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Islands Connectivity Plan

Long-Term Plan for Vessels and Ports on the Clyde & Hebrides and Northern Isles networks (2023 – 2045)

– Draft for Consultation

Contents

Ministerial Foreword

Scottish Ministers are responsible for the Clyde & Hebrides Ferry Services (CHFS) and Northern Isles Ferry Services (NIFS). These services exist to support the sustainability and growth of island, and some remote mainland, communities and economies. This is why the Scottish Government is committed to significant and sustained investment in these ferry services, and in the vessels and ports that support them.

It is vital that communities and other stakeholders are involved in decisions that impact on their lives and futures. We recognise the current challenges, how these have impacted on the lives of island communities and businesses – and how these challenges will continue to impact if action is not taken now. As importantly, action must be sustained into the future.

Our Islands Connectivity Plan (ICP) will set out our long-term objectives and policies for ensuring necessary and sustainable transport links for our islands. This work is underway and will continue throughout 2023, with engagement and consultation at its heart.

I am excited to be sharing with you this draft of the first element of the Islands Connectivity Plan – the Long Term Plan for Vessels and Ports – which sets out the Scottish Government's long-term investment plans for the CHFS and NIFS networks.

This draft Long-Term Plan