events in line with environmental legislation.

Further we will deliver our previously agreed strategy to augment the network to the Inner Hebridean islands of Islay and Jura. This will allow us to remove reliance on Bowmore power station by the end of ED3 as well as providing the capacity needed by the internationally important distillery industry to decarbonise.

Overall, our plans will see us deliver over 200MVA of additional subsea cable capacity. This will allow local communities on the Inner Hebrides to decarbonise and will grow opportunities for community generation.

Table 0-1: Our ED3 outputs.

Our ED3 outputs	Consumer Benefit	Cost in our plan (£M)
N-1 compliance for all island groups with DEG by the end of 2033. Non-compliant DEG will only be used in emergency situations	Greater security of supply for customers on islands. Compliance with Scottish Government Environmental Authorisations (Scotland) Regulations (EASR)	[redacted] Ex-ante Development Funds [redacted][1] Potential Investment Funded Through Uncertainty Mechanism Requests
Removal of reliance on Bowmore DEG	Reduced carbon emissions from discontinued operation of Bowmore DEG	[redacted] Ex-ante Construction Costs
Over 200MVA additional subsea capacity created	Additional capacity for demand and generation customers on Islay and Jura	

This will be achieved through:

- **Ex-ante funding requests** for investments where the need, scope and cost are sufficiently mature to proceed and associated development funding to progress projects that are less mature; and
- **Uncertainty mechanisms** for investments where the need is identified, but an assessment of alternative solutions and further cost certainty are required.

For ED3, we have identified [redacted] of Scottish Islands investment that is sufficiently developed to be included within our baseline plan. This is the specific network investment for Inner Hebrides: Islay – Jura previously approved by Ofgem through the HOWSUM mechanism in January 2025. This programme funding is requested alongside [redacted] of development funding to confirm the precise schemes that will be recommended to Ofgem under the uncertainty mechanism for Shetland, Orkney, Outer Hebrides, Inner Hebrides: Mull - Coll – Tiree and Isle of Wight and to firm the detailed costing of these schemes by market testing through full commercial tender.

Recognising that our long-term Islands strategy extends beyond ED3, we are including an indicative uncertainty mechanism ED4 development cost of [redacted]. This will support the early development activities for the next phase of works that will be required in the ED4 period and will be requested through the Islands Uncertainty Mechanism.

[1] [redacted] represents the indicative potential investment to be funded through the Islands Re-opener. In addition to this we have included indicative ED4 development cost of [redacted] and an indicative allowance of [redacted] for subsea cable fault contingency. The total indicative Islands Re-opener value is therefore [redacted].

As the impacts of subsea cable faults can have a significant impact on our island communities, we have included an indicative uncertainty mechanism for subsea cable fault contingency allowance of [redacted]. Given the complexity and cost of subsea cable fault repairs, this is in addition to our baseline fault allowances and is to be used in the event of a critical subsea cable fault which would be sought through the Islands Uncertainty Mechanism if required.

The tables below summarise the investment included in our ED3 baseline and Uncertainty Mechanism.

1. Investments proposed for ex-ante funding in ED3

Table 0-2: Summary of Island Interventions and ED3 Funding

Island group / programme	Strategic intervention	Funding position	Indicative ED3 distribution cost (£M)
Inner Hebrides: Islay - Jura	Delivery of the approved Islay-Jura reinforcement programme, comprising new 66kV connections and associated resilience works	Previously approved through HOWSUM January 2025[2]	[redacted]

Associated Price Control Deliverable (PCD)

By 31 March 2033 deliver outputs that support ED3 demand in line with providing a multi circuit solution to Islay and Jura. This solution would be capable of providing N-2 resilience for full island demand / capability for long duration outages specifically related to the loss of up to two in feeding subsea cable circuits, with a minimum subsea cable transfer capacity of 70MVA per subsea cable.

2. Pre-construction and development funding proposed for ex-ante funding in ED3

The table below lists pre-construction and development funding for each island group. This includes development of non-network solutions as well as further optioneering to ensure our proposals are robust ahead of submission.

Table 0-3: Island Pre-Construction Activities and ED3 Costs

Island group / programme	Pre-construction next steps	ED3 distribution cost (£M)
Shetland	Complete on-shore and subsea route surveys, assessment of credible alternatives, detailed design, solution specification and full market testing	[redacted]
Orkney	Reassess on-shore and subsea phasing options, review interactions with related transmission projects, optioneering assessment, detailed solution design, solution specification and full market testing	[redacted]
Outer Hebrides	Complete route surveys including subsea surveys, assessment of credible alternatives, co-ordination of Distribution/Transmission interfaces, detailed design, full market testing	[redacted]

[2] Reference SSEN_ED3_CrossoverAnnex.

Inner Hebrides: Mull-Coll-Tiree	Complete on-shore and subsea route surveys, assessment of credible alternatives, detailed design, solution specification and full market testing	[redacted]
Isle of Wight	Subsea, landfall and onshore route surveys; environmental assessment, planning and consenting; land and wayleave development; detailed design of the underground, subsea and overhead-line sections; development of the Fawley and Cowes switchgear arrangements; coordination with National Grid on the Fawley interface; procurement and market engagement	[redacted]

3. Investments proposed for pre-construction and market test funding and subsequent uncertainty mechanism assessment

Table 0-4: Island Network Interventions and Indicative ED3 Costs

Island group / programme	Strategic intervention	Indicative ED3 distribution cost (£M)
Shetland	Integration of new Yell GSP into Distribution network, supported by reinforcement of the on-island network.	[redacted]
Orkney	Strengthen the mainland Orkney supply through completion of the Thurso South-South Ronaldsay 66kV connection and uprating of the existing subsea network to 66kV.	[redacted]
Outer Hebrides	Strengthen the Uist network through new 33kV infrastructure between Dunvegan, Loch Pooltiel and Loch Carnan and secure the Lewis/ Harris network through new 66kV infrastructure at Ardmore to Beacravik.	[redacted]
Inner Hebrides: Mull - Coll - Tiree	Provide a new Mull-Coll subsea connection, supported by reinforcement of the mainland network between Taynuilt, Connel and Tullich.	[redacted]
Isle of Wight	Mature the fourth 132kV Fawley–Cowes circuit and maintain a credible route towards commissioning in early ED4.	[redacted] **(ED3)** [redacted] **(ED4)**
ED4 Development Funding	Early development work for schemes required in the ED4 period in line with our long-term strategy for the Islands.	[redacted]
Subsea Cable Fault Contingency	To enable repair or replacement following a major subsea cable fault.	[redacted]

1. EXECUTIVE SUMMARY

The Scottish Islands and the Isle of Wight are some of our most remote and exposed communities served by a blend of subsea infrastructure and back-up generation which is unique in the UK. In these locations our customers and stakeholders strongly support local decarbonisation, often underpinned by ambitious targets. They support us taking a long-term approach to network planning, to address the challenges facing the electricity network, including climate change, resilience and changing patterns of demand.

For Scottish islands this need is further strengthened by Scottish Government Environmental Authorisations (Scotland) Regulations (EASR) which came into force in November 2025. These require stringent limits to be in place to limit NOx emissions. Whilst island DEG have derogations to continue operation into the next decade, we recognise that this will also drive a need for investment in island networks and energy infrastructure, and work is needed now to ensure we will be able to meet these future requirements.

Investment in new subsea assets is costly, and we need to ensure we are developing a network that meets stakeholders' needs through to 2050. We have considered this focussing on three core drivers for change:

1. **Ensuring appropriate resilience for island communities:** Resilience conditions for islands are unique given the geographies and potential lengthy system outages in the unlikely event of a subsea cable fault. We have developed a specific resilience strategic policy (Resilience Strategy for Island Groups Connected by Subsea Cables) for the treatment of these island groups, recognising the impacts of decarbonisation on electrification of heat and transport. We plan to achieve the resilience levels in our strategic policy through staged interventions potentially supported by third party solutions including community generation projects using our Build and Flex framework.
2. **Accommodating future demand and generation growth:** Electrification of heat, transport and industrial processes on the islands will increase island demand. Also, islands and surrounding waters have significant potential for wind and tidal generation.
3. **Managing the future role and compliance of our diesel generation fleet:** In addition to EASR impacts on NOx emissions, DEG is a significant source of our scope 1 carbon emissions when required to run for long periods of time. Emissions, due to DEG reached 12,595 tCO2-e in 2024/25 across the Outer Hebrides fleet, and we must reduce these to 7,239 tCO2-e for the entire DEG fleet by 2032/33 to meet our 1.5-degree Science Based Target (SBT).

In ED2 we developed long term strategic plans for Orkney and Hebridean Island groups as part of our proposals for the Hebrides and Orkney Whole System Uncertainty Mechanism (HOWSUM). These strategic plans were developed through a whole system approach considering multiple drivers including decarbonisation of our DEG fleet and consequential future network resilience, as well as ensuring future network needs were met. They considered future island resilience and introduced our Resilience Strategy for Island Groups Connected by Subsea Cables shared with Ofgem as part of our January 2025 HOWSUM Re-opener application.

We have taken a similar whole system approach, building on these plans and bringing in other islands, including Shetland which had previously been considered separately, to develop our ED3 submission. Through ED2, we have worked closely with local stakeholders, customers, market participants, government bodies, Transmission Owners and NESO to develop long term Strategic Development Plans to meet the future energy needs of island communities. These plans provide a strong, stakeholder evidenced, foundation for the updated strategies presented in this ED3 strategy.

Cognisant of Ofgem feedback in ED2, we have refined our approach to Strategic Development Planning as follows:

- Development of our initial strategic plans to meet the ambitious anticipated needs of island communities – the clear steer from Ofgem is to ensure subsea cable capacity investments are appropriately sized to meet the future potential needs of island communities. Working closely with the Island Centre for Net Zero (ICNZ) and local communities, we have established a robust evidence base for the future energy needs of Scotland's island groups, including electricity demand forecasts to 2050 for the Outer Hebrides, Orkney and Shetland. Building on our ED2 strategic plans, we have rigorously assessed a range of whole-system solutions to identify

the most efficient, deliverable and value-for-money pathway to support these communities' long-term growth and decarbonisation ambitions.

- Delivery of needs required in the ED3 period – We have reviewed these long-term strategic plans against the current t-RESP forecasts to understand the actual needs required in the ED3 period. This ensures that, whilst our projects remain consistent with the strategic long-term plan, we are only building against credible shorter-term needs and demand forecasts including consideration of any t-RESP Strategic Energy Needs.
- Maximising usage of existing Distribution assets – We have legal obligations to meet stringent Scottish Government regulations for Nitrogen Oxide (NOx) emissions from our DEG fleet. By the end of 2033 we cannot use non-compliant DEG (which currently forms most of our fleet) on a planned basis. However, we are mindful that use of DEG can help manage consumer bills impacts and defer the need for additional network investment. We have therefore rigorously explored how we can continue to use DEG through ED3 and beyond until we are required by legislation to cease use on an unplanned basis in 2039.
- Managing uncertainty – Investment in subsea cable infrastructure is costly and we need to ensure that any investment cases are robust. There are several cases where either the identification of the most efficient option or the robust costing of the delivery solution is uncertain at this time. We believe that an Uncertainty Mechanism approach, building on the HOWSUM approach in ED2, provides an appropriate funding mechanism for such needs. Coupled with appropriate development and pre-construction funding, we have seen how we can continue to efficiently develop proposals to a point where they are sufficiently certain and can be submitted for approval to Ofgem. This also allows further time to develop potential non-network solutions such as community generation and robustly consider the future options for our DEG fleet. We are proposing a single overarching Islands Re-opener in ED3, that builds upon our experience and learning from the HOWSUM mechanism and the Shetland Enduring Solution Reopener. Our intent is to create a single Island Uncertainty Mechanism that is more comprehensive and responsive, enabling timely investment decisions where delays would materially increase deliverability risk. This is particularly important for offshore scenarios, where short annual construction windows mean that deferred decisions can result in lost delivery opportunities and significant programme delays. See (ED3-S20) Regulatory Framework Annex for further detail.

The Isle of Wight has the same defining characteristic as the Scottish islands: it is an island demand group dependent on a small number of strategic mainland-to-island subsea circuits, with no alternative electrical supply route of equivalent scale.

Our engagement with stakeholders on the Isle of Wight demonstrates that they value cleaner transport, more local generation, economic opportunity and a fair net zero transition. Generation export constraints risk delaying or limiting projects that could contribute to local net zero ambitions, community energy development and improved energy resilience. Decarbonisation opportunities for the transport sector on the Isle of Wight are extensive, but the electrification of vessels, portside charging infrastructure, depots and associated land transport depends on timely access to sufficient grid capacity.

For the Isle of Wight, upgrades to on-island distribution assets, and installation of a fourth subsea cable, would support the transition from a traditionally demand-led system to one capable of accommodating new patterns of electricity use, local generation and flexibility opportunities. Increasing demand for electricity will drive a winter peak where the full group demand cannot be sustained during a credible and potentially prolonged second circuit outage. The need for intervention to address this situation is reflected in our Resilience Strategy for Island Groups Connected by Subsea Cables.

Our ED3 commitments supported by this strategy

	ED3 Commitment	Metric
More resilient networks for customers		
We will modernise our network and assets,	**Compared to a 'do-nothing baseline', we will reduce overall network risk by targeting investment on our highest-risk assets, rebuilding or undergrounding ~350km of high-risk overhead line and**	Strengthen resilience to island communities, reserving non-compliant embedded diesel generation for exceptional, unplanned events in line with environmental legislation.

	ED3 Commitment	Metric
and strengthen climate resilience	replacing ~250km of climate-vulnerable cable, removing 20% of network risk in SEPD and 12% in SHEPD by the end of ED3.	

2. THE DRIVERS FOR CHANGE

Our strategy is shaped by three related drivers:

1. **Ensuring appropriate resilience for island communities**
2. **Accommodating future demand and generation growth**
3. **Managing the future role and compliance our diesel generation fleet**

These drivers are interdependent. Island demand is expected to become more dependent on electricity as heat, transport and industrial processes decarbonise. At the same time, the long restoration periods associated with subsea cable faults create resilience risks that are not fully captured by conventional network-planning requirements. Existing DEG continues to provide essential resilience, but the age, condition and environmental compliance of the fleet mean that its future role must be carefully considered.

2.1 ENSURING APPROPRIATE RESILIENCE FOR ISLAND COMMUNITIES

Island groups require a distinct approach to resilience because their connection to the wider electricity system is often dependent on subsea cables. Although faults on these assets are infrequent, locating, repairing or replacing a failed subsea cable can take several months. During that period, a further circuit outage could have a sustained and material impact on island communities.

This risk is becoming increasingly important as the electrification of heat, transport and industrial processes increases communities' dependence on a secure electricity supply. The duration and potential consequences of subsea cable outages therefore require consideration beyond the conventional assessment of whether the network meets minimum planning standards.

Engineering Recommendation P2/8 establishes minimum security-of-supply requirements according to the level of group demand, set out in Table 1 of that document. It remains the principal standard against which network compliance is assessed.

However, P2/8 does not fully differentiate between the restoration challenges of subsea cables and more easily accessible onshore assets. A network may remain compliant with P2/8 while still being exposed to the risk that a subsea cable fault could take months to repair.

Our specific islands strategic policy: Resilience Strategy for Island Groups Connected by Subsea Cables supplements P2/8 by setting a resilience ambition for demand groups reliant on subsea cables. It does not replace existing P2/8 planning requirements and is not intended to be retrospectively applied to the existing network. Instead, it informs future investment decisions and the strategic development of island networks. This approach informed our HOWSUM submissions during the ED2 period.

Table 2-1 below summarises the relationship between the P2/8 demand group category and our specific strategic policy treatment for islands in each category, as well as applying this to the islands in our license areas.

A note on terminology:

N-1 means the island group is fully demand secured in the event that one in-feeding subsea circuit is out of service.

N-2 means that the island group is fully demand secured in the event that two in-feeding subsea circuits are out of service.

Table 2-1. Island groups and their long-term categorisation under P2/8 and the Resilience Strategy for Island Groups Connected by Subsea Cables.

Island group fed by subsea cable	P2/8 demand security category based on 2050 tRESP demand	SSEN Resilience Strategy for Island Groups Connected by Subsea Cables
Shetland	D	Group demand secured for a sustained, long-duration N-2 condition through a combination of network assets and local generation, including third-party solutions.
Orkney	D	
Isle of Wight	D	
Lewis & Harris	C	
Uists, Benbecula, Eriskay & Barra	C	
Mull, Coll & Tiree	C	
Islay - Jura	C	
Barra	B	Group demand secured for a sustained, long-duration N-1 condition through a combination of network assets and local generation, including third-party solutions. N-2 conditions managed through portable generation or existing on-island generation where available.
Tiree & Coll	B	
Colonsay	A	A contingency plan is maintained to manage the loss of a single subsea cable circuit in accordance with P2/8. Portable generation may be mobilised to restore supplies until repair is completed.

For Category C and D island groups, our ED3 commitment is to secure full island-group demand following the loss of one in-feeding subsea circuit without planned reliance on DEG. Our longer-term ambition is to maintain full demand during a sustained N-2 condition through an appropriate combination of network assets, compliant local generation and credible third-party solutions.

For Category A and B groups, the resilience approach reflects the lower group demand and the potential role of existing or portable generation. In all cases, the preferred solution will be determined through island-specific optioneering and cost-benefit assessment.

In the event we do experience a subsea cable fault, we have included an indicative Islands Uncertainty Mechanism cost in our business plan to allow us to repair or replace the asset – this would be requested through the re-opener if required.

2.2 ACCOMMODATING FUTURE DEMAND AND GENERATION GROWTH

Island communities are undergoing significant change as heat, transport and industrial processes decarbonise and new renewable generation opportunities emerge. These changes will increase electricity demand and may alter the

scale and direction of power flows across island networks. Our long-term pathways must therefore provide sufficient capacity for credible future demand and generation requirements, while avoiding premature investment based on developments that remain uncertain.

Future growth on the islands is highly location-specific. Regional forecasts may not fully capture the scale, timing or network location of maritime electrification, industrial decarbonisation, community energy projects and other major local initiatives. This is particularly important on island groups with smaller demand, where a relatively small number of projects can materially change future network requirements.

For ED3, the transitional Regional Energy Strategic Planning process, or tRESP, provides the common planning baseline for our load-related investment decisions. This is combined with existing network demand, contracted connections and other validated planning inputs to identify where constraints may arise, and which elements of an island's long-term pathway are required during ED3. Sensitivity analysis is then used to test how different rates of demand and generation growth could affect the timing or scale of the intervention.

However, subsea cables and associated island infrastructure are long-life strategic assets that are costly and disruptive to reinforce. When an intervention is required, it must therefore be developed with an understanding of credible longer-term needs as well as the immediate ED3 trigger. This reduces the risk that infrastructure delivered during one price control is undersized for foreseeable requirements and requires further intervention shortly afterwards.

Our approach does not treat every local ambition, early-stage project or potential decarbonisation pathway as a firm network requirement. Instead, island-specific evidence is assessed for credibility, checked against the common planning baseline and tested through power-system analysis and whole-system optioneering.

Generation requirements are considered alongside demand growth. Island communities have significant renewable-energy resources and ambitions for community generation, but the timing and scale of future generation connections can be uncertain and may be affected by wider transmission development and GB Connections Reform. We therefore consider credible generation requirements when developing long-term pathways, while avoiding investment that depends solely on projects that have not reached sufficient maturity.

This combination of a common planning baseline and validated island-specific evidence enables a proportionate approach. It allows us to respond to needs that are sufficiently certain within ED3 while maintaining a coherent and appropriately sized pathway towards the longer-term development of each island network.

We use the tRESP, supplemented by island-specific information to inform our investment planning:

> **Long-term pathway development**: Island-specific evidence is used alongside the tRESP-aligned baseline to identify credible requirements through to 2050 and ensure that strategic interventions are not undersized for foreseeable future demand, generation and resilience needs.
>
> **ED3 investment timing**: The tRESP-aligned planning baseline is used to determine which elements of the long-term pathway are required within the ED3 planning horizon.

2.2.1 ISLAND CENTRE FOR NET ZERO (ICNZ) INSIGHTS

The Island Centre for Net Zero (ICNZ) is a partnership-led initiative that works with island communities, industry and public-sector organisations to develop locally informed evidence on future energy demand, generation and decarbonisation opportunities across Scottish island groups. We have worked closely with them to understand in greater detail credible energy development pathways for the islands. This additional evidence does not replace the tRESP-aligned baseline. Instead, it provides greater insight into developments that may not be fully represented within regional planning datasets and helps ensure that strategic infrastructure is appropriately sized. These inputs are reconciled with the common planning baseline and other forecasts to avoid double counting.

ICNZ provided granular, place-based projections addressing potential future industrial demand, generation and decarbonisation requirements across Orkney, Shetland and the Outer Hebrides. The work drew on locally sourced

information and engagement with local authorities, communities, industry, developers and energy-sector experts. It also considered early-stage developments that had not yet entered the formal connections process.

We developed a clear four-step methodology to determine how the ICNZ evidence should be reflected in network analysis and resulting Investment Decision Packs:

1. **Data selection**: the ICNZ evidence is compared with the existing planning forecast to identify developments that are not already represented and avoid double counting.
2. **Confidence assessment:** potential developments are assessed according to their precision and likelihood. Only medium- and high-confidence insights are taken forward.
3. **Data validation**: the underlying scale, activity and energy assumptions are checked and corrected where necessary.
4. **Demand evaluation**: proportionate confidence weightings are applied, and the resulting additional demand is allocated to the relevant primary substation for power-system analysis.

Under the current methodology, high-confidence projections receive an 80% loading factor and medium-confidence projections receive a 50% loading factor. Low-confidence projections are excluded. This provides a proportionate means of recognising credible local evidence without assuming that every potential development will proceed in full.

2.2.2 SCOTCH WHISKY ASSOCIATION (SWA) INSIGHTS

We have also undertaken targeted sector engagement where individual industries could create material local demand growth. On Islay - Jura, engagement with the SWA and individual operators provided additional evidence on distillery expansion, current energy use and potential decarbonisation pathways. Distillery heat requirements are currently largely met through fossil fuels, and electrification could create a significant increase in electricity demand relative to the existing island load.

This evidence was used to develop demand pathways reflecting different levels of confidence in the available information. Existing demand and firm plans informed the higher-confidence requirements, while longer-term sensitivities considered more extensive electrification of distillery processes. The analysis recognised that operators may also pursue energy efficiency, biofuels or other decarbonisation routes, and therefore did not assume that all industrial heat demand would transfer to the electricity network.

The Islay - Jura work demonstrates the importance of credible local evidence when sizing strategic island infrastructure. During the HOWSUM assessment, stakeholder-led distillery forecasts were incorporated into network analysis and higher-demand sensitivities were assessed. This contributed to the reassessment of the original 33kV proposal and the subsequent development of the funded 66kV pathway, providing greater capacity for credible long-term requirements.

2.2.3 ISLE OF WIGHT INSIGHTS

We have applied the same principle of place-based planning beyond the Scottish islands. On the Isle of Wight, previous work undertaken with Regen and Isle of Wight Council, supplemented by more recent stakeholder engagement, provided local insight into future transport electrification, renewable generation and wider energy-transition requirements. This evidence has informed our understanding of the island's long-term network needs alongside the common planning baseline.

2.3 MANAGING THE FUTURE ROLE AND COMPLIANCE OF OUR DIESEL GENERATION FLEET

DEGs provide valued back-up supplies for the islands in the event of network outages. Our DEG units were established in the 1950s before the use of subsea cables as the main source of electricity to some island communities. Over time DEG units have evolved to be used as an essential alternative supply to subsea cables during outages and faults in these communities. Whilst acting only as a last resort, DEG units are currently required to ensure compliance with both Engineering Recommendation P2 (P2/8)[3] and the Distribution Code[4] on security of supply for these islands.[5]

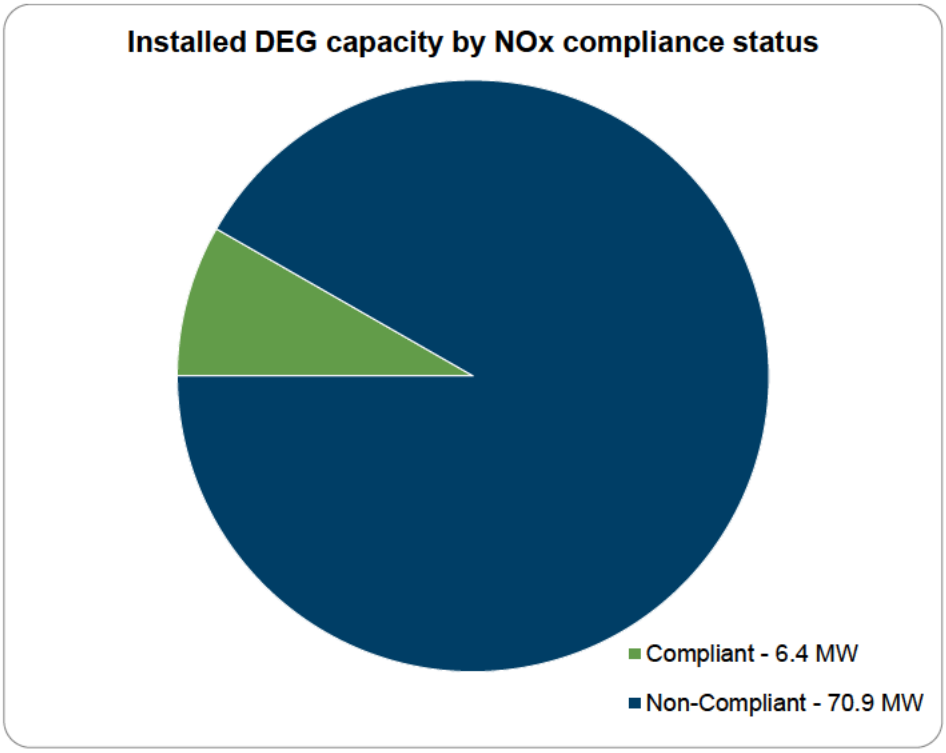
There are several drivers that affect the future needs of our DEG fleet:

- **Age and maintainability of assets**. Many of the engines in our DEG fleet are life expired and in need of either replacement or major refurbishment. Whilst routine maintenance and minor capex costs are covered within C8 and CV15 sections of this business plan submission, there are also emerging needs for more extensive works. This includes our units at Battery Point (Outer Hebrides) where current units do not meet required noise emissions levels. While we are already mitigating this to an extent through planned ED2 works at the Arnish DEG location, these will not be of sufficient capacity to fully replace Battery Point, particularly considering rising demands on Lewis and Harris.
- **Ongoing compliance with Scottish Government Regulations**. The Environmental Authorisations (Scotland) Regulations (EASR) came into force in November 2025 and include Schedule 27 - requirements of the Medium Combustion Plant Directive (MCPD) - and a new Schedule 26 – additional requirements on generators. Under Schedule 27 (MCPD) of EASR, all pre-2006 diesel engines (including SSEN's DEG fleet) must meet a NOx emission limit of 1850mg/Nm3. SEPA's draft guidance document applies a 190mg/Nm3 NOx limit to all generation in scope from 2030, with our embedded generation operating under the following derogations:
  - Running of embedded plant - planned – 31/12/33 (with review of end date by 31/12/30);
  - Running of embedded plant - unplanned – 31/12/39 (with review of end date by 31/12/35).

  This provides clear requirements for our DEG fleet meaning that by the end of 2033 we need to have an appropriate alternative solution to the planned use of non-compliant DEG. The majority of our DEG fleet would be non-compliant with these requirements as shown in Figure 2.1. We will therefore be required to either undertake capital works to facilitate compliance or deliver alternative solutions. We will fully assess capital works options through Best Available Techniques (BAT) assessments ahead of any Islands Re-opener submission and will include these costs if required.

[3] ENA EREC P2 Issue 8 (dcode.org.uk)
[4] Specifically PO-PS-037 in Distribution Code Annex 1; Microsoft Word - Section 11 Notice - Schedule 2 - POPS037.doc (Ofgem.gov.uk)
[5] For Lewis and Harris and also smaller parts of these networks, exemptions are in place.

Figure 2.1: Current DEG compliance status based on Schedule 27 (MCPD) of EASR.



- **Commitments on emissions reductions**. We were the first DNO to set an accredited 1.5-degree Science-Based Target (SBT) for greenhouse gas (GHG) emission reduction in October 2021, underpinning our ambitious programme of activities to drive down our carbon impact and to support others as they reduce theirs, such as the whisky industry. Overall, our SBTs aim for a 55% reduction in GHG emissions by 2033. As a business we will meet net zero by 2045 at the latest.

  Our RIIO-ED3 Environmental Action Plan (EAP) commits us to reduce reliance on DEG, exploring local solutions and flexibility opportunities to enable the removal of reliance on DEG in ED3 and beyond. The ambition detailed in this Island Strategy is critical to enabling that flexibility and achieving those local solutions. In order to meet net zero, we cannot continue with diesel generation and, therefore, must find suitable alternatives. This is more important than ever as increasing storm activity, due to climate change, leads to more faults and DEG station running times.

3. STAKEHOLDER ENGAGEMENT

Our ED3 approach to stakeholder engagement has built on the extensive engagement and insights developed through the ED2 HOWSUM process. This has included the importance of gathering local insights to build on our broader SSEN-wide approaches. It has also leveraged existing strong relationships with extremely knowledgeable and proactive stakeholder groups.

3.1 BUILDING ON INSIGHTS DEVELOPED FROM OUR BROADER SSEN-WIDE ENGAGEMENT

Our stakeholder engagement for Islands communities builds on the strong foundations we have developed across our licence areas for strategic planning. This ensures that we have a consistent approach to our underlying methodologies for key processes and engagement including DFES and Strategic Development Plans (SDPs). It also means that we are adopting and using t-RESP in a consistent manner.

Hence much of our general engagement on network planning and load related expenditure is consistent with feedback from island stakeholders. For example, in developing our Long-term Integrated Network Plan (LINP) we learned that customers and stakeholders want us to anticipate future risks, invest efficiently over time and avoid more disruptive or costly interventions in the future. In the north of Scotland and the Isle of Wight, island communities want us to continue to develop our long-term strategic approach to infrastructure investment that anticipates future challenges, maximises value for customers and communities, and maintains a reliable and resilient network for future generations.

Five consistent themes have arisen from our broader stakeholder work undertaken. These have influenced both our long-term perspective for the whole ED3 Business Plan and specifically, the continuing development of this Island Strategy:

1. **Reliable and resilient networks**
2. **Affordability and fairness**
3. **Supporting economic growth and electrification**
4. **Place-based planning and coordination**
5. **Transparency, engagement and trust**

These priorities provide the strategic context for the ongoing development of our proposals for our Islands Communities across ED3 and beyond. They reinforce the need for a transparent, long-term view of network development that enables stakeholders associated with the Islands to understand future investment requirements, align their own plans with anticipated network evolution, and see how investment decisions made during ED3 support longer-term outcomes through ED4 and towards 2050.

3.2 GATHERING LOCAL INSIGHTS ON FUTURE ENERGY NEEDS

Early stakeholder feedback on our HOWSUM approaches stressed the importance of gathering local insights to reflect the specific needs of island communities.

This was first progressed through work with Regen[6] which generated specific insights on the developments of each island group. We used these to inform both the development of future system needs on the islands and the development of options, critically including the timing of when these options will be needed. Similar work was undertaken with the Isle of Wight Council.

We followed this work with more comprehensive engagement with whisky distilleries on Islay and Jura and the Scotch Whisky Association (SWA). This yielded significant quantified outcomes enabling us to make pragmatic forecasts of

[6] Whole system energy solutions for the Scottish Islands - SSEN

distilleries' future energy needs. This provided us with key information to inform the long-term strategy for this island group.

In preparation for ED3 we have engaged the ICNZ to work with communities and stakeholders on the Outer Hebrides, Orkney, and Shetland island groups to understand their broader energy needs. This work has been invaluable in developing our updated ED3 strategies for these island groups enabling us to ensure we are building appropriately sized solutions to allow islands to decarbonise. Further details on our ICNZ work and how it has been incorporated into forecasts can be found in section 2.2.1. Summaries of some of our key stakeholder engagement activities that have guided our development of this strategy document are included in Appendix 10.2.

3.3 WORKING WITH LOCAL COMMUNITIES

We have received strong engagement and support from local community groups across all island communities.

- Island councils on Orkney, Shetland, and the Comhairle Nan Eilean Siar (local government for Outer Hebrides) have clear decarbonisation plans, have engaged through our work with ICNZ, and have proactively engaged with us on future developments.

- The Isle of Wight council has ambitious plans and a strong proactive stance. They have been a key stakeholder in the development of our Strategic Development Plan methodology. The Isle of Wight council value cleaner transport, more local generation, economic opportunity and a fair net zero transition. This was made very clear during extensive engagement in 2025 with stakeholders including several local MPs, the Isle of Wight Council and a broad spectrum of other engaged parties.

- We have engaged regularly with local energy groups including the Islay Energy Trust, Community Power Outer Hebrides, the European Marine Energy Centre, the Tiree Community Development Trust, the Argyll and Bute Renewables Alliance and the Sullom Voe Development Framework. They have been keen to promote opportunities for community generation.

These groups have provided valued insight to inform island communities' future needs. Their engagement and proactivity is also important in the next phase of work as we look to develop opportunities for non-network solutions such as community generation. We have already reached out to these groups to start these discussions to enable our first Uncertainty Mechanism application at the proposed window in April 2028.

3.4 ISLE OF WIGHT CASE STUDY

The Isle of Wight has the same defining characteristic as the Scottish islands: it is an island demand group dependent on a small number of strategic mainland-to-island subsea circuits, with no alternative electrical supply route of equivalent scale.

Our understanding of customer and stakeholder requirements for electricity in the future including studies with Regen and Isle of Wight Council[7] inform our load forecasts for the Isle of Wight. This shows that increasing demand for electricity will drive a winter peak where the full group demand cannot be sustained during a credible and potentially prolonged second circuit outage. The need for intervention to address this situation is reflected in our Resilience Strategy for Island Groups Connected by Subsea Cables.

As noted above, our engagement with stakeholders on the Isle of Wight demonstrates that they value cleaner transport, more local generation, economic opportunity and a fair net zero transition.

For transport, the opportunity is particularly significant. Ferry operators serving the island have explored a range of options regarding electrification of ferry services and the capability of recharging ferries on the mainland and on the

7 Net zero load growth - an evidence case for the Isle of Wight

island. Ports, local authorities, ferry operators and wider transport stakeholders are all facing increasing pressure to reduce emissions, but the electrification of vessels, portside charging infrastructure, depots and associated land transport depends on timely access to sufficient grid capacity.

There is also a clear opportunity to enable more local renewable energy generation. At present, generation export constraints risk delaying or limiting projects that could contribute to local net zero ambitions, community energy development and improved energy resilience. Potential community generation projects and associated stakeholders are seeking reassurance that capacity in the network will remove blocks to project development. Targeted investment in the distribution network would create greater headroom for solar, storage and other low-carbon technologies, allowing the Isle of Wight to make fuller use of its own renewable resources and reducing the need for clean energy projects to be curtailed or deferred.

During 2026, political engagement was escalated by local MPs leading to in-person meetings with the Energy Minister and DESNZ. MPs asked for confirmation that solutions could be developed to address the drivers and forecasts of demand growth, to address generation constraints through active network management, and to explore the possible routes for future investment, including a potential ED3 strategic investment case.

A specific stakeholder forum established to engage across the island asked for the Isle of Wight network to be incorporated into wider ED3 island resilience and load-related investment thinking, including 132kV supply resilience and long-term demand growth.

3.5 ENGAGEMENT WITH NESO AND SSEN TRANSMISSION

We have engaged extensively with NESO and SSEN Transmission during the development of this strategy and ED3 proposals.

- We shared our approach to Scottish Island strategic development with NESO early in the t-RESP process offering to provide further insights and information as required. We later engaged following our work with ICNZ, with NESO keen to see the outputs and discuss the approach.

- We engaged with SSEN Transmission in the development of both our initial strategic plans for Scottish Islands and in the updated plans contained in this annex. This has discussed transmission plans and project status for relevant island groups as well as discussions on the feasibility and deliverability of our proposals from a transmission perspective. This has allowed us to develop co-ordinated investment plans that deliver efficient whole system solutions. It has also informed our positioning on certain island groups where there has been recognition that further development work will be needed to understand the timelines for delivery of contingent transmission works.

3.6 ENGAGEMENT WITH SCOTTISH GOVERNMENT AND SEPA REGARDING EMISSIONS REGULATIONS

We have engaged fully with Scottish Government and SEPA through the development of the Scottish Government Environmental Authorisations (Scotland) Regulations (EASR) which came into force in November 2025. Through this engagement we secured a derogation to the legislation that allows us to operate non-compliant DEG on a planned basis until December 2033 and an unplanned basis until December 2039.

More recently we have engaged with each party to discuss our long-term strategies and proposals for ED3. As part of these discussions, it has been confirmed that Scottish Government has no intention at present for changing current regulations.

On this basis, our long-term strategies and ED3 proposals have been designed to allow compliance with the EASR. We will continue to work with both parties in our future island strategy refinement and UM development. This includes any long-term considerations of DEG and/or other network solutions.

4. OUR ED2 TRACK RECORD AND LESSONS LEARNED

4.1 OUR ED2 INVESTMENTS

The need to consider the future requirements of these communities formed an important component of our RIIO-ED2 business plan and was recognised by Ofgem through the introduction of dedicated mechanisms including the Hebrides and Orkney Whole System Uncertainty Mechanism (HOWSUM) re-opener, designed to deal with the region's set of unique circumstances. Through this process there was general recognition of the need to take whole system approaches in designing and delivering solutions for the Scottish islands.

As part of the RIIO-ED2 Final Determination, Ofgem provided [redacted] (2020/21 prices) of ex-ante HOWSUM development funding. This reflected the removal of HOWSUM construction interventions from baseline allowances while recognising that early development had to continue ahead of subsequent re-opener decisions. The original scope was principally offshore route and geophysical surveys, supported by landfall, environmental and onshore surveys, engineering feasibility, whole-system analysis and consenting. We have used this funding for its intended purpose, supporting the development of the January and July 2024 Outer Hebrides proposals and the January 2025 Orkney, Islay–Jura, Outer Hebrides and Mull–Coll–Tiree programme, as well as continued work following re-opener submissions including route optioneering, marine surveys, engineering design, environmental assessment and early consenting activity.

As the programme has developed, it became clear that the original allowance would not cover the full ED2 development requirement. Ofgem therefore approved a further [redacted] through the January 2025 HOWSUM re-opener to continue essential development during ED2 and lay the groundwork for ED3. This brings the total HOWSUM development funding to [redacted].

The ED2 development funding has enabled schemes to reach their current maturity—for example, strategic optioneering, desktop studies, route surveys and early design. The ED3 request relates to a continuation of these pre-construction activities and the next defined stages required after that date, including completion of outstanding surveys, detailed engineering, land and marine consenting and market testing to support future Islands Re-opener applications. Costs already incurred or forecast to be incurred in ED2 are excluded from the ED3 request, providing a clear price-control boundary and ensuring customers do not fund the same activity twice.

Our re-opener applications contained whole system schemes designed to align with identified drivers for change on Scottish Island networks. These schemes propose to deliver enhanced resilience for Island networks, decarbonisation of diesel embedded generation assets, and to deliver solutions sized in line with demand projections to 2050. The ED2 HOWSUM contained two re-opener opportunities; one window in January 2024 and another in January 2025.

<u>January 2024</u>

- We submitted our Jan 24 application to include whole system analysis and ED2 works for the Outer Hebrides (Lewis / Harris, Uist Islands, Eriskay and Barra). The reopener also included a retrospective funding ask for the Pentland Firth East 3 subsea cable to Orkney.
- We agreed with Ofgem a further staged application window in July 2024, enabling us to provide tendered costs for Skye-Uist.
- At final determination we were awarded [redacted] ex-ante funding for all ED2 interventions outlined in the reopener application.[8]

<u>January 2025</u>

[8] RIIO-2 Re-opener Applications 2024 Final Determinations – ED Annex, RIIO-2 ED2 Hebrides and Orkney Re-opener Final Determinations 2024 – Skye Uist

- We submitted our Jan 25 application to include ED2 capital investment for the Orkney Islands and the Inner Hebridean Islands of Islay and Jura, DEG running during network outages, and ED2 whole system analysis and development activities for the Outer Hebrides and Skye, and Mull, Coll and Tiree.
- At final determination we were awarded [redacted] ex-ante funding for approved ED2 interventions, and a further [redacted] for Islay – Jura for ED3, ED4 and ED5.[9]

We have included information within SSEN_ED3_CrossoverAnnex on ED2 projects which have ED3 allowances confirmed. We propose that where Ofgem has determined allowances for ED3 period during the ED2 period, these should be inserted directly into the ED3 licence as part of the ED3 price control setting process. We have therefore included these schemes within our BPDTs on this basis. This includes the Shetland Enduring Solution and Islay - Jura projects and, when adjusted for inflation, would total [redacted] (25/26 prices) of ED3 allowances. Shetland Enduring Solution costs can be found in C25 - Shetland (valued at [redacted]).

4.2 OUR ED2 PERFORMANCE

During ED2, we have moved the island programme from strategic planning into physical delivery. In line with our re-opener application, the Pentland Firth East 3 cable has already been energised, construction of the new Skye–Uist connection is substantially complete, and the remaining funded Outer Hebrides schemes are progressing through final consenting and delivery preparation. In parallel, route surveys, engineering design and optioneering have advanced the wider Orkney, Outer Hebrides, Mull, Coll & Tiree and Islay–Jura programmes. This development work has also identified where routes, costs or interactions with SSEN Transmission require further assessment before construction funding is committed. These schemes form the first stages of our 2050 whole system plans for the islands to provide a more reliable, resilient network to our customers. Table 4-1 below sets out the evidence of progress, the next major milestones and how each scheme will improve outcomes for island customers.

Table 4-1 Our ED2 Performance

Circuit	Project Status
Orkney: Pentland Firth East 3	**Project fully complete.**
Outer Hebrides and Skye: Skye – Uist **(Ardmore – Loch Pooltiel & Loch Pooltiel – Loch Carnan)**	**Construction is substantially complete.** Installation of the Loch Carnan–Loch Pooltiel cable and its associated protection works was completed in August 2026. The Ardmore–Loch Pooltiel cable has also been installed, with the Ardmore shore end temporarily stored offshore to avoid disturbance during the protected bird-breeding season. Shore-end works restarted in October 2026, with cable pull-in, final protection works, testing and energisation targeted for late 2026. The Loch Carnan reactor has been installed and successfully completed site acceptance testing. The associated Loch Pooltiel switching station works remain in design and consenting and will follow the initial cable works. This investment replaces an ageing strategic circuit and provides a higher-capacity, more reliable connection to the Uists as the first stage of the longer-term Outer Hebrides plan.
Outer Hebrides: Eriskay – Barra	**The project is fully developed and preparing for construction, subject to completion of the marine-licensing process.** Marine surveys and detailed route engineering are complete, land consents are in place, and full project funding has been approved. The marine licence application was submitted in February 2026. Environmental assessment has identified a requirement to agree appropriate mitigation and compensatory measures relating to protected seagrass habitat in the Sound of Barra. We are working with the

[9] RIIO-2-Re-opener-Applications-2025-Final-Determinations-Notice-Licence-Mod-ED.pdf

Circuit	Project Status
	relevant authorities to conclude this process and maintain a deliverable installation programme for 2027, with energisation planned within the 2027/28 financial year. The new cable will restore a second connection for Barra and Vatersay, reducing the consequences of a fault on the existing single circuit and the associated reliance on Barra Power Station.
Outer Hebrides: South Uist - Eriskay	**Design and consenting are advanced, with construction planned during 2027.** The preferred solution replaces the existing subsea cable with overhead line and underground cable crossing the existing causeway. The project is awaiting its final statutory consent before construction begins, with completion and energisation planned within the 2027/28 financial year. The land-based solution was selected because it is materially lower cost than a replacement subsea cable, is more accessible for inspection and repair, and is expected to provide a longer asset life. Together with the new Eriskay–Barra cable, it will strengthen the full 11kV supply route from South Uist through Eriskay to Barra and Vatersay.
Inner Hebrides: Mull, Coll & Tiree **(Mainland – Mull)**	**Offshore development is well advanced, with the evidence required to confirm a viable route being gathered.** Initial route studies identified a limited number of practicable offshore options. Marine survey work commenced during 2026 and was approximately 88% complete by the end of September, with geotechnical investigations nearing completion and environmental survey activity progressing. The outputs will inform route selection, detailed engineering and the marine-licence application. Initial onshore feasibility assessment has also been completed, with more detailed work planned during 2027/28. The delivery scope and timing are being reviewed against updated demand forecasts and wider Mull–Coll–Tiree planning to ensure that any eventual investment addresses a demonstrated need and provides value for consumers.
Inner Hebrides: Mull, Coll & Tiree **(Mull – Coll)**	**ED2 activity has focused on strategic optioneering rather than site-based development.** The Mull–Coll intervention was identified through the January 2025 HOWSUM submission as part of the longer-term whole-system pathway for Mull, Coll and Tiree. Work to date has considered the future resilience needs of the island group and the broad options for providing an additional connection to Coll, supported by experience from the Mull–Coll cable installed during ED1. As the intervention is not required for delivery in ED2, detailed route surveys, engineering design and consenting have not yet commenced. These activities will be progressed in ED3 once the preferred solution and timing have been confirmed against updated demand, resilience and whole-system requirements.
Orkney: Thurso – South Ronaldsay	**The strategic need remains, but the project is being re-evaluated before further major expenditure is committed.** Desktop studies have identified potential offshore routes and initial onshore corridors. Subsequent engineering assessment found that the originally assumed crossing was not deliverable and that a longer route across the Pentland Firth would be required, increasing the anticipated cost and complexity. Survey activity is therefore paused while we reassess the preferred route, phasing and interaction with planned transmission developments, including the Dounreay–Finstown connection expected in 2028. Further work will also complete the 66kV technical specifications, feasibility design, route surveys and market testing needed to establish an efficient and deliverable solution. This staged

Circuit	Project Status
	approach protects consumers from committing to construction before the engineering scope and costs are sufficiently mature. This paused approach is reflected in the forecast ED2 underspend shown in Table 4-2.
Inner Hebrides: Islay – Jura **(Carradale – Port Ellen Circuits 1 & 2)**	**Marine development is nearing completion, and the project is moving towards consenting and detailed design.** Geophysical and geotechnical surveys for the two Kintyre–Islay routes were completed during 2026, and detailed subsea route engineering was approximately 95% complete by the end of September. Route assessment has identified preferred landfall areas, with further engagement underway to manage environmental constraints, including sensitive seabed habitat. Preparation of the marine-licence application is continuing, with submission planned during 2027. Onshore route options have been assessed, although detailed design is dependent on finalisation of the standards and specifications required to introduce 66kV assets to the distribution network. These standards were targeted for completion by the end of 2026. The two circuits form a central part of the Ofgem-approved Islay - Jura programme and are intended to improve resilience, reduce reliance on Bowmore Power Station and provide capacity for future industrial decarbonisation. Delays to finalisation of 66kV standards and specifications has slowed down progress of the project and is contributory to the forecast ED2 underspend shown in Table 4-2.
Inner Hebrides: Islay – Jura **(Port Ann – Knocklearoch)**	**ED2 activity has progressed the initial optioneering and marine feasibility assessment** for the future Port Ann–Knocklearoch connection. The project was identified through the January 2025 HOWSUM submission as part of the approved long-term pathway for improving resilience and capacity across Islay and Jura. Route optioneering has continued during ED2, and our marine desktop study is nearing completion, including consideration of potential Mainland–Jura and Jura–Islay cable corridors, landfalls and installation constraints. Land feasibility assessment and detailed onshore route development have not yet commenced. These activities are dependent on finalising the technical specifications required to introduce 66kV infrastructure to the distribution network as well as final confirmation of the marine landing locations. As delivery is not expected until later in ED3, marine and onshore route surveys, detailed engineering, environmental assessment and consenting are planned for the early ED3 period.
Outer Hebrides and Skye: Skye – Harris	**Route-survey activity is well advanced and is informing the next stage of the Outer Hebrides strategy.** Earlier desktop studies identified potential routes across the Minch, and geophysical survey work progressed during 2026, supported by the necessary geotechnical exemptions and onshore survey activity. The current assessment broadly follows the existing cable corridor while considering an alternative landfall on Harris. Weather and seasonal constraints may require some survey work to continue into 2027. Survey outputs will support detailed route engineering, environmental assessment and preparation of a potential marine-licence application during 2027, with installation currently indicated for the later part of ED3.

Table 4-2: Our ED2 Total HOWSUM spend (Excluding WI DEG & CAI)

* SSEN have rephased the delivery of the solution to Islay/ Jura to allow further development of the appropriate specifications to allow integration of 66kV assets into the SHEPD licence area for the first time. SSEN expect delivery of the solution by the end of ED3, in line with our existing PCDs

£M, 202/21 price base	2023-2024 Actual	2024-2025 Actual	2025-2026 Actual	2026-2027 Forecast	2027-2028 Forecast	ED2 Total Forecast
Allowance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Spend	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

4.3 CASE STUDY OF OUR ED2 INVESTMENTS

4.3.1 ISLAY - JURA UNCERTAINTY MECHANISM SUBMISSION

Under the HOWSUM, we carried out a whole system assessment of the Islay - Jura island group. Our analysis of the group demand and generation requirements out to 2050 indicated that the existing network infrastructure needed to be supplemented with additional circuits. This included requirements to meet our Resilience Strategy for Island Groups Connected via Subsea Cables and remove reliance on Bowmore Power Station by 2033.

We proposed a comprehensive 2050 whole system solution to address the drivers for change identified. The proposal was presented to Ofgem as part of the January 2025 UM submission reopener window and included two 33kV subsea circuits from Carradale GSP to Port Ellen Primary on Islay as well as an additional 33kV subsea link from Port Ann GSP to Jura. A central tenet of our analysis was to include additional stakeholder led demand projections to augment our 2050 DFES projections. For Islay - Jura we consulted heavily with the Scotch Whisky Association to understand their members decarbonisation plans and associated demand requirements - these plans were triaged and three (Low, Medium and High) confidence pathways were identified. The Medium confidence demand pathway was incorporated into our planning models to ensure the proposed network interventions had been sized appropriately in line with stakeholder needs.

During the supplementary question (SQ) process, Ofgem signalled an acceptance of our additional stakeholder led demand forecast and encouraged consideration of a more aggressive demand projection. We consequently completed additional optioneering based on the High demand scenario. This additional analysis led to a final determination awarding funding to secure three 66kV subsea cable routes to the Islay - Jura island group. The approved network interventions will provide a highly secure supply to the Islands with the circuit capacities required to achieve the Islands' net zero ambitions.

Moving into ED3, we have continued to use stakeholder-led demand insights to augment business as usual planning assumptions when sizing subsea cable projects.

4.4 LESSONS LEARNED IN ED2

Our ED2 investments and particularly the HOWSUM required the production of long-term strategic plans for our Scottish Island networks. We have now developed long term plans for each of the island groups (Shetland, Orkney, Outer Hebrides, Inner Hebrides Mull, Coll & Tiree and Islay - Jura) in our North of Scotland licence area. These plans are indicative of how we intend to develop the networks over multiple price controls and provide a platform to build from as we move into ED3. We recognise that certain aspects driving the development of island networks remain uncertain in the medium to long term, so our planning needs to remain agile to new technologies and demand and generation changes.

Through ED2, we have developed strategies that we are applying to our investment proposals for ED3, namely:

- Resilience Strategy for Island Groups Connected via Subsea Cable
- Diesel Embedded Generation Strategy

These strategies have resulted in a consistent approach to island networks long term planning and have been applied whilst considering other islands within our licence area, particularly the Isle of Wight.

ED2 has also demonstrated the critical importance of development funding in progressing complex island investments before construction funding is fully justified or agreed. Through HOWSUM, early funding enabled strategic optioneering, route and environmental surveys, engineering design, stakeholder engagement and market testing, providing the evidence needed to mature proposals and support subsequent Ofgem decisions, including the approved Islay–Jura programme. Building on this experience, appropriate development and pre-construction funding in ED3 is

essential to maintain momentum, reduce delivery and cost uncertainty, fully assess network and non-network options and ensure projects are sufficiently mature for timely submission through the proposed Islands Re-opener.

Reflecting on the application approach agreed with Ofgem for Skye – South Uist, taking account of the inherently lengthy process of subsea cable procurement, and the ongoing volatility and high costs in the subsea market, we propose to maintain this flexible model for re-opener applications in ED3. This will allow for the needs case, optioneering and cost submission to be presented to Ofgem for approval on a staged basis across more than one re-opener window if required, allowing us to provide detailed route design and tender costs information later in the process.

We have also recognised the value in stakeholder-led demand and generation insights and how they can be applied to our network analysis. Importantly for island development, and the scale of costs involved, this can help ensure we are installing appropriately sized assets. With this in mind, we have worked with local authorities, large industrial stakeholders and the ICNZ to augment business as usual planning assumptions when sizing subsea cable projects.

5. OUR ED3 ISLANDS APPROACH

Across our two distribution licence areas, we are responsible for maintaining secure and resilient electricity supplies to several islands and island groups. Our ED3 Business Plan includes the following Engineering Justification Papers:

- SHEPD_LRE_203 Shetland_Shetland Offshore;
- SHEPD_LRE_201 Thurso South_Orkney Offshore;
- SHEPD_LRE_208 Loch Carnan_Outer Hebrides Offshore;
- SHEPD_LRE_204 Taynuilt_Taynuilt-Tullich;
- SHEPD_LRE_205 Taynuilt_Mull – Coll & Tiree
- SEPD_ED3_LRE_217_Isle of Wight 132kV Supply LRE EJP

We also include a separate funding ask for the Inner Hebridean Islands of Islay and Jura, which was approved under the January 2025 HOWSUM submission.

Whilst the Scottish island groups form the primary focus of this strategy, the Isle of Wight shares many of the same characteristics, including reliance on strategic subsea connections to the mainland network. As a result, the same core planning principles have been applied when considering its future resilience requirements.

For the Scottish island groups, we have developed long-term pathways through to 2050 to support future demand and generation, improve resilience and reduce reliance on DEG. Physical network infrastructure provides the current baseline pathway, while we use our Build and Flex framework to retain the ability to use flexibility, compliant generation or hybrid solutions where these provide a more efficient whole-life outcome.

ED3 represents the next proportionate step in delivering these pathways. We commit to securing electricity demand in each island group against the loss of any single in-feeding subsea circuit by the end of ED3. This will provide N-1 security and will mean that DEG is required principally to maintain supplies during unplanned events and more severe outage conditions.

We will deliver this through:

- **Ex-ante funding**, where the need, preferred solution, costs and delivery arrangements are sufficiently mature to support an investment decision through approval of the ED3 Business Plan; and
- **Development funding and our proposed Islands Re-opener uncertainty mechanism**, which builds on the established requirement for N-1 outcomes and provides routes for the further work needed to determine the most efficient solutions, mature costs, and to confirm delivery arrangements.

For proposals progressing through the Islands Re-opener uncertainty mechanism, our ED3 Business Plan sets out the current asset-based pathway and seeks the development and pre-construction funding needed to progress it. Before each uncertainty mechanism submission, we will assess whether the committed outcome is best delivered through network reinforcement, third-party flexibility, compliant generation or a hybrid solution.

All decisions taken through these mechanisms will be consistent with the longer-term resilience ambition for the relevant island group and will preserve a coherent pathway towards meeting future system needs through to 2050.

Ultimately: we have a vision for each island group out to 2050, and during ED3 we will identify the components of that vision that need to be delivered in this price control period.

5.1 OUR LONG-TERM AMBITION

Island groups require a particular focus when considering energy security and resilience. Their connection back to the mainland electricity network is predominantly provided through subsea cables. Whilst faults on these assets are infrequent, a failure can take several months, or longer, before a return to service is possible.

Currently, we manage this risk through a combination of redundancy provided by physical network assets, with more than one cable in service to provide an alternative source of supply, and DEG located on the islands which can support demand when a connection to the mainland network is unavailable.

Recent environmental legislation, Scottish Government Environmental Authorisations (Scotland) Regulations (EASR), will significantly constrain the future operation of parts of our existing DEG fleet. From the end of 2033, affected units will no longer be available for planned operation and, from the end of 2039, further intervention will be required where continued operation is necessary to maintain resilience. This creates a clear need to develop alternative resilience arrangements for island communities.

It is imperative that we continue to provide island communities with secure and resilient electricity supplies whilst also accommodating future demand and generation growth, recognising the significant opportunities associated with decarbonisation, electrification and economic development.

We have developed a long-term pathway for each island group through to 2050. These pathways seek to provide the capacity and resilience required to meet future energy needs whilst reducing reliance on existing DEG assets and supporting the transition to a lower-carbon energy system.

Our longer-term ambition, set out in our Resilience Strategy for Island Groups Connected via Subsea Cable, is to secure island-group demand greater than 4MVA following the loss of any two strategic subsea circuits. This is referred to as N-2 resilience. The pathways described in this strategy represent our current asset-based approach to achieving that outcome, whilst recognising that flexibility, low carbon generation and hybrid solutions may also play a role where they provide a more efficient whole-life outcome.

We have not developed these pathways in isolation. Extensive stakeholder engagement has been undertaken to understand the needs and ambitions of island communities, as described in Section 3 of this strategy.

The long-term pathways described in this strategy provide the foundation for our ED3 proposals. During ED3 we will deliver the interventions required to achieve our N-1 commitment while continuing to develop and refine the longer-term pathway towards our resilience ambitions.

Looking beyond ED3, we have included an indicative Islands Uncertainty Mechanism cost in our business plan submission for ED4 development. This will be accessed rough a reopener submission and will facilitate the early development of the schemes required in ED4 in line with our long-term approach.

5.2 BUILDING ON THE HOWSUM APPROACH

In Section 4.4 we outline the lessons we have learned from ED2 and the HOWSUM process. Our ED3 proposals take account of these lessons and build directly on the staged approach established through HOWSUM. The regulatory starting point differs across the island programme.

- Some interventions were fully funded and delivered during ED2;
- Some interventions received development funding to prepare for ED3;
- Orkney Stage 1 received funding for its ED2 component with later costs expected to be considered in ED3;
- The Islay–Jura programme received allowances spanning ED2 and future price controls.

We have reviewed these earlier decisions against updated network needs, engineering development, delivery information and market evidence. Where the previously approved need, solution and costs remain materially unchanged, our ED3 Business Plan confirms the established position and incorporates the relevant allowances. Where material changes have emerged, we explain those changes and propose the appropriate adjustment to funding, delivery arrangements or associated Price Control Deliverables.

Our experience also demonstrates the need for a staged regulatory approach to major subsea cable investment. Early development funding allows route surveys, optioneering, engineering design and market engagement to progress without delay. A subsequent uncertainty mechanism submission can then present the preferred whole-life solution using more mature engineering evidence and market-tested costs.

6. PLANNING AND INVESTMENT METHODOLOGY

6.1 ALIGNMENT WITH THE LRE STRATEGY, LINP AND tRESP

Our commitment in ED3 is to secure electricity demand in each island group against the loss of any single in-feeding circuit by the end of the price control period. This is commonly referred to as N-1 resilience. Where this outcome cannot be achieved through existing infrastructure, we will identify and deliver the most appropriate intervention to meet this commitment.

Our approach to island investment is aligned with the structured planning process set out in (ED3-S01) Load Related Expenditure Annex. This process seeks to deliver the right investment, in the right place and at the right time by combining strategic planning inputs, local evidence, network analysis, optioneering and Build and Flex assessment. It is designed to distinguish between needs that are sufficiently certain to justify investment and those where flexibility, further development or an uncertainty mechanism provides a more proportionate route to delivery.

Our Islands Strategy also aligns with our 2050 network vision to be the UK's leading intelligent network builder and operator, delivering a clean, affordable and available electricity network that enables growth, protects customer and communities and manages networks assets to deliver long-term value. The outputs of the Islands Strategy feed into our (ED3-S02) Long-term Integrated Network Plan, ensuring the needs of our island communities feed into our long-term vision.

For ED3, the transitional Regional Energy Strategic Planning process (tRESP) provides the primary common planning baseline. We have adapted our established Distribution Future Energy Scenarios (DFES) dataset to align with the tRESP pathways and Consistent Planning Assumptions. The resulting forecast combines the tRESP-aligned baseline with existing network demand, contracted connections and other validated planning inputs to produce demand and generation forecasts at asset and network-location level through to 2050.

The tRESP Holistic Transition pathway is used as the core scenario for identifying ED3 investment requirements. Consistent with the wider (ED3-S01) Load Related Expenditure Annex, sensitivity analysis is then used to test the robustness and timing of identified interventions. Where a sensitivity materially changes the timing of a need, we consider whether investment can be deferred without compromising compliance, resilience or security of supply.

Island planning requires additional local evidence because some potential longer-term developments and resilience requirements are not fully represented within regional planning datasets. We have therefore supplemented the tRESP-

aligned baseline with island-specific evidence, including insights from the ICNZ, industrial stakeholders and contracted customers. These insights will ensure we are sizing future infrastructure developments to meet the needs of island communities. These inputs are reconciled with the tRESP baseline and other forecasts to avoid double counting.

We use this information to inform:

- **Long-term pathway development**: Island-specific evidence is used alongside the tRESP-aligned baseline to identify credible requirements through to 2050 and ensure that strategic interventions are not undersized for foreseeable future demand, generation and resilience needs.
- **ED3 investment timing**: The tRESP-aligned planning baseline is used to determine which elements of the long-term pathway are required within the ED3 planning horizon.

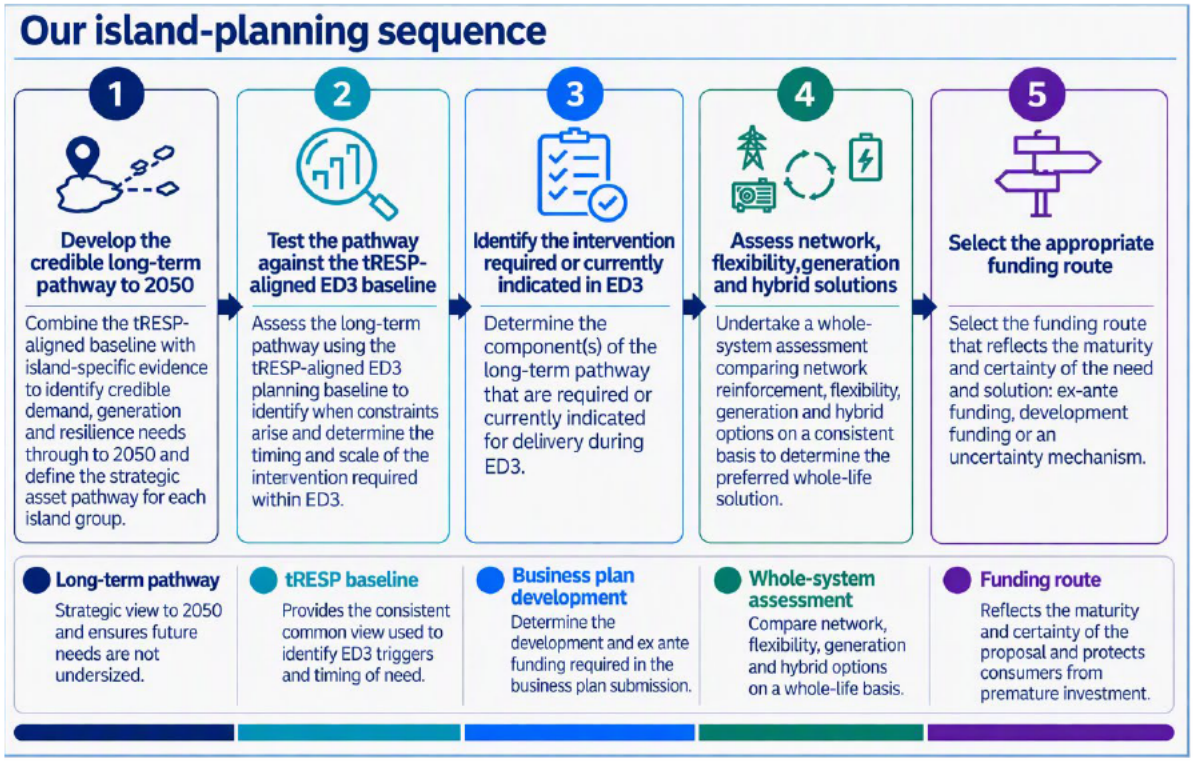
Forecasts are translated into network impacts through power-system analysis. This identifies where constraints are expected to arise, their timing and the scale of intervention that may be required. Network studies are undertaken against the requirements of Engineering Recommendation P2/8 to ensure compliance against the standard.

For island groups connected by subsea cables, the duration and consequences of network outages can differ materially from those experienced on mainland networks. Consequently, our planning approach supplements the requirements of P2/8 through consideration of the additional resilience needs associated with prolonged subsea cable outages (our Resilience Strategy for Island Groups Connected by Subsea Cables see section 2.1 for further details). This approach formed the basis of the long-term pathways developed through HOWSUM and continues to underpin our assessment of future island resilience requirements. The resulting needs are then taken forward into detailed optioneering and the relevant Engineering Justification Papers.

The identified asset-based pathway does not automatically determine the final investment solution. In accordance with the LRE Build and Flex framework, reinforcement is assessed alongside flexibility and other credible alternatives. Flexibility may be used to improve economic efficiency, manage uncertainty or support deliverability where it provides value for consumers. Where the timing, scope or preferred solution cannot be established with sufficient confidence at the start of ED3, development funding and uncertainty mechanisms allow the need, options, costs and delivery arrangements to be refined before major construction funding is committed.

This produces the following island planning sequence:

Figure 6.1. Island investment planning sequence.



6.2 BUILD & FLEX, DEG AND HYBRID SOLUTIONS

Our EJPs set out the current asset-based pathways identified to achieve N-1 security during ED3 and support the longer-term N-2 ambition. These pathways provide a consistent engineering comparator, but they do not predetermine the final delivery solution for proposals progressing through an uncertainty mechanism.

The commitment to achieve N-1 security by the end of ED3 remains fixed. Before each uncertainty mechanism submission, we will assess whether that outcome is most efficiently delivered through network reinforcement, third-party flexibility, compliant generation or a hybrid solution. The preferred approach will be selected based on technical capability, whole-life cost, environmental performance and deliverability.

6.2.1 ISLAND FLEXIBILITY

Flexibility forms an important part of our overall planning approach and will be assessed alongside asset-based solutions as well as replanting DEG. However, island systems present challenges for flexibility providers, particularly given the potentially prolonged return-to-service times associated with subsea cable faults.

As part of the HOWSUM process, we tested the flexibility market for solutions capable of supporting Scottish island requirements. In August 2024, we published a Request for Information seeking potential flexibility services. This exercise did not identify any individual island area with sufficient available flexibility to remove the need for DEG or the current asset-based pathway in full. It did, however, identify potential opportunities that may complement network investment as the market develops.

In the Outer Hebrides, one respondent identified a potentially suitable project whose connection was dependent on completion of the planned transmission HVDC link. We have continued to engage with the respondent and SSEN Transmission to explore whether the project's connection could be accelerated. The position has been further complicated by GB Connections Reform, which affects the certainty and timing of the underlying connection. We will

continue to develop this opportunity during ED3 and consider whether it could credibly contribute to the island's longer-term resilience arrangements or form part of a future uncertainty mechanism submission.

We have also engaged with the Tiree Community Development Trust to understand its future plans. Our ED2 strategic development work identified that a battery on Tiree could potentially complement network reinforcement or DEG replanting. We will continue this engagement to assess whether a sufficiently mature and technically capable solution could contribute to the required resilience outcome and be assessed alongside the asset-based pathway through a future uncertainty mechanism submission.

More broadly, we are engaging with the Scottish Government, Community Energy Scotland and Local Energy Scotland to identify effective ways of working with other island community groups. This engagement is intended to support the development of local and community-led opportunities that could complement network investment, reduce future reliance on DEG and provide value to island communities and wider consumers.

The ongoing GB Connections Reform programme introduces additional uncertainty for prospective flexibility providers, which must understand the viability and timing of their own connections before determining whether they can offer a dependable service to meet island network requirements. Flexibility proposals must also demonstrate that they can provide the capacity, duration, availability and operational certainty required during potentially prolonged network outages.

We therefore remain open to flexibility and community-led solutions but will not assume their availability before their technical capability, connection arrangements, commercial terms and delivery timescales have been established. Before each uncertainty mechanism submission, credible flexibility opportunities will be assessed on a consistent whole-life basis alongside network reinforcement, compliant generation and hybrid alternatives. This will ensure that the preferred solution meets the resilience requirement while providing an efficient and deliverable result for consumers.

6.2.2 ONGOING DEG OPERATION

DEG will continue to play an important role in maintaining resilience during the transition period, particularly in supporting supplies during unplanned outages and where longer-term resilience arrangements have not yet been delivered.

Continued operation of the DEG fleet requires ongoing expenditure to maintain safe and reliable operation. These costs are included within the ED3 Business Plan through Business Plan Data Tables C8 and CV15 and cover the ongoing operation, maintenance and forecast fuel requirements associated with the existing fleet.

The compliance position varies across the DEG fleet. Some assets already satisfy future SEPA requirements and could continue operating beyond 2039. For non-compliant assets, a range of options remain available, including low carbon replacement generation, network reinforcement, flexibility solutions or hybrid approaches.

Where material intervention is required on existing DEG assets, including major refurbishment, replacement or life-extension works, this would be considered through a future uncertainty mechanism submission. This will allow the preferred solution to be assessed alongside alternative network, flexibility and generation options before funding is sought.

6.3 SELECTING THE FUNDING ROUTE

The requested funding route reflects the maturity and certainty of each proposal at the start of ED3. It does not alter the commitment to achieve N-1 or the strategic importance of the intervention.

6.3.1 EX-ANTE FUNDING

We are seeking full ex-ante funding where the need, preferred solution, cost and delivery arrangements are sufficiently mature to support an investment decision at the start of ED3.

Where the required need has been identified but further work is required to mature the preferred solution, we are seeking ex ante development and pre-construction funding. This funding will allow us to progress schemes to a level of maturity where the preferred solution, delivery arrangements and market-tested construction costs can be assessed through the proposed Islands Re-opener uncertainty mechanism. It will also allow us to fully develop and assess non-network options including third party solutions. For many island projects, subsea route surveys represent one of the most significant development activities because they establish the feasibility, routing, constructability and cost of future subsea cable investments.

Table 6-1. Activities requiring development and pre-construction funding.

Activity	Summary of activities
Seabed, route and landfall surveys	Geophysical surveys, geotechnical investigations, landfall assessments, cable route studies, unexploded ordnance and associated environmental surveys required to confirm viable subsea cable routes and develop constructable solutions.
Engineering design and development	Detailed power system studies, detailed engineering design, substation design, overhead line design, cable design, protection studies and interface design with transmission infrastructure.
Environmental and technical assessments	Environmental surveys, ecological assessments, habitat studies, planning support studies, construction impact assessments and mitigation development.
Planning and consenting activities	Preparation of planning applications, marine licences, environmental submissions, statutory consultation activities and discharge of consent conditions.
Land, wayleave and access agreements	Securing land rights, wayleaves, easements, temporary access arrangements and associated legal agreements required to deliver the preferred solution.
Stakeholder engagement	Public consultation, stakeholder communications and engagement with local authorities, statutory consultees and wider stakeholders.
Build, Flex, DEG and hybrid assessment	In-depth assessment of network reinforcement, flexibility, community generation, compliant generation and hybrid approaches to determine the preferred whole-life solution.
Procurement	Route-to-market activities, procurement strategy development, tender preparation, market engagement and obtaining market-tested costs for future uncertainty mechanism submissions.
Project management	Programme coordination, governance, commercial support, risk management, cost development and management of the overall development programme.
Development of non-network third party solutions	Working with developers, local authorities and community groups to explore, test and develop community and other market-based solutions that could provide resilience and load related needs.
Optioneering for future of DEG	Undertaking Best Available Techniques (BAT) assessments at sites to form a firm foundation for energy needs. Development and costing of any capital works needed as a result of BAT assessments.
Assessment of detailed options	Re-assessment of CBAs to incorporate updated costs and consider non-network alternatives.

6.3.2 UNCERTAINTY MECHANISM APPLICATIONS

The output of the work progressed through ex ante funding will be in most cases mature and deliverable project proposals, which we will then submit through an uncertainty mechanism application. We have therefore proposed annual Island Re-opener uncertainty mechanism windows, allowing us to submit applications relevant to the stage of the project being progressed. The uncertainty mechanism may also be used to submit requests for further development funding, subject to evolving assessments across our island groups.

6.4 DEVELOPMENT FUNDING IN ED3

Development funding has already played an important role in progressing our islands programme. During ED2, Ofgem provided development funding through HOWSUM in two stages. The initial allowance supported early development of the island pathways, with a particular focus on offshore route and geophysical surveys, landfall and onshore assessments, engineering feasibility, whole-system analysis and consenting. Further funding was subsequently awarded through the January 2025 HOWSUM Re-opener to continue priority work during ED2 and prepare schemes for their next stages of development. Section 4 describes the resulting progress and lessons in detail.

The ED3 development-funding request is additional to, and does not duplicate, the activities funded during ED2. For each programme, the ED3 cost build-up identifies:

- the activities completed or expected to be completed using ED2 allowances;
- the maturity achieved by the end of ED2;
- the outstanding development and pre-construction activities required during ED3;
- the evidence needed to support a future Islands Re-opener submission.

This assessment provides a scheme-level reconciliation between the activities funded or forecast during ED2 and the additional scope included in the ED3 request. Costs already incurred, or forecast to be incurred, during ED2 are excluded from the ED3 request.

The ED3 allowances will fund either the first substantive development of pathway components not previously progressed or the next defined stage of an existing programme. Information and analysis produced during ED2 will be applied in the development of projects, and expanded through new development funding allowances as relevant, ensuring that we are building on work already undertaken.

For example, ED2 development work on the proposed Thurso South–South Ronaldsay reinforcement established that the originally assumed subsea crossing was not deliverable and that a longer route would be required. The ED3 request does not repeat that completed assessment. It supports the further route development, engineering, surveys, market testing and interface assessment required to establish an efficient and deliverable solution based on the revised routing.

Work carried out during ED2 will be retained and used wherever it remains valid, ensuring that customers do not fund the same development activity twice.

7. ISLAND PATHWAYS AND ED3 PROPOSALS

7.1 SHETLAND

7.1.1 ENGINEERING JUSTIFICATION PAPER REFERENCE

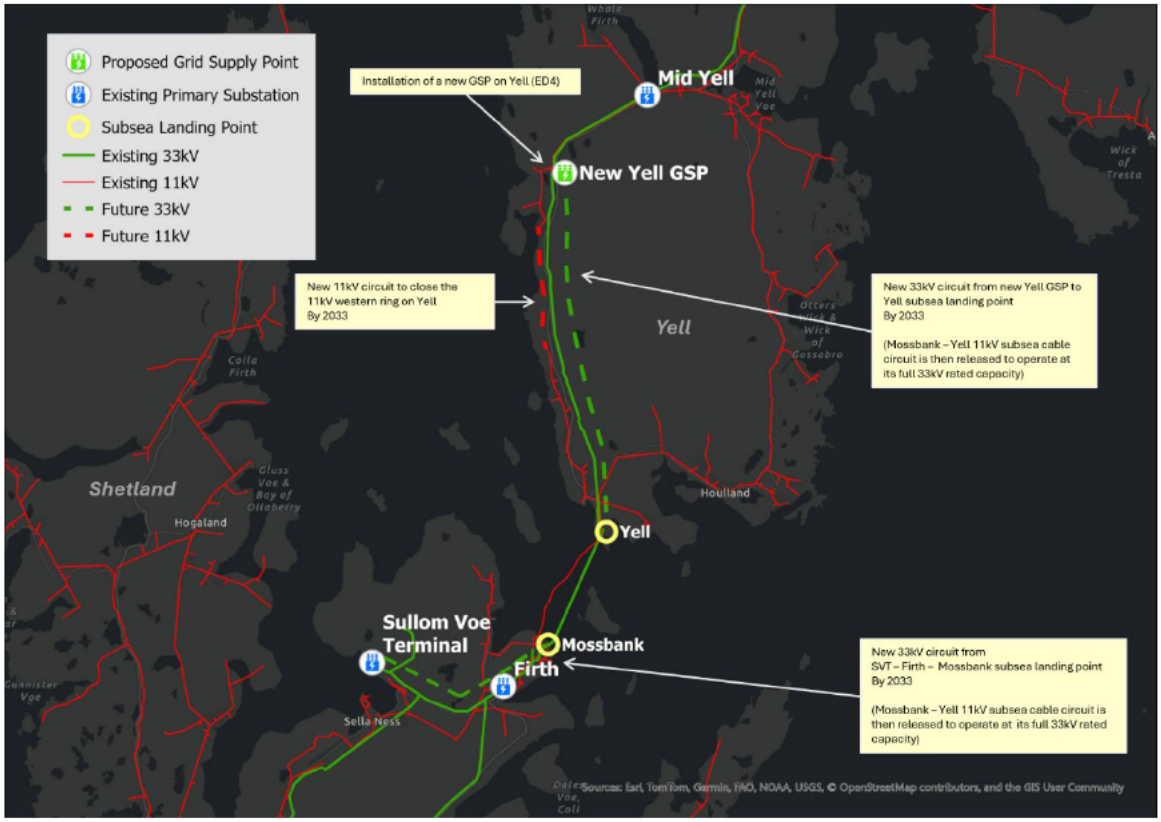
EJP Reference	EJP Title
SHEPD_LRE_203	Shetland 2050 Strategic Plan

7.1.2 FUNDING REQUEST SUMMARY

Basis	Cost (£M) 25/26 price base
Development funding requested in ED3	[redacted]
Indicative uncertainty mechanism cost	[redacted]

7.1.3 LONG-TERM PATHWAY

Figure 7.1. Shetland long-term pathway.



The Shetland distribution network is comprised of 33kV, 11kV and LV circuits supplying communities across the Shetland Islands island group. Shetland is connected to mainland Scotland through the Shetland HVDC Link, which connects the island transmission system at Kergord to the GB transmission system in Caithness.

The northern islands are supplied through the 33kV distribution network, with Yell connected via a radial 33kV subsea circuit from Firth. An existing 11kV subsea circuit between Firth and Yell provides additional resilience and operational flexibility.

Resilience following a prolonged outage of the transmission connection to mainland Scotland is currently provided primarily through DEG at Lerwick Power Station (LPS) and associated battery services. This is supported through the Shetland Enduring Solution (under the SES term in licence), through which we procure fault ride-through and blackout avoidance equipment as a service, for a 10-year period. The ED3 costs associated with the Shetland Enduring Solution have been submitted C25 – Shetland as per Ofgem's final determination for this ED2 Uncertainty Mechanism, with associated fuel, carbon and permitting costs for LPS through C22 – Pass Through. We note the potential need to build additional resilience capability potentially through third party solutions such as community generation due to future demand growth. We will continue to develop this thinking through ED3.

The long-term resilience position for the Shetland island group is dependent on the delivery of a second HVDC connection between mainland Scotland and Shetland, which is currently planned for delivery during ED4. Delivery of this reinforcement will provide a second independent transmission connection to the GB electricity system and secures the long-term resilience of the island network. Should the scope, timing or delivery of this project change, we would work closely with SSEN Transmission to review the implications for island resilience. In parallel with this we will also be considering the future of Lerwick Power Station building on our ED2 Regulatory submission for the Shetland Enduring Solution.

Forecast demand growth across Shetland during ED3, together with uncertainty surrounding the future role of embedded generation assets, will require reinforcement of the distribution network to maintain compliance with P2/8 and align with our Resilience Strategy for Island Groups Connected by Subsea Cables.

Our current preferred long-term pathway is based on the progressive reinforcement of the Shetland network. The preferred pathway is illustrated in Figure 7.1 and comprises:

- Install one new 6 MVA primary substation on Yell;
- Install one new 132/33kV Grid Supply Point (GSP) on Yell;
- Install one new 33kV circuit between Yell GSP and the Yell subsea-cable landing point;
- Install one new 33kV circuit between Firth and the Mossbank subsea-cable landing point;
- Install one new 11kV circuit to close the Yell western ring;
- Uprate the existing Mossbank–Yell 11kV subsea cable to operate at 33kV;
- Install STATCOMs at Firth and Unst to provide voltage support.

This pathway is intended to provide sufficient capacity and resilience to support future demand growth, facilitate decarbonisation and maintain a credible route towards the longer-term resilience ambitions described in this strategy.

The pathway should not be interpreted as a final construction commitment at this stage. It provides the engineering comparator against which alternative phasing, flexibility, compliant low carbon generation and hybrid solutions will be assessed as the programme is developed through the uncertainty mechanism.

7.1.4 ISLAND-SPECIFIC ENGAGEMENT AND LEARNING

Through engagement with the ICNZ, Shetland Islands Council and wider stakeholders, a number of location-specific future demand drivers have been identified. Shetland's marine and industrial economy is a key driver of its future energy requirements. Existing energy use is particularly influenced by maritime transport and industrial activity, while potential future requirements include port and harbour development, aquaculture, offshore-wind support activity and the vessels needed to construct, operate and maintain offshore infrastructure. The ICNZ work identified potential activity around Lerwick, including the deep-water quay and offshore-wind operations and maintenance facilities, alongside marine-sector opportunities across the wider island group.

Engagement also identified the potential transition of established industrial locations, particularly around Sullom Voe and Sella Ness. Potential developments considered by ICNZ included clean-fuel and e-fuel production, industrial-site redevelopment and associated construction requirements. These opportunities could create significant but geographically concentrated electricity demand, with their scale and timing dependent on the maturity of individual projects and whether they are expected to connect to the distribution or transmission system.

The ICNZ evidence has been considered alongside the tRESP-aligned planning baseline when developing the long-term pathway, while recognising that lower-confidence developments should not be treated as firm ED3 requirements. The evidence has been assessed against existing forecasts, validated and weighted according to project confidence before being incorporated into power-system analysis.

7.1.5 INTERVENTION IDENTIFIED IN ED3

The long-term pathway described in section 7.1.3 has been assessed against the tRESP-aligned planning baseline to determine which elements are required within the ED3 planning horizon. For Shetland, this assessment indicates that all components of the current preferred pathway are required during ED3. Together, the interventions address forecast demand growth, provide the capacity and voltage support required across the northern network, strengthen the supply arrangements to Yell and enable continued compliance with P2/8.

The interventions identified for ED3 are:

- Install one new 6 MVA primary substation on Yell;

- Install one new 33kV circuit between Yell GSP and the Yell subsea-cable landing point;
- Install one new 33kV circuit between Firth and the Mossbank subsea-cable landing point;
- Install one new 11kV circuit to close the Yell western ring;
- Uprate the existing Mossbank–Yell 11kV subsea cable to operate at 33kV;
- Install STATCOMs at Firth and Unst to provide voltage support.

The ED3 pathway has been developed in coordination with the following planned Transmission investments:

- Install one new 132/33kV Grid Supply Point (GSP) on Yell.

The pathway remains subject to whole-system assessment and may ultimately be delivered through network reinforcement, flexibility, compliant low-carbon generation or a hybrid solution where this provides a more efficient and deliverable outcome.

As the programme is progressing through the proposed Islands Re-opener, inclusion of these interventions in the ED3 pathway does not represent a construction commitment. The ED3 Business Plan seeks the development and pre-construction funding required to mature the scope, complete route surveys and detailed design, assess credible alternatives and establish market-tested costs before the full construction funding request is submitted through the uncertainty mechanism.

7.1.6 ED3 FUNDING REQUEST AND DELIVERY APPROACH

A development funding allowance of [redacted] is requested for pre-construction and development activities with a full funding request to follow under the uncertainty mechanism.

7.1.7 DEPENDENCIES

There are strong Transmission dependencies, particularly around the establishment of the new Yell GSP and the ultimate delivery of the second HVDC link to the island. We will continue to work closely with SSEN Transmission on the whole system solution currently proposed for Shetland, recognising that if scope changes at either Transmission or Distribution, the resultant solution must work for Shetland in terms of providing resilience and opportunities for generation and demand growth on the island group.

7.2 ORKNEY

7.2.1 ENGINEERING JUSTIFICATION PAPER REFERENCE

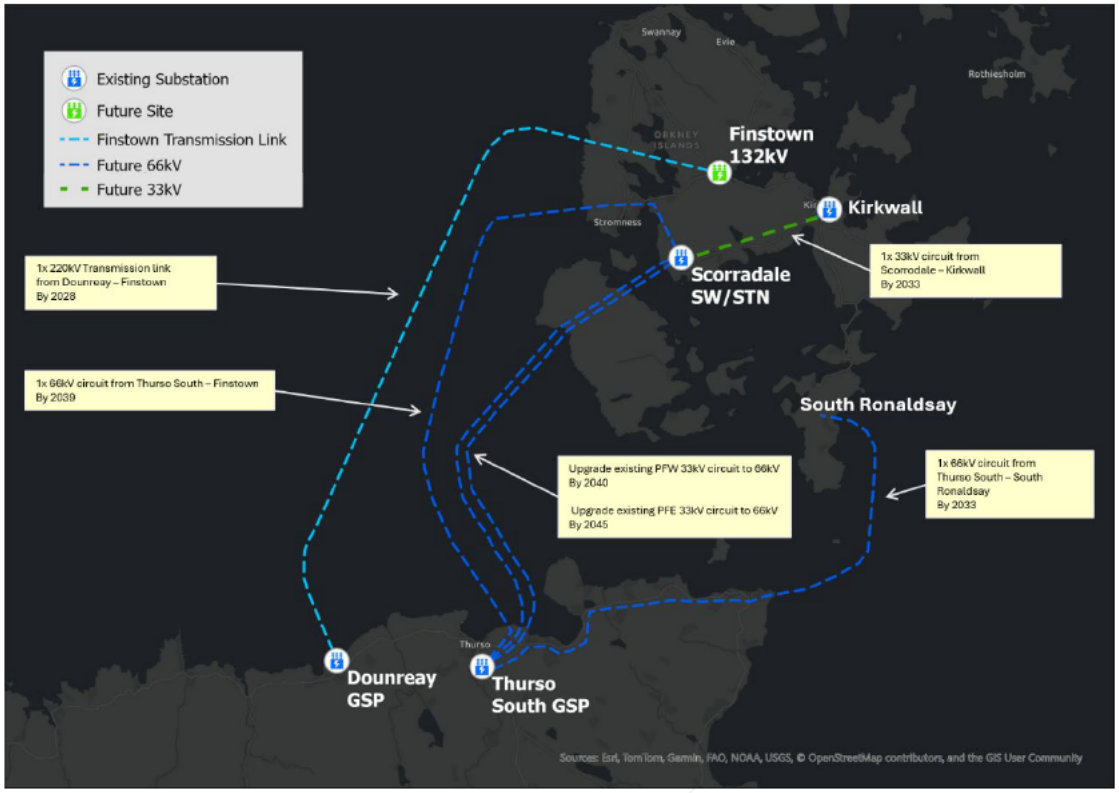
EJP Reference	EJP Title
SHEPD_LRE_201	Orkney 2050 Strategic Plan

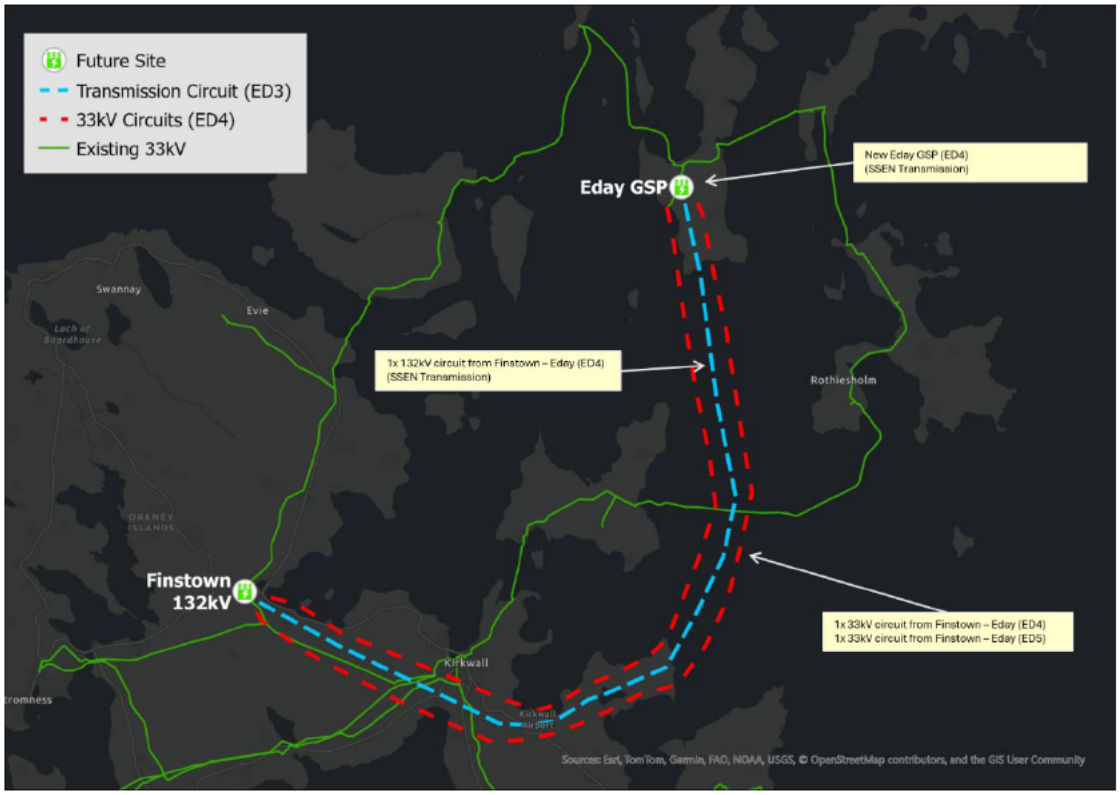
7.2.2 FUNDING REQUEST SUMMARY

Basis	Cost (£M) 25/26 price base
Development funding requested in ED3	[redacted]
Indicative uncertainty mechanism cost	[redacted]

7.2.3 LONG-TERM PATHWAY

Figure 7.2. Orkney long-term pathway.





The Orkney Islands are currently supplied from mainland Scotland through two 33kV subsea cable routes across the Pentland Firth (PFE and PFW), with additional resilience provided through local DEG at Kirkwall. SSEN Transmission are progressing a subsea 132kV cable connecting Dounreay on mainland Scotland to Finstown on Orkney mainland – this is due to complete in 2028. Future demand growth, decarbonisation requirements and the need to maintain long-term network resilience mean that the existing network architecture will not be sufficient to meet forecast requirements through to 2050.

Through the Hebrides and Orkney Whole System Uncertainty Mechanism (HOWSUM), we developed long-term pathways for Orkney extending to 2050. This considered future demand growth, generation requirements, resilience needs and interactions with planned transmission developments. It was noted that there was considerable uncertainty in the future needs for the Orkney Isles and this was reflected in divergent pathways that fed from common early works. Reinforcement between Thurso South and South Ronaldsay was identified as a key common early intervention and received partial funding through the January 2025 HOWSUM re-opener, with later stages expected to be considered through future price controls.[10]

Since the development of the original HOWSUM pathway, further assessment has been undertaken to reflect evolving demand forecasts, changes in the generation landscape and ongoing transmission planning. Recent developments, including the GB Connection Reform programme, have increased uncertainty around the timing and scale of future generation-driven investment requirements. By contrast, forecast demand growth remains a requirement that the network must accommodate and therefore provides a more certain basis for long-term planning. Even then ICNZ demands show the greatest divergence from t-RESP forecasts of all island groups considered.

Our current preferred long-term pathway is based on the progressive reinforcement of the Orkney network through the introduction of 66kV infrastructure. This reflects the need to accommodate future demand growth, improve resilience and reduce long-term reliance on existing DEG assets, whilst remaining aligned with major transmission developments planned for the islands.

The preferred long-term pathway is seen in Figure 7.2 and comprises:

- Install one new 66kV circuit between Thurso South and South Ronaldsay, including subsea cable, onshore OHL/UG sections and associated substation works;
- Install the new Dounreay–Finstown transmission connection and Finstown GSP;
- Install one new 132kV transmission connection between Finstown and the proposed Eday GSP;
- Uprate the existing Pentland Firth West (PFW) circuit from 33kV to 66kV, including associated onshore and substation works;
- Install two new subsea 33kV circuits between Finstown and Eday;
- Uprate the existing Pentland Firth East (PFE) circuit from 33kV to 66kV, including associated onshore and substation works.

This pathway is intended to provide sufficient capacity and resilience to support future demand growth, facilitate decarbonisation and maintain a credible route towards the longer-term resilience ambitions described in this strategy.

The pathway should not be interpreted as a final construction commitment at this stage. It provides the engineering comparator against which alternative phasing, flexibility, low carbon generation and hybrid solutions will be assessed as the programme is developed through the uncertainty mechanism.

7.2.4 ISLAND-SPECIFIC ENGAGEMENT AND LEARNING

Through engagement with the ICNZ, Orkney Islands Council and wider stakeholders, a number of location-specific future demand drivers have been identified. The ICNZ work identified maritime activity as the most significant source of additional demand, alongside housing growth, domestic electrification and wider renewable-energy innovation and demonstration activity. Stakeholder engagement also highlighted Orkney's role as a centre for renewable energy

[10] https://www.ofgem.gov.uk/sites/default/files/2025-12/RIIO-2_Re-opener_Applications_2025_Final_Determinations_ED_Annex.pdf

innovation and demonstration activities. These drivers have been considered alongside the tRESP-aligned planning baseline in developing the long-term pathway for Orkney.

7.2.5 INTERVENTION IDENTIFIED IN ED3

The long-term pathway described above has been assessed against the tRESP-aligned planning baseline to determine which elements are required within the ED3 planning horizon.

This assessment identifies reinforcement between Thurso South and South Ronaldsay as the first intervention required to support future demand growth and maintain resilience on the Orkney Islands. The wider long-term pathway continues through reinforcement of the Pentland Firth West (PFW) and Pentland Firth East (PFE) circuits and the development of the Northern Ring network via Eday. However, the PFW and PFE interventions are required later in the pathway and are not currently identified as immediate ED3 priorities.

The reinforcement of the connection between Thurso South and South Ronaldsay was previously identified through HOWSUM as a common first step across a range of potential long-term futures for Orkney. Ofgem subsequently provided funding for the ED2 component of this project through the January 2025 HOWSUM re-opener, with the funding for finalisation of this first step to be awarded in ED3, and later stages expected to be considered through ED3 and future price controls.

Subsequent engineering development has provided a more detailed understanding of feasible subsea routes and associated project costs. This work has confirmed that the originally assumed route is not deliverable and that a significantly longer routing across the Pentland Firth is required. The resulting cost estimates – for both the subsea element as well as the onshore works required to enable this - are higher than originally anticipated and have prompted a review of the preferred phasing and delivery approach for the wider Orkney strategy.

As a result, whilst the strategic need remains unchanged, we are not currently seeking construction funding for the preferred Orkney reinforcement strategy. Instead, we are seeking development and pre-construction funding to continue maturing the preferred solution, reassess alternative phasing options, review interactions with transmission developments and develop market-tested costs. Following completion of this work, we intend to return through the proposed uncertainty mechanism with a preferred whole-life solution supported by updated engineering, cost and delivery evidence.

The intervention identified for ED3 is:

- Install one new 66kV circuit between Thurso South and South Ronaldsay, including subsea cable, onshore OHL/UG sections and associated substation works;

The ED3 pathway has been developed in coordination with the following planned Transmission investments:

- Install the new Dounreay–Finstown transmission connection and Finstown GSP;
- Install one new 132kV transmission connection between Finstown and the new Eday GSP.

We have not identified any works required to reinforce the Orkney northern ring however this is contingent on the Transmission works at Eday – new GSP and 132kV subsea cable from Eday to Finstown – completing. We have requested development funding as we must retain optionality in the event that the Transmission works change in scope or timing. This development cost is ‘no regret’ expenditure as we are required to deliver a 33kV Eday to Finstown circuit in ED4.

This approach allows progress towards the long-term Orkney pathway to continue whilst ensuring that future investment decisions are based on the best available technical, economic and delivery evidence before major construction funding is committed.

7.2.6 ED3 FUNDING REQUEST AND DELIVERY APPROACH

A development funding allowance of [redacted] is requested for pre-construction and development activities with a full funding request to follow under the uncertainty mechanism.

7.2.7 DEPENDENCIES

The preferred pathway has been developed based on planned transmission investment in Orkney, including the new transmission connection between Dounreay and Finstown and the proposed development of Eday Grid Supply Point together with the associated 132kV transmission connection between Finstown and Eday. These developments form an important part of the long-term resilience and capacity strategy for Orkney and have been incorporated into our pathway development.

7.3 OUTER HEBRIDES

7.3.1 ENGINEERING JUSTIFICATION PAPER REFERENCE

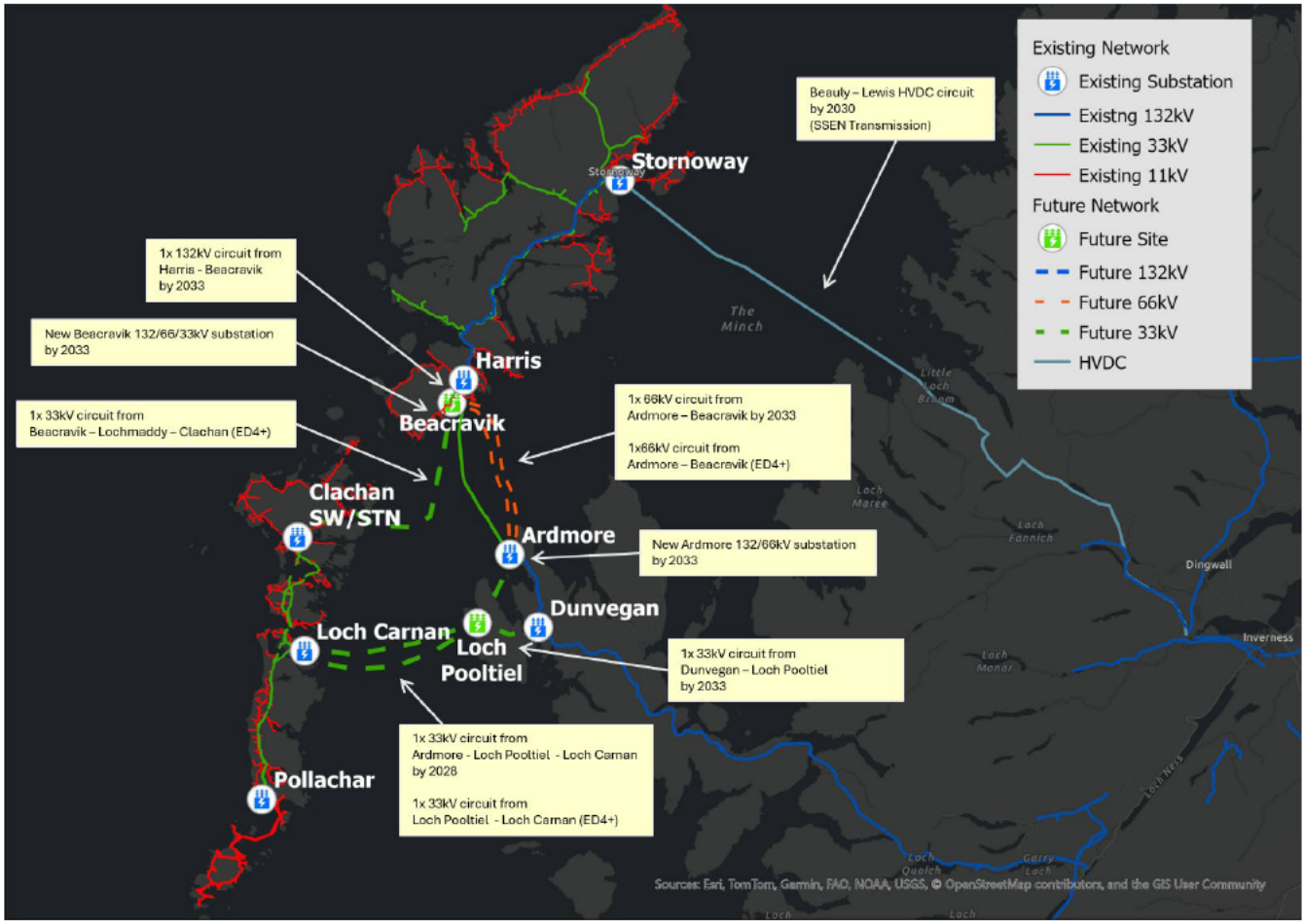
EJP Reference	EJP Title
SHEPD_LRE_208	Outer Hebrides 2050 Strategic Plan

7.3.2 FUNDING REQUEST SUMMARY

Basis	Cost (£M) 25/26 price base
Development funding requested in ED3	[redacted]
Indicative uncertainty mechanism cost	[redacted]

7.3.3 LONG-TERM PATHWAY

Figure 7.3. Outer Hebrides long-term pathway.



The Outer Hebrides distribution network serves two principal island systems. Lewis and Harris are currently connected to Skye through the Ardmore–Harris 33kV subsea circuit, with an existing 132kV connection between Harris and Stornoway. The Uists are supplied through the 33kV network through the Ardmore – Loch Carnan 33kV subsea circuit. Resilience is currently supported by DEG at Arnish, Battery Point, Loch Carnan and Barra.

The long-term pathway builds on the Outer Hebrides programme initiated through the Hebrides and Orkney Whole System Uncertainty Mechanism. Through HOWSUM, funding was provided for a new 33kV route between Ardmore, Loch Pooltiel and Loch Carnan, replacing the existing Skye–South Uist subsea cable. This forms an important first stage of the longer-term development of the Uist network. Our long-term pathway assumes this circuit is in service.

SSEN Transmission is delivering a suite of works on Lewis and Harris as part of the Accelerated Strategic Transmission Investment (ASTI) programme. This will deliver a subsea HVDC link between a new Lewis 400kV substation and Fanellan substation on the Scottish mainland. Additional 132kV sites will be established at Lewis and Balallan. The HVDC circuit will be in service from 2032 and forms an important arterial link between the island and the mainland.

Further intervention is required to accommodate credible demand growth, improve resilience during prolonged subsea cable outages and reduce the future dependence of island communities on the existing DEG fleet. Network studies undertaken for the (SHEPD_LRE_208) Loch Carnan_Outer Hebrides Offshore identify thermal and voltage limitations under relevant outage conditions on both the Lewis and Harris system and the Loch Carnan system. The studies also

show that compliance with the minimum requirements of P2/8 does not, in all circumstances, provide the sustained resilience sought for island groups exposed to prolonged subsea cable repair periods.

The preferred long-term pathway is seen in Figure 7.3 and comprises:

- Replace the existing Loch Carnan voltage regulator
- Install one new 33kV circuit between Loch Pooltiel and Loch Carnan
- Install one new 33kV circuit between Dunvegan and Loch Pooltiel
- Install two new 66kV subsea circuits between Ardmore and Beacravik
- Install one new 132/66/33kV transmission substation at Beacravik
- Install one new 132kV transmission circuit between Harris and Beacravik
- Install an auto-close scheme at Lochmaddy and Beacravik
- Install one new 33kV circuit between Beacravik, Lochmaddy and Clachan

This pathway is intended to provide additional capacity and resilience across Lewis, Harris and the Uists, while maintaining the option to use flexibility, compliant generation or hybrid solutions where these can deliver the required outcome more efficiently. The solution also has an important whole-system interface with planned transmission investment, including the proposed HVDC connection between Fanellan and Lewis and the associated transmission infrastructure required to integrate the distribution pathway.

The pathway should not be interpreted as a final construction commitment at this stage. It provides the engineering comparator against which alternative phasing, flexibility, low carbon generation and hybrid solutions will be assessed as the programme is developed through the uncertainty mechanism.

7.3.4 ISLAND-SPECIFIC ENGAGEMENT AND LEARNING

Through our work with the ICNZ, Comhairle nan Eilean Siar and local stakeholders, we gained a more detailed understanding of future energy requirements across Lewis, Harris and the Uists. This work highlighted that future growth is likely to be driven by a relatively small number of significant developments rather than being evenly distributed across the island group.

A consistent message from stakeholders was the importance of ports, harbours and wider maritime activity to the future economy of the Outer Hebrides. The ICNZ analysis identified potential future electricity demand associated with vessel electrification, port infrastructure, fishing and aquaculture activity, offshore wind support facilities and wider marine-sector growth. Several of these opportunities were concentrated around the Battery Point, Clachan and Aird supply areas and could create substantial localised network requirements.

Stakeholders also highlighted continued ambitions for community energy projects, renewable generation and wider local decarbonisation. The ICNZ work identified several generation and demand opportunities that are not yet fully represented within conventional forecasting and connections datasets, reinforcing the need to maintain flexibility and optionality within the long-term pathway.

The principal learning from this work is that future requirements in the Outer Hebrides are highly location-specific. Relatively small numbers of projects, particularly around ports and coastal communities, can materially influence requirements at individual substations and significantly affect the shape of the future network. These insights have therefore been used alongside the tRESP-aligned baseline to develop a pathway that maintains strategic capacity and resilience across both the Lewis and Harris network and the Uist network while accommodating credible long-term demand and generation growth through to 2050.

7.3.5 INTERVENTION IDENTIFIED IN ED3

The long-term pathway described above has been assessed against the tRESP-aligned planning baseline to determine which elements are required within the ED3 planning horizon. This assessment identifies interventions across the Uist and Lewis and Harris networks as being required during ED3 to address forecast demand growth, strengthen resilience during prolonged subsea cable outages and reduce future reliance on existing DEG.

The interventions identified for ED3 are:

- Replace the existing Loch Carnan voltage regulator;
- Install one new 33kV circuit between Loch Pooltiel and Loch Carnan;
- Install one new 33kV circuit between Dunvegan and Loch Pooltiel; and
- Install one new 66kV circuit between Ardmore and Beacravik.

The ED3 pathway has been developed in coordination with the following planned Transmission investments:

- Install one new 132/66/33kV substation at Beacravik;
- Install one new 132kV circuit between Harris and Beacravik.

Together, these interventions represent the proportionate ED3 stage of the preferred long-term pathway. The additional Loch Pooltiel–Loch Carnan and Dunvegan–Loch Pooltiel circuits will strengthen the supply arrangements to the Uists, while the Ardmore–Beacravik reinforcement and associated Transmission infrastructure will provide additional resilience and capacity for Lewis and Harris. Further elements of the long-term pathway will be considered in future price controls as demand develops and updated evidence becomes available.

The pathway remains subject to whole-system assessment and may ultimately be delivered through network reinforcement, flexibility, compliant low-carbon generation or a hybrid solution where this provides a more efficient and deliverable outcome. As the programme is progressing through the proposed Islands Re-opener, inclusion of these interventions in the ED3 pathway does not represent a construction commitment. The ED3 Business Plan seeks the development and pre-construction funding required to mature the scope, complete outstanding route surveys and detailed design, coordinate the Distribution and Transmission interfaces, assess credible alternatives and establish market-tested costs before the full construction funding request is submitted through the uncertainty mechanism.

7.3.6 ED3 FUNDING REQUEST AND DELIVERY APPROACH

A development funding allowance of [redacted] is requested for pre-construction and development activities with a full funding request to follow under the uncertainty mechanism.

7.3.7 DEPENDENCIES

There is a strong Transmission dependency on Lewis and Harris to enable the ED3 asset solutions to be realised. The establishment of the proposed Beacravik 132kV substation and the associated 132kV circuit to tie this back to the existing 132kV infrastructure is required to enable the 66kV cable between Ardmore and Beacravik. Work will continue in the development phase with SSEN Transmission to ensure the interfaces are well managed.

7.4 INNER HEBRIDES: MULL, COLL & TIREE

7.4.1 ENGINEERING JUSTIFICATION PAPER REFERENCE

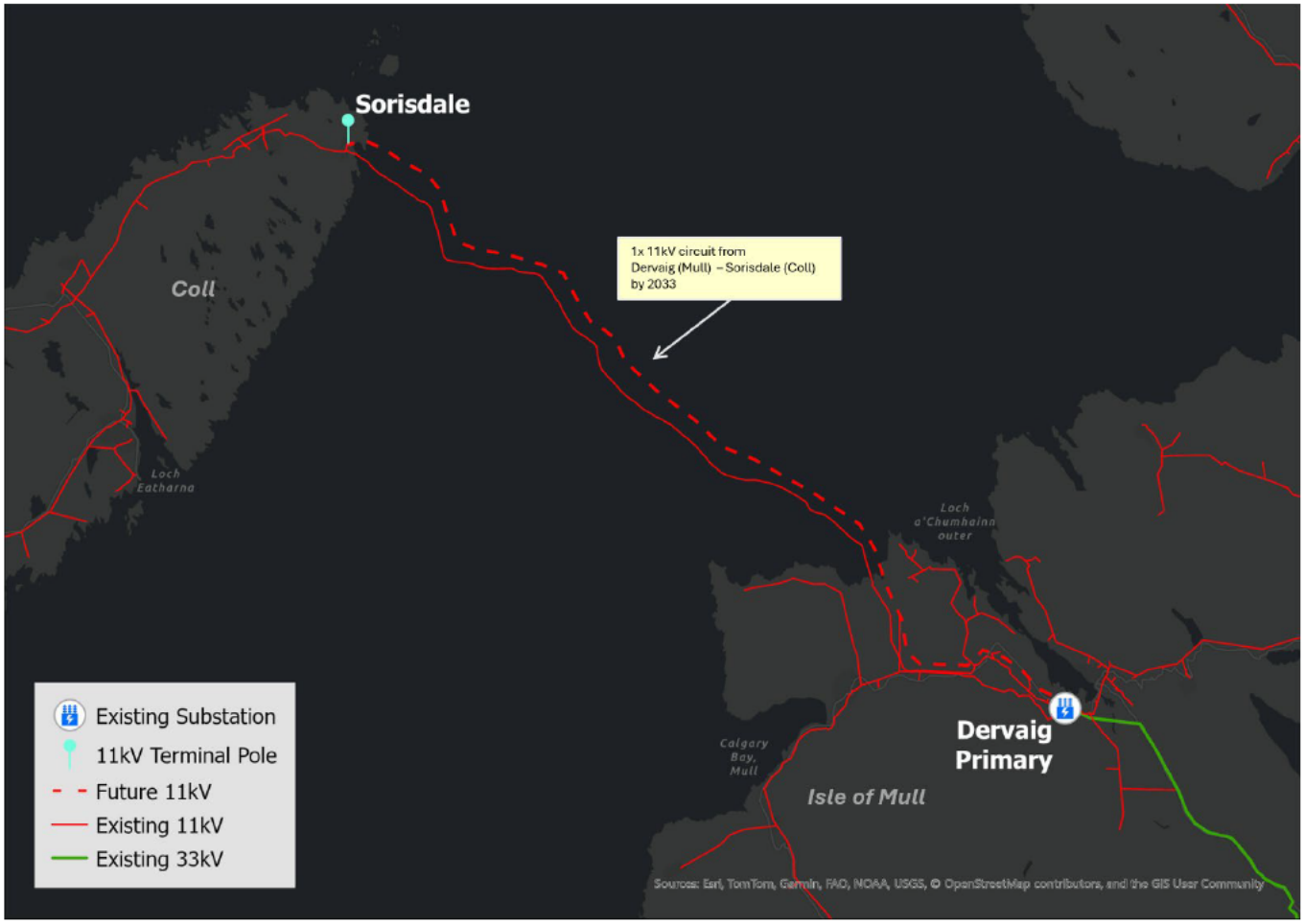
EJP Reference	EJP Title
SHEPD_LRE_204	Taynuilt Mull 2050 Strategic Plan
SHEPD_LRE_205	Coll & Tiree 2050 Strategic Plan

7.4.2 FUNDING REQUEST SUMMARY

Basis	Cost (£M) 25/26 price base
Development funding requested in ED3	[redacted]
Indicative uncertainty mechanism cost	[redacted]

7.4.3 LONG-TERM PATHWAY

Figure 7.4. Inner Hebrides: Mull, Coll & Tiree long-term pathway.



The islands of Mull, Coll & Tiree are supplied from Taynuilt Grid Supply Point through the 33kV distribution network. Kerrera and Mull are supplied through two existing 33kV circuits from Tullich Switching Station, comprising a combination of overhead line, underground cable and subsea cable sections. On Mull, the 33kV network supplies the primary substations at Lochdonhead, Salen, Dervaig and Kinloch. The supply then extends from Dervaig to Coll and Tiree through the 11kV network.

Forecast demand growth creates thermal and voltage limitations on the 33kV network supplying Tullich and Mull. Coll and Tiree are also dependent on a single 11kV subsea circuit from Mull, with local generation at Tiree Power Station currently required to maintain supplies following the loss of that circuit. The future availability and environmental compliance of this generation mean that a more enduring network solution is required.

Through HOWSUM and the subsequent development of the two supporting ED3 EJPs, we have developed a coordinated long-term pathway covering the mainland 33kV network, the strategic connections to Mull and the onward supply arrangements to Coll and Tiree. The pathway is intended to address forecast demand growth, improve voltage performance and security of supply, and reduce long-term reliance on existing DEG arrangements.

The preferred long-term pathway is seen in Figure 7.4 and comprises:

- Uprate the existing 33kV circuit between Connel and Tullich;
- Install one new 33kV switching station at Connel;

- Install two new 33kV circuits between Connel and Taynuilt;
- Install two new 33kV circuits between Connel and Tullich;
- Uprate the two existing 33kV circuits between Tullich, Kerrera and Lochdonhead, including the subsea and associated onshore sections;
- Install one new 11kV subsea circuit between Mull and Coll.

Together, these interventions create a staged pathway from Taynuilt Grid Supply Point through the mainland 33kV network to Mull, with onward reinforcement to Coll and Tiree. The mainland works provide the upstream capacity and resilience required to support the island networks. Reinforcement of the existing Tullich–Kerrera–Lochdonhead circuits strengthen the supply to Mull, while the new Mull–Coll circuit provides a second 11kV connection and reduces reliance on local generation during an outage of the existing circuit. (SHEPD_LRE_205) Taynuilt_Taynuilt-Coll & Tiree identifies the second 11kV connection as the preferred solution because it restores N-1 security, improves voltage performance and aligns with the existing island network topology.

The pathway should not be interpreted as a final construction commitment at this stage. It provides the current asset-based engineering comparator against which alternative phasing, flexibility, compliant low-carbon generation and hybrid solutions will be assessed as the programme is developed through the proposed Islands Re-opener.

7.4.4 ISLAND-SPECIFIC ENGAGEMENT AND LEARNING

Our ongoing engagement with key stakeholders across the region has been instrumental in understanding local community needs and developing network solutions that support long-term growth and decarbonisation objectives to 2050. Targeted engagement has been undertaken for the Taynuilt-Tullich corridor, involving capital delivery, network design, protection, asset management, consenting teams, Argyll and Bute Council, local community organisations, and other internal stakeholders. This engagement has confirmed the strategic importance of maintaining a secure and resilient connection between Taynuilt GSP and Tullich Switching Station, which underpins the reliability of electricity supplies to approximately 14,500 customers across the mainland network and the connected island communities of Mull, Coll & Tiree.

There has been significant engagement with local community generation groups including Green Energy Mull and the Tiree Community Development Trust. This suggests a potentially significant ability for local communities in community energy projects which is an avenue we continue to explore.

7.4.5 INTERVENTION IDENTIFIED IN ED3

The long-term pathway has been assessed against the tRESP-aligned planning baseline to determine which elements are required within the ED3 planning horizon. This assessment identifies reinforcement of the mainland 33kV network between Taynuilt, Connel and Tullich, together with a second 11kV subsea connection between Mull and Coll, as being required during ED3. Together, these interventions will address forecast thermal and voltage constraints, provide the upstream capacity required to support Mull, Coll & Tiree, and strengthen the resilience of supplies to the island communities.

The interventions identified for ED3 are:

- Uprate the existing 33kV circuit between Connel and Tullich;
- Install one new 33kV switching station at Connel;
- Install two new 33kV circuits between Connel and Taynuilt; and
- Install one new 11kV subsea circuit between Mull and Coll.

The mainland interventions represent the first stage of the coordinated pathway from Taynuilt Grid Supply Point towards Mull. They will reinforce the upstream 33kV network and provide the capacity and security needed to support the connected island networks. The remaining elements of the long-term pathway, including further reinforcement between Connel, Tullich, Kerrera and Lochdonhead, will be considered in future price controls as forecast requirements develop and updated engineering evidence becomes available. The Taynuilt–Tullich network is currently subject to thermal and voltage constraints under intact and N-1 conditions, with those constraints affecting the security of supplies to Mull, Coll & Tiree.

The new Mull–Coll circuit will operate in parallel with the existing 11kV subsea circuit and provide N-1 security for Coll & Tiree. This will remove the current need for planned reliance on Tiree Power Station following the loss of the existing Mull–Coll circuit, while improving voltage performance and providing sufficient capacity for forecast demand growth.

The pathway remains subject to whole-system assessment and may ultimately be delivered through network reinforcement, flexibility, compliant low-carbon generation or a hybrid solution where this provides a more efficient and deliverable outcome. As the programme is progressing through the proposed Islands Re-opener, inclusion of these interventions in the ED3 pathway does not represent a construction commitment. The ED3 Business Plan seeks the development and pre-construction funding required to mature the scope, complete outstanding route surveys and detailed design, assess credible alternatives and establish market-tested costs before the full construction funding request is submitted through the uncertainty mechanism.

7.4.6 ED3 FUNDING REQUEST AND DELIVERY APPROACH

A development funding allowance of [redacted] is requested for pre-construction and development activities with a full funding request to follow under the uncertainty mechanism.

7.4.7 DEPENDENCIES

The principal delivery risks relate to securing wayleaves for the proposed new 33 kV circuits, obtaining any required planning and environmental consents, and coordinating outages on the existing network during construction. These risks will be mitigated through early engagement with landowners, local authorities, statutory consultees and internal operational teams. Wherever practicable, the proposed circuits will utilise existing electricity network corridors to minimise environmental impacts, reduce consenting requirements and improve programme certainty.

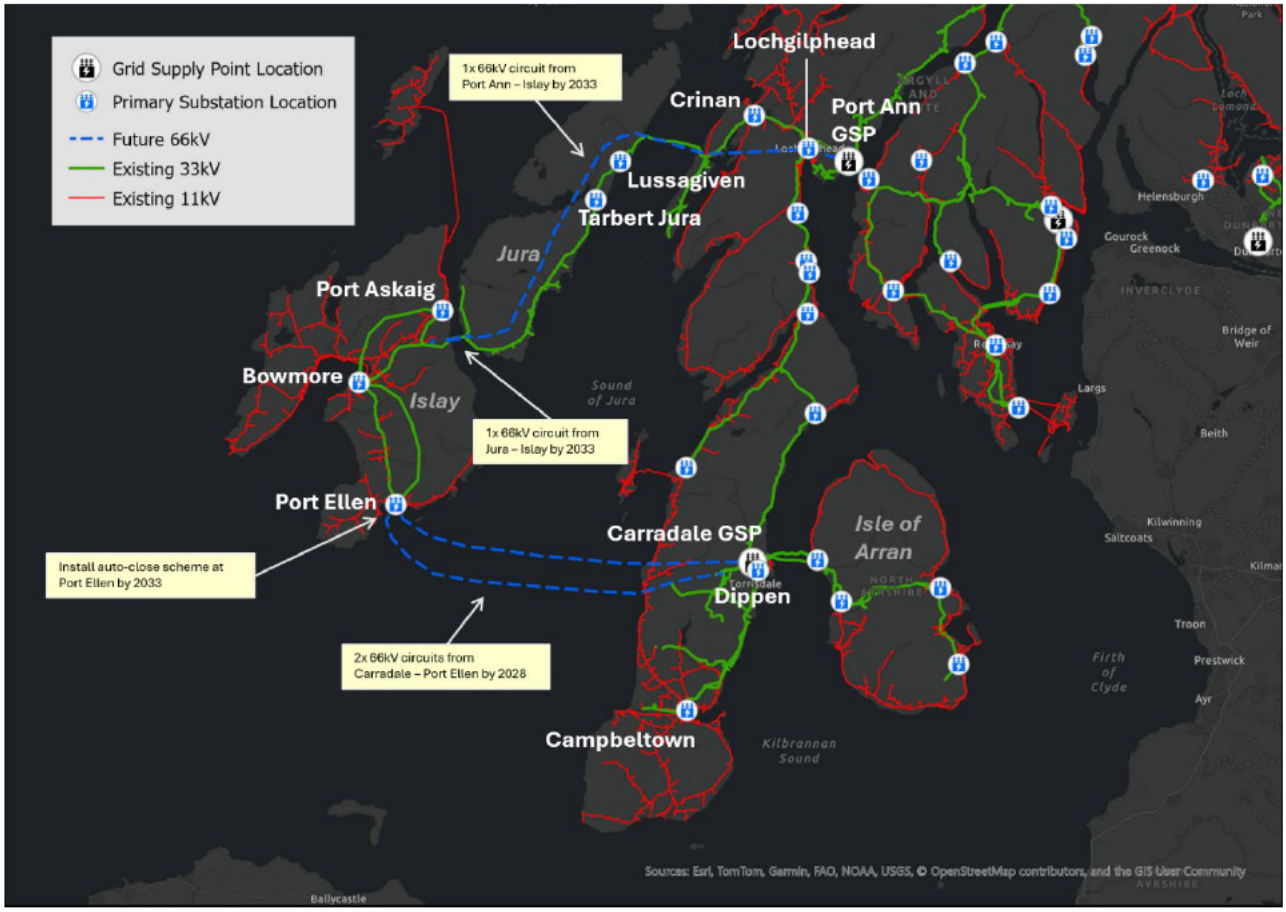
7.5 INNER HEBRIDES: ISLAY–JURA

7.5.1 FUNDING REQUEST SUMMARY

Basis	Cost (£M) 25/26 price base
Ex ante funding in ED3	[redacted]

7.5.2 HOWSUM-APPROVED PATHWAY AND ED3 DELIVERY

Figure 7.5. Islay - Jura long-term pathway.



The Islay - Jura island group is currently supplied from the mainland electricity network through subsea cable connections between the Kintyre peninsula, Islay and Jura. Future industrial decarbonisation, increasing electricity demand and the long-term replacement of resilience currently provided by DEG require additional network capacity and resilience beyond that provided by the existing network.

Through HOWSUM, we developed a long-term pathway for Islay - Jura extending to 2050. The HOWSUM 2025 submission identified a 33kV reinforcement solution based on additional circuits between Carradale and Port Ellen. During the subsequent assessment process, engagement with Ofgem highlighted the importance of ensuring that long-term strategic investments were appropriately sized for future requirements. Following this engagement, the preferred solution moved to 66kV and funding was subsequently awarded on that basis.

The preferred long-term pathway is seen in Figure 7.5 and comprises:

- Install two new 66kV circuits between Carradale and Port Ellen;
- Install one new 33kV auto-close scheme at Port Ellen;
- Install one new 66kV circuit between Port Ann and Knocklearach;
- Install one new 66kV circuit between Islay and Jura.

The programme has already been assessed through HOWSUM and received funding approval across ED2 and future price controls. The ED3 Business Plan therefore confirms the established funding position and the continued need for the approved programme. During ED3, we will progress the relevant elements of the programme in accordance with the agreed cross-price-control pathway, while continuing to monitor demand, delivery conditions and the interfaces required to achieve the approved resilience and capacity outcomes.

Completion of the Islay – Jura works identified above will remove reliance on DEG at Bowmore Power Station and provide over 200MVA of new installed cable capacity on our network. This meets the outputs we set out in our *ED3 Outputs* (Table 0-1).

No new EJP or IDP has been submitted for the Islay–Jura programme as the need, preferred pathway and associated funding were previously assessed and approved through HOWSUM.

7.5.3 DEPENDENCIES

The approved pathway has important Transmission interfaces where the new 66kV distribution infrastructure connects at new Grid Supply Points at Carradale and Port Ann. We will continue to work closely with SSEN Transmission to confirm the technical interfaces, ownership boundaries, programme and delivery arrangements required to support the coordinated solution.

7.6 ISLE OF WIGHT

7.6.1 ENGINEERING JUSTIFICATION PAPER REFERENCE

EJP Reference	EJP Title
SEPD_LRE_217	Isle of Wight 132kV supply LRE EJP

7.6.2 FUNDING REQUEST SUMMARY

Basis	Cost (£M) 25/26 price base
Development funding requested in ED3	[redacted]
Indicative uncertainty mechanism cost	[redacted] (ED3) [redacted] (ED4)

7.6.3 LONG-TERM PATHWAY

Figure 7.6. Isle of Wight long-term pathway.



The Isle of Wight is supplied from Fawley Grid Supply Point through three 132kV subsea cable circuits crossing the Solent. One circuit connects Fawley directly to Cowes Bulk Supply Point, while two circuits supply Wootton Common Bulk Supply Point through Langley. Cowes and Wootton Common are interconnected on the island, providing 132kV supply for approximately 79,200 customers.

The existing network remains compliant with P2/8 under both N-1 and N-2 conditions. However, that position does not fully address the island-specific resilience exposure created by potentially prolonged subsea cable repair periods. If one circuit remains unavailable for an extended period, a further circuit outage becomes a credible condition in which the island may be required to operate for a sustained period through only one mainland supply route.

This exposure becomes more material as demand grows. From winter 2035/36, the full Isle of Wight winter group demand will exceed the capacity available under the limiting N-2 outage condition. Although the network would remain compliant with the minimum requirements of P2/8, some demand would need to be curtailed until an unavailable circuit was restored or demand reduced.

The current asset-based long-term pathway is therefore to provide a fourth 132kV mainland-to-island circuit between Fawley Grid Supply Point and Cowes Bulk Supply Point.

The preferred long-term pathway is seen in Figure 7.6 and comprises:

- Install one new subsea 132kV circuit between Fawley and Cowes.

This fourth circuit will create an enduring increase in mainland-to-island capacity and enable full forecast winter group demand to be secured during credible N-2 conditions. It would also provide additional operational flexibility during

planned and unplanned outages and support forecast demand, maritime electrification and future low-carbon generation.

The current pathway represents the engineering comparator for the strategy. Detailed development work will confirm the final marine and onshore routes, landfall arrangements, switchgear configuration and interface with National Grid Electricity Transmission at Fawley. Flexibility and other credible alternatives will continue to be assessed against the firm capacity, duration and operational certainty needed during a potentially prolonged subsea-circuit outage.

7.6.4 ISLAND-SPECIFIC ENGAGEMENT AND LEARNING

Work undertaken with Regen and Isle of Wight Council, together with more recent stakeholder engagement, identified transport electrification, additional renewable generation, economic development and a fair net zero transition as important priorities for the island.

Maritime electrification is a particularly significant potential source of future demand. Engagement has considered ferry, hovercraft, shipping and associated port activity connecting the island with Portsmouth, Southampton and Lymington. Our proposals include an indicative allowance of 25 MVA for prospective maritime electrification, distributed across Fishbourne, Freshwater, Ryde and Cowes. This reflects the potential future requirements of vessel charging, shore power and associated port infrastructure, while recognising that the timing and scale of individual developments remain uncertain.

Stakeholder evidence also highlighted the importance of enabling greater use of the island's renewable-energy resources. The Isle of Wight already hosts significant distributed generation, predominantly solar PV. Existing export constraints are managed through Active Network Management. Additional 132kV capacity would reduce reliance on curtailment-led operation and improve the network's ability to accommodate future low-carbon generation.

The key learning is that future island requirements are being shaped by the interaction of resilience, transport electrification and local generation. These drivers are not necessarily represented fully by conventional baseline-demand forecasts when considered separately. They have therefore been considered alongside the common planning baseline when developing the long-term pathway, while sensitivity analysis is used to reflect uncertainty in the timing and scale of maritime and wider low-carbon demand.

7.6.5 INTERVENTION IDENTIFIED IN ED3

The long-term pathway has been assessed against the forecast timing of the Isle of Wight resilience requirement. The network studies identify winter 2035/36 as the first period in which full forecast island demand cannot be maintained under the limiting second circuit outage condition. The reinforcement must therefore be available ahead of that winter peak.

Our EJP sets out our programme indicating that the complete circuit works will require approximately six years to deliver, reflecting the need for route development, marine and environmental surveys, planning and consenting, land-rights acquisition, subsea cable procurement and installation, overhead and underground cable works, outage planning and commissioning. The associated switchgear works are expected to require approximately four years. Development activity must therefore begin during ED3 to maintain a credible route to delivery before the forecast resilience shortfall under N-2 emerges.

The intervention currently indicated for ED3 is the development and delivery activity required to ensure the fourth 132kV Fawley–Cowes circuit can commission in early ED4 to meet the forecast resilience requirement. This includes:

- marine, landfall and onshore route surveys;
- environmental assessment, planning and consenting;
- land and wayleave development;
- detailed design of the underground, subsea and overhead-line sections;
- development of the Fawley and Cowes switchgear arrangements;

- coordination with National Grid on the Fawley interface;
- procurement and market engagement; and
- commencement of construction activity necessary to support commissioning ahead of winter 2035/36.

The preferred option remains subject to continued review as the scheme develops. In particular, updated demand forecasts and maritime connection activity will be considered at defined project-development gateways. Lower demand growth could alter the optimal commissioning date and expenditure profile, but the EJP concludes that it would not remove the underlying long-term resilience exposure associated with prolonged subsea-circuit outages.

7.6.6 ED3 FUNDING REQUEST AND DELIVERY APPROACH

A development funding allowance of [redacted] is requested for pre-construction and development activities with a full funding request to follow under the uncertainty mechanism.

7.6.7 DEPENDENCIES

This proposal has a strong Transmission dependency on National Grid Electricity Transmission at Fawley Grid Supply Point. National Grid owns and operates the 132kV busbar, while we own and operate the feeder circuit breakers. Delivery of the fourth circuit requires a new feeder connection and coordinated works at the National Grid site. The EJP also identifies uncertainty around the possible relocation or reconfiguration of Fawley Grid Supply Point, which could affect the final connection point, onshore route, switchgear scope, programme and cost.

8. DELIVERABILITY AND RISK

The delivery of island infrastructure presents challenges that differ materially from conventional distribution network investment. Many interventions rely on highly competitive and volatile markets, specialist offshore capability requiring long lead times, subsea cable technology, remote construction locations and constrained marine working windows. These factors require a delivery approach that combines early project development, flexible commercial arrangements and proactive supply-chain management.

Our confidence in delivering the ED3 Islands programme is underpinned by our experience during ED2. During this period we have successfully delivered the Pentland Firth East 3 cable, substantially completed the Skye-Uist reinforcement programme, secured approval of the Islay-Jura programme and progressed development activities across Orkney, the Outer Hebrides and Mull, Coll & Tiree. These projects have strengthened our understanding of island infrastructure delivery and informed the commercial and delivery strategy proposed for ED3.

A key lesson from ED2 has been the increasing importance of securing access to specialist offshore capability at an early stage. As investment across transmission, offshore wind and interconnector markets continues to increase, maintaining access to manufacturing, survey and installation capacity has become a critical delivery consideration. Our framework arrangements have been specifically designed in response to this learning, providing earlier visibility of future investment requirements, strengthening supply-chain relationships and improving access to specialist delivery capability.

Whilst individual projects remain at differing levels of maturity, the programme has been specifically designed to ensure that major construction decisions are only made once sufficient engineering, environmental, commercial and cost certainty has been established. Our development funding requirements and uncertainty mechanism are both key to our highly tailored approach in this unique electricity distribution environment. This approach reduces delivery risk, protects consumers from premature investment and ensures that investment decisions are supported by robust evidence.

8.1 KEY DELIVERABILITY CHALLENGES

8.1.1 OFFSHORE AND SUBSEA DELIVERY

Offshore and subsea works are inherently more complex to deliver than conventional onshore reinforcement. Construction activities are constrained by weather conditions, marine access and limited seasonal working windows. Delays to surveys, consenting or procurement activities can therefore result in the loss of an installation season, creating material programme and cost implications.

In addition, the global market for specialist subsea cable manufacture, installation vessels and offshore contractors remains highly constrained due to competing demand from transmission investment, offshore wind developments, interconnectors and wider marine infrastructure programmes. Access to suitable installation vessels is an important delivery risk particularly when noting that not all vessels are suitable for use in all locations. Availability is often secured several years in advance and delays in procurement, development or regulatory approvals can materially affect the ability to secure installation windows. Given the short seasonal windows available for many island projects, the loss of an installation vessel slot can result in a corresponding loss of the construction season, potentially delaying delivery by a year or more.

8.1.2 REMOTE ISLAND LOCATIONS

Island projects are frequently located in remote and environmentally sensitive locations where logistics, access, transportation and resource availability can present additional delivery challenges. Marine and environmental consenting requirements are often more extensive than those associated with conventional network reinforcement and require longer development periods.

Many interventions also depend on the successful coordination of multiple interfaces, including Distribution and Transmission investments, land and marine consents, network outages and third-party infrastructure requirements. These dependencies must be sufficiently developed and coordinated before the associated construction programmes can be confirmed.

8.1.3 SUBSEA CABLE SUPPLY CHAIN CAPABILITY AND CAPACITY

Delivery of island reinforcement programmes is dependent on a limited global market of specialist subsea cable manufacturers. To ensure long-term network reliability and minimise the risk of costly failures, suppliers must demonstrate compliance with stringent technical requirements, including proven cable designs and comprehensive type testing. These requirements reflect the challenging operating environment and the significant cost and complexity associated with subsea cable replacement, and these factors can limit the number of available suppliers.

The combination of specialised technical requirements, manufacturing capability and availability of suitable production capacity can reduce the number of suppliers capable of supporting delivery, particularly for larger cable sizes and longer cable lengths. Early engagement with the supply chain and clear visibility of future investment requirements are therefore critical to securing manufacturing capacity and maintaining programme deliverability. Further detail on our approach to securing supply chain capacity, managing market constraints and mitigating delivery risks is provided in our (ED3-S05) Delivery Strategy and supporting (ED3-S19) Supply Chain Annex.

8.1.4 FISHING AND MARINE STAKEHOLDER INTERACTIONS

Fishing activity represents an important consideration in the development of island infrastructure. Fishing interests can influence route selection, cable protection requirements, installation methodologies and project costs. Early engagement with fishing organisations and marine stakeholders is therefore a key component of route development and consenting activities.

Marine desktop studies, stakeholder engagement and detailed route surveys are undertaken to identify potential conflicts at an early stage, minimise impacts on marine users and support the development of efficient and deliverable

routes. This engagement reduces consenting risk, improves delivery certainty and helps avoid unnecessary programme delays during construction.

8.1.5 MARKET AND COST UNCERTAINTY

Subsea projects remain exposed to volatility in commodity prices, specialist labour rates, vessel availability, insurance markets and manufacturing capacity. Whilst these risks can be mitigated through effective procurement and contract strategies, they cannot be eliminated entirely and require flexibility throughout project development and delivery.

8.1.6 REGULATORY AND PRICE-CONTROL TIMING CONSIDERATIONS

As discussed above, the delivery of island infrastructure can be heavily influenced by factors outside our direct control. In some circumstances, delays to individual activities may result in the loss of an installation season and a consequential shift in delivery timing.

Where the underlying need, technical solution, outputs and efficient cost are established, investment decisions should support efficient delivery, rather than being constrained by regulatory processes and decision-making, which could lead to sub-optimal outcomes. This is particularly important for subsea programmes where delivery windows may be measured in months, rather than years. We would therefore like Ofgem to confirm that allowances will not be lost in a scenario where delivery of works is not complete within a price control period, or where the original phasing of works across price control periods changes, and that a mechanism is in place to ensure allowance continuity.

8.2 COMMERCIAL AND DELIVERY STRATEGY

Our commercial strategy is designed to maximise competition, maintain flexibility and provide timely access to specialist skills and supply-chain capability.

Building on lessons learned through ED1 and ED2, we established a new offshore and subsea framework in January 2026. The framework has an initial five-year term, with the option to extend for a further three years, providing an established route to market and access to specialist capability through to the end of ED3. The framework supports up to [redacted] of potential subsea investment and provides access to five specialist delivery partners.

In parallel, a new Design and Build Framework was awarded in March 2025 covering overhead line, underground cable and substation works. The framework provides long-term access to regional delivery capability and allows projects to be packaged according to their engineering complexity, location and risk profile.

These arrangements provide two important benefits. Firstly, they provide partners with early visibility of future investment requirements and improving access to specialist manufacturing, installation and construction resources in an increasingly constrained market. Secondly, they provide flexibility in how individual projects are procured and delivered. Different projects require different contracting approaches depending upon their engineering complexity, maturity, interface risk and scale. Our framework arrangements allow us to select the most appropriate delivery model for each project whilst maintaining competitive tension and driving value for consumers.

A key objective of the framework strategy is to improve access to specialist offshore resources, particularly installation vessels and associated marine capability. By providing long-term visibility of investment requirements and maintaining relationships with multiple offshore delivery partners, we are better positioned to secure scarce vessel capacity at an early stage and reduce exposure to market bottlenecks. This is a critical mitigation measure given the increasing competition for offshore resources across the wider energy sector.

Projects may be delivered through integrated or disaggregated contracting strategies depending on project-specific circumstances, market conditions and risk allocation considerations. This approach ensures that the procurement strategy is tailored to the characteristics of each project rather than constrained by a single delivery model.

The result is a delivery model capable of adapting to project-specific requirements while reducing reliance on any single supplier, contractor or procurement route. This contractual diversity will be supported by project-level

assessment of common upstream dependencies and confirmation that alternative manufacturing, specialist-resource and installation routes provide technically and commercially usable capacity within the required delivery window. Further detail on our approach to supply chain planning, capacity management, strategic procurement and resilience is provided in our supporting (ED3-S19) Supply Chain Annex.

Whilst framework arrangements significantly improve access to specialist delivery capability, they do not eliminate exposure to wider market conditions. Recent procurement exercises have demonstrated that suppliers increasingly seek contractual mechanisms that allow construction costs to respond to external market movements, particularly for commodities, manufacturing inputs, specialist vessels, fuel costs and labour markets. These commercial realities must be recognised in regulatory arrangements when funding long-duration subsea infrastructure projects.

8.3 DEVELOPMENT-LED DELIVERY APPROACH

A key lesson from ED2 has been the importance and effectiveness of early development funding in underpinning the progress of complex island infrastructure projects.

For many subsea schemes, route surveys, environmental assessments, engineering development, consenting activity and market testing represent significant elements of the overall delivery programme. These activities are essential in establishing technical solution and route feasibility, identifying delivery constraints, and informing or reducing programme and cost uncertainties before major construction decisions are made.

Our proposed ED3 development funding therefore plays a critical role in identifying optimum solutions and reducing delivery risk. It enables projects to progress to an appropriate level of engineering and commercial maturity before construction funding is requested through the proposed Islands Re-opener.

This staged approach ensures that:

- solutions remain aligned to evolving customer and system needs;
- network and non-network alternatives can be fully assessed;
- interfaces with transmission and third-party projects can be effectively managed;
- delivery risks are identified and mitigated at an early stage;
- submissions are supported by mature engineering evidence and market-tested costs;
- engagement with key stakeholders can be used to inform the scope, scale and nature of solutions, as appropriate; and
- efficient procurement and delivery strategies can be developed before major contractual decisions are made.

This approach is particularly important for island infrastructure where long development periods, constrained delivery windows and specialist supply-chain requirements mean that early project development is essential to successful delivery.

8.4 MANAGING RISK AND UNCERTAINTY

Our approach to delivery risk is based on early identification, proactive mitigation and allocation of risk to the party best placed to manage it.

Key mitigation measures include:

- early market engagement to secure manufacturing capacity, specialist contractors and installation vessel availability;
- framework arrangements that provide access to multiple delivery partners and reduce reliance on individual suppliers;

- progression of surveys, engineering design and consenting activities at an early stage to improve programme certainty;
- portfolio-level planning and coordination across the wider islands programme;
- ongoing assessment of commercial and technical risks throughout project development;
- market testing to establish robust delivery strategies and cost certainty;
- coordination of transmission, distribution and third-party interfaces and engagement; and
- robust governance and assurance arrangements to maintain control of scope, cost, programme and risk.

Where risks remain outside of our direct control, including severe weather, marine conditions, supply-chain constraints and exceptional market volatility, these will continue to be actively monitored and managed throughout the project lifecycle.

We typically define and quantify relatively well-understood types of risks, where we have experience in managing these, and request appropriate standard risk allowances for each of our projects, as approved across multiple projects in ED2. We have experience in quantifying the impact of these risks, can be confident that our estimated risk allowances are representative of the likely scale of cost risk involved, and therefore that this is a fair approach for consumers and for us.

8.4.1 SUBSEA CABLE INSURANCE

Subsea cable assets represent high-value strategic infrastructure and are exposed to low-probability but potentially significant failure events. The market for subsea cable insurance has become increasingly challenging in recent years due to the scale and frequency of claims experienced internationally.

As part of ED3 we will continue to assess the role of insurance as a complementary risk-management measure alongside asset management, engineering standards and operational controls. Where economically justified, insurance may provide a proportionate mechanism for protecting consumers against low-probability, high-impact events that cannot be efficiently mitigated through investment or operational measures alone.

We therefore anticipate that subsea cable insurance may form part of future Islands Re-opener submissions where it can be demonstrated to provide value for money and an appropriate balance of risk between consumers and the business.

8.4.2 COST VOLATILITY AND PAYMENT ADJUSTMENT MECHANISMS

The delivery of major subsea infrastructure projects increasingly requires a balanced approach to risk allocation between clients and suppliers.

Contracting with the subsea cable supply chain in ED2 has demonstrated that suppliers are not willing to price or carry certain cost risks. Suppliers are increasingly seeking the use of contractual mechanisms that adjust costs in response to defined market movements, commonly referred to as Payment Adjustment Mechanisms (PAMs).

These mechanisms are becoming more prevalent across offshore infrastructure markets and are driven by factors outside our direct control, or the control of our contractors, including commodity-price fluctuations, manufacturing input costs, vessel rates, fuel costs and wider supply-chain pressures.

The scale of potential exposure associated with these mechanisms can be material on major subsea infrastructure projects. Where these risks cannot be efficiently mitigated or fixed through procurement, excessive risk transfer may result in suppliers pricing significant contingency into bids, increasing overall costs to consumers.

Our approach is therefore to minimise exposure wherever practicable through early engagement, market testing, procurement strategy and competitive tension, whilst recognising that certain market risks may remain outside the control of either party and that such contractual mechanisms may be unavoidable in the near-term. We believe there is a strong case for a cost adjustment mechanism to manage market-driven cost movements associated with major

subsea infrastructure projects, following precedents established for PAMs for transmission projects. We engaged with Ofgem extensively on this topic under HOWSUM and request that our recommendation is assessed for ED3.

Table 8-1: Summary of Key Delivery Risks

Key Risk Area	Potential Impact	Primary Mitigation
Constrained marine construction windows	Programme delay and additional mobilisation costs	Early development, survey completion and programme planning
Installation vessel availability	Loss of offshore installation window and significant programme delay	Early market engagement, framework arrangements and advance securing of vessel capacity
Manufacturing capacity constraints	Extended procurement lead times	Early market engagement and long-term framework arrangements
Fishing and marine stakeholder interactions	Route changes, additional protection requirements or consenting impacts	Early stakeholder engagement, route development and marine surveys
Market volatility and PAM exposure	Material cost uncertainty on long-duration projects	Competitive procurement, market testing and appropriate regulatory mechanisms
Subsea cable failure and insurance constraints	Significant restoration and replacement costs	Engineering standards, asset management and consideration of insurance solutions
Distribution and Transmission dependencies	Programme and delivery risk	Ongoing whole-system planning and coordinated development
Delivery across price-control boundaries	Potential inefficiencies and delayed outputs	Islands Re-opener framework to support timely funding and price control framework flexibility to enable allowance continuity across price controls

8.5 GOVERNANCE AND DELIVERY ASSURANCE

The ED3 Islands programme will be delivered through our established capital governance framework. This tried and tested Group-wide governance framework ensures large investment projects are governed, developed, approved and executed in a safe, consistent, sustainable and effective manner.

This provides structured oversight throughout project development and delivery, including assurance of technical scope, commercial strategy, cost estimates, programme performance and risk management. Projects progress through defined governance and investment gateways before major decisions are made, ensuring decisions are supported by appropriate engineering, commercial and financial evidence. See section A of our (ED3-S05) Delivery Strategy for further detail on governance frameworks.

Together with the proposed Islands Re-opener, this approach provides confidence that investment decisions will be made at the appropriate point of project maturity whilst maintaining flexibility to respond to evolving market conditions, engineering evidence and delivery constraints.

8.6 OVERALL DELIVERY CONFIDENCE

The delivery risks associated with island infrastructure are significant but well understood.

Through ED2 we have demonstrated our ability to develop and deliver complex island and subsea reinforcement projects whilst continuing to mature future investment pathways. Building on this experience, we have strengthened access to specialist subsea and onshore delivery capability, established long-term framework arrangements and adopted a staged development-led approach that ensures construction decisions are only made once projects have achieved an appropriate level of technical and commercial maturity.

Particular emphasis has been placed on securing access to specialist offshore capability, recognising that installation vessel availability has become one of the most significant determinants of successful delivery in an increasingly competitive global subsea infrastructure market.

The programme has been specifically designed to manage the distinct challenges associated with island infrastructure delivery, including constrained marine construction windows, vessel availability, manufacturing capacity, fishing interactions, insurance market uncertainty and wider offshore market volatility. Through a combination of early development funding, framework-based procurement, market engagement, robust governance and targeted risk management, we have established a delivery model that reflects the complexity of the programme whilst maintaining flexibility to respond to changing circumstances.

Taken together, our proven delivery track record, specialist supply-chain partnerships, framework arrangements, development-led approach and proposed Islands Re-opener provide a credible and proportionate route to delivering the ED3 Islands programme. This will ensure regulatory funding applications are made at the right time, protect consumers from premature decisions of major construction expenditure, and ensure investment decisions are made when sufficient technical, commercial and delivery certainty has been achieved.

9. CONCLUSION AND RECOMMENDATIONS

We have developed a comprehensive suite of long-term pathways for our Island networks. We have assessed the needs of these Islands by focussing on three core drivers for change:

1. **Ensuring appropriate resilience for island communities**: Resilience conditions for islands are unique given the geographies and potential lengthy system outages in the unlikely event of a subsea cable fault. We have developed a specific resilience strategy (Resilience Strategy for Island Groups Connected by Subsea Cables) for the treatment of these island groups, recognising the impacts of decarbonisation on electrification of heat and transport. We plan to achieve the resilience levels in our strategy through staged interventions potentially supported by third party solutions including community generation projects.

2. **Accommodating future demand and generation growth:** Electrification of heat, transport and industrial processes on the islands and their impact on future demand requirements. Also, islands and surrounding waters have significant potential for wind and tidal generation.

3. **Managing the future role and compliance of our diesel generation fleet:** In addition to EASR impacts on NOx emissions, DEG is a significant source of our scope 1 carbon emissions when required to run for long periods of time. Emissions, due to DEG reached 12,595 tCO2-e in 2024/25 across the Outer Hebrides fleet, and we must reduce these to 7,239 tCO2-e for the entire DEG fleet by 2032/33 to meet our 1.5-degree Science Based Target (SBT).

ED3 represents the next proportionate step in delivering these pathways. We commit to securing electricity demand in each island group against the loss of any single in-feeding subsea circuit by the end of ED3. This will provide N-1 security and will mean that DEG is required principally to maintain supplies during unplanned events and more severe outage conditions.

Affordability has been a central consideration in developing our ED3 strategy, recognising the significant cost of island network investments and their potential impact on customer bills, therefore we will deliver this commitment through:

Ex-ante funding, where the need, preferred solution, costs and delivery arrangements are sufficiently mature to support an investment decision through approval of the ED3 Business Plan; and,

Development funding and our proposed Islands Re-opener uncertainty mechanism, which builds on the established requirement for N-1 outcomes and provides routes for the further work needed to determine the most efficient solutions, mature costs, and to confirm delivery arrangements.

To deliver the projects aligned with the islands long term pathways, we require allowances as summarised in Table 9-1 below;

Table 9-1: Ex-Ante funding request in ED3 and indicative UM costs

Island Group	Ex-Ante funding requested in ED3 *(25/26 price base)*	Indicative uncertainty mechanism cost *(25/26 price base)*
Shetland	[redacted]	[redacted]
Orkney	[redacted]	[redacted]
Outer Hebrides	[redacted]	[redacted]
Inner Hebrides; Mull, Coll & Tiree	[redacted]	[redacted]
Inner Hebrides; Islay - Jura	[redacted]	[redacted]
Isle of Wight	[redacted]	[redacted]
ED4 Development Funding	[redacted]	[redacted]
Subsea Cable Fault Contingency	[redacted]	[redacted]

In conclusion, we aim to pursue the ED3 required elements of each Islands pathway using our Islands Reopener (with the exception of Islay - Jura), ensuring we continue to provide a resilient network, with sufficient capacity and low carbon footprint all whilst ensuring a cost-effective engineering solution.

10. APPENDICES

10.1 REFERENCES

Table 10-1 Relevant Business Plan Data Table referenced

Business plan data tables	Title

CV1	Primary Reinforcement
C22	Pass Through
C25	Shetland
C8	Remote Generation Opex
CV15	QoS & North of Scotland

Table 10-2: Relevant Investment Decision Packs and Engineering Justification Papers referenced

EJP Reference number	Title
SHEPD_LRE_203	Shetland 2050 Strategic Plan
SHEPD_LRE_201	Orkney 2050 Strategic Plan
SHEPD_LRE_208	Outer Hebrides 2050 Strategic Plan
SHEPD_LRE_204	Taynuilt Mull 2050 Strategic Plan
SHEPD_LRE_205	Coll & Tiree 2050 Strategic Plan
SEPD_LRE_217	Isle of Wight 132kV supply LRE EJP

10.2 ED3 ISLANDS STRATEGY — STAKEHOLDER ENGAGEMENT & FEEDBACK

Table 10-3 stakeholder engagement undertaken and the feedback received that has shaped SSEN Distribution's ED3 Islands Strategy

ED3 Outcome	Policy Area (theme)	Type of Engagement Undertaken	Stakeholder Groups	Summary Feedback	Impact on Business Plan
Resilient Networks	Reliable and resilient island networks	Research (VoLL Study, Consumer Priorities Research, Major Customers Priorities Research, ICNZ Local Data Research, Fair Future Panel); consultations (GSP/SDP consultations); webinars (Whole Systems Have Your Say); bilaterals (Scottish Government); stakeholder events (SSEN ED3 stakeholder workshops in March and September).	Island communities; domestic customers; local authorities; emergency and public services; major users; community energy groups; Scottish Government; consultants and trade bodies	Reliability is a baseline expectation. VoLL evidence demonstrates the high social and economic value of dependable supply, while Consumer Priorities Research, the Major Customers Priorities Research and Fair Future Panel show strong public support for reliability, rapid restoration and clear outage communication. At our ED3 Stakeholder events, Island stakeholders emphasised that a uniform approach would not work across mainland and island communities and highlighted the additional resilience challenges associated with subsea cable dependency and recovery times. ICNZ adds the essential island-specific evidence: prolonged outages can have disproportionate effects because of electrical heating, limited alternatives, fragile transport and communications links, and dependence on essential services. Stakeholders therefore supported stronger storm preparedness, reduced outage frequency and duration, and credible emergency cover.	This combined evidence strengthens the case for island-specific resilience investment rather than reliance on GB-wide averages alone. The plan uses VoLL and consumer research to demonstrate customer value, and ICNZ local data to identify island dependencies, test pathway assumptions and target strategic subsea/on-island reinforcement, contingency planning and improved restoration communications. Emergency generation is retained where necessary until alternatives can provide equivalent security.
Networks for Net Zero	Planning and investment for future energy needs	Research (Consumer Priorities Research, Major Customers Priorities Research, ICNZ Local Data Research, Fair Future Panel); consultations (GSP/SDP consultations); webinars (Whole Systems Have Your Say); bilaterals (Scottish Government); stakeholder workshops (SSEN ED3 stakeholder workshops in March and September).	Local authorities; housing and economic-development bodies; transport and ferry operators; ports; major energy users; DER, storage and renewables developers; community energy groups; domestic consumers	Consumer Priorities Research and the Major Customers Priorities Research show that customers support investment ahead of need where the requirement, customer benefit, affordability and long-term value are clear. Fair Future Panel participants similarly favoured a planned transition but wanted protection from speculative cost. The ED3 Stakeholder Workshop reinforced support for future capacity and proactive investment, but placed greater emphasis on affordability, deliverability and demonstrating local benefit than some of the island-specific growth evidence sources. ICNZ is fundamental in translating those broad priorities into island-specific evidence, identifying likely changes in heat, transport, housing, ports, ferries, industry and generation that national scenarios can miss. Local stakeholders wanted capacity available in time to avoid constraining credible growth and decarbonisation.	The plan combines national scenarios with ICNZ, SDP/DFES, LAEP+ and sector evidence to create island-group pathways to 2050. Consumer research informs the tests of acceptability, fairness and value; ICNZ improves the timing, location and scale of forecast need. A defined least-regrets baseline is therefore combined with development funding, the Islands Re-opener and staged decisions as project maturity, utilisation evidence and cost certainty improve.

ED3 Outcome	Policy Area (theme)	Type of Engagement Undertaken	Stakeholder Groups	Summary Feedback	Impact on Business Plan
Networks for Net Zero	Place-based planning and whole-system coordination	Research (ICNZ Local Data Research, Consumer Priorities Research, Major Customers Priorities Research); consultations (GSP/SDP consultations, LENZA engagement, DNO Working Group on Community Energy); webinars (Whole Systems Have Your Say); bilaterals (SEPA, Scottish Government); stakeholder events (SSEN ED3 stakeholder workshops in March and September).	Local authorities; Scottish Government; SEPA; NESO and Transmission; community energy organisations; developers; transport, housing and infrastructure providers; business representatives.	ICNZ provides the core place-based evidence that each island group has different demographics, infrastructure dependencies, economic ambitions and decarbonisation pathways. Consumer Priorities Research and the Major Customers Priorities Research reinforce expectations that decisions are locally relevant, coordinated and clearly justified. Councils, communities and delivery partners asked SSEN to coordinate distribution, transmission, generation, storage, heat, transport and development early, rather than treat islands as mainland extensions or fix options before local input.	The strategy adopts island-group pathways and whole-system option assessment, with ICNZ evidence used alongside network forecasts, local plans and confirmed projects. SSEN will coordinate with Transmission, NESO, councils, government and infrastructure providers; continue HOWSUM-style assessment; and use local evidence to test network and non-network options. Consumer research informs how choices, trade-offs and benefits are communicated and tested with customers.
Responsible & Sustainable Business	Decarbonising diesel generation and environmental compliance	Research (ICNZ Local Data Research, Consumer Priorities Research, Major Customers Priorities Research); consultations (GSP/SDP consultations); bilaterals (SEPA, Scottish Government); stakeholder events (SSEN ED3 stakeholder workshops in March and September).	SEPA; Scottish Government; island councils and communities; environmental stakeholders; operational and technical specialists; customers	SEPA and Scottish Government supported reducing the carbon, air-quality and cost impacts of routine diesel generation and emphasised regulatory compliance and best available techniques. Consumer Priorities Research and the Major Customers Priorities Research show that support for decarbonisation depends on reliability, visible progress and credible delivery. ICNZ provides the local demand, generation and infrastructure context needed to evaluate alternatives, while island stakeholders stressed that diesel cannot be withdrawn before secure and operable replacement arrangements exist.	The plan links reinforcement, environmental compliance and reduced routine diesel operation. ICNZ evidence supports whole-system assessment of network, lower-carbon generation, storage and non-network options; consumer research keeps security, deliverability and customer benefit central. The plan progresses the Bowmore transition, restricts non-compliant plant to exceptional emergency use where necessary, and retains optionality while alternatives, consenting and operational readiness mature.
Smarter Networks	Community energy, flexibility and local benefit	Research (ICNZ Local Data Research, Consumer Priorities Research, Major Customers Priorities Research, Fair Future Panel); consultations (DNO Working Group on Community Energy, Orkney ANM engagement, GSP/SDP consultations); webinars (Whole Systems	Community energy groups; DER, storage and renewables developers; flexibility providers; local authorities; domestic consumers;	ICNZ identifies community generation, storage and local flexibility as material features of credible island pathways and shows where local projects and constraints may differ from national assumptions. Consumer Priorities Research, the Major Customers Priorities Research and Fair Future Panel add the customer lens: support is stronger where benefits are visible, participation is fair and costs do not fall disproportionately on non-participants. Community and developer engagement highlighted limited capacity visibility, connection uncertainty and market complexity, while recognising that flexibility is not always a substitute for durable resilience, which was echoed by Islands	Non-network solutions remain integral to island optioneering. ICNZ evidence will help identify where community generation, storage, ANM and flexibility could defer or complement reinforcement, while consumer research informs fairness and local-benefit tests. SSEN will improve visibility of capacity and pathway assumptions, engage communities and markets before decision gates, and proceed with reinforcement where flexibility cannot provide dependable, enduring security or value.

ED3 Outcome	Policy Area (theme)	Type of Engagement Undertaken	Stakeholder Groups	Summary Feedback	Impact on Business Plan
		Have Your Say); stakeholder events (SSEN ED3 stakeholder workshops in March and September).	ICPs/IDNOs; major users	representatives in our ED3 Stakeholder workshops who supported flexibility, but do not as a substitute for essential reinforcement.	
Responsible & Sustainable Business	Affordability, fairness and vulnerable customers	Research (Consumer Priorities Research, Major Customers Priorities Research, Fair Future Panel, VoLL Study, ICNZ Local Data Research); consultations (GSP/SDP consultations); stakeholder events (SSEN ED3 stakeholder workshops in March and September).	Domestic and low-income customers; vulnerable customers and representatives; island communities; SMEs; local authorities; consumer panel participants	Consumer Priorities Research, the Major Customers Priorities Research and Fair Future Panel consistently show that affordability and fairness are the main lenses through which customers judge transition investment: people want clarity on who pays, who benefits and the cost of inaction. VoLL and ICNZ add an island-specific perspective, showing that prolonged outages can disproportionately affect vulnerable and electrically dependent customers and that island communities can face higher energy costs, fewer alternatives and distinct socioeconomic pressures.	The plan uses staged decisions, island-specific cost-benefit assessment and whole-life value analysis to protect affordability. Consumer research informs acceptability and distributional considerations; VoLL and ICNZ ensure that island outage consequences and local socioeconomic circumstances are visible in resilience and investment appraisal. The strategy recognises disproportionate impacts on vulnerable and electrically dependent customers without presenting targeted support as a substitute for reliable infrastructure.
Responsible & Sustainable Business	Supporting economic growth, electrification and a just transition	Research (ICNZ Local Data Research, Consumer Priorities Research, Major Customers Priorities Research); consultations (GSP/SDP consultations); webinars (Whole Systems Have Your Say); bilaterals (Scottish Government); stakeholder events (SSEN ED3 stakeholder workshops in March and September).	Island councils; business and tourism representatives; ports and ferry operators; housing and transport bodies; major users; developers; communities; Scottish Government	ICNZ provides the fundamental local evidence linking network readiness to island housing, jobs, tourism, ports, ferries, industry and community sustainability. Consumer Priorities Research and the Major Customers Priorities Research show support for enabling growth and electrification where benefits are tangible, fairly shared and backed by credible need. Councils, businesses and communities wanted investment timed around real island opportunities and warned against communities bearing infrastructure impacts while value flows elsewhere.	Economic and sector intelligence from ICNZ is embedded in island pathways and uncertainty-mechanism evidence, helping SSEN distinguish credible anchor demand from speculative ambition. Consumer research informs the tests of benefit, fairness and acceptability. SSEN will coordinate with anchor projects, explain dependencies and sequence investment around credible milestones while considering local workforce, supply-chain and community benefit opportunities and avoiding speculative overbuild.
Responsible & Sustainable Business	Transparency, engagement and delivery confidence	Research (Consumer Priorities Research, Major Customers Priorities Research, ICNZ Local Data Research, Fair Future Panel); consultations (GSP/SDP consultations,	Domestic and business customers; local authorities; communities; developers; government and	Consumer Priorities Research, the Major Customers Priorities Research and Fair Future Panel show that trust depends on clear, accessible information, evidence of delivery and a visible link between feedback and decisions. ICNZ demonstrates the value of using locally grounded evidence rather than relying only on national averages. Across consultations, webinars and bilaterals, stakeholders asked for early and	The strategy records how engagement and research have changed the plan, uses ICNZ to strengthen local pathway evidence, and maintains local forums and bilateral engagement through decision gates. Consumer research informs plain-English communication and the explanation of affordability, benefits and trade-offs. SSEN will distinguish baseline commitments from re-opener options,

ED3 Outcome	Policy Area (theme)	Type of Engagement Undertaken	Stakeholder Groups	Summary Feedback	Impact on Business Plan
		community energy forums); webinars (Whole Systems Have Your Say, EAP); bilaterals (SEPA, Scottish Government); stakeholder events (SSEN ED3 stakeholder workshops in March and September).	regulators; delivery partners; vulnerable-customer representatives	continuous engagement, transparent capacity and pathway information, and clarity on costs, uncertainty, trade-offs, roles and timescales.	publish clearer assumptions and dependencies, and close the feedback loop as forecasts, costs and delivery dates mature.

10.2.1 DIVERGING VIEWS AND CONTINUED TRADE-OFFS

The engagement evidence surfaced the following diverging views and continued trade-offs, which are being managed through the business plan:

- Pace of anticipatory investment (ET3) — councils, developers and communities favour earlier reinforcement to unlock housing, transport, renewables and growth; affordability-focused participants want stronger evidence of utilisation and protection from speculative cost. The plan uses least-regrets development and staged re-opener decisions.
- Network reinforcement versus flexibility (SN2/ET3) — community and flexibility stakeholders favour local generation, storage and ANM, while resilience evidence shows that these cannot always replace firm capacity or contingency cover. Each island pathway will test non-network options against dependable security and whole-life value.
- Diesel reduction versus security of supply (RB6/RN3) — environmental stakeholders seek rapid reduction of diesel emissions and regulatory compliance; operational and community stakeholders require emergency capability until proven alternatives are available. The plan restricts routine use while retaining compliant contingency options.
- Local ambition versus forecast certainty (ET4/ET3) — island stakeholders want local plans and projects reflected early, but the maturity and timing of those plans vary. SSEN has used local evidence alongside t-RESP and confirmed connections, with explicit assumptions and decision gates.
- Affordability versus resilience and growth (ET1/RN1) — stakeholders support stronger resilience and enabling capacity but are sensitive to bill impacts and unequal distribution of benefits. Whole-life value, cost of inaction and island vulnerability will be made transparent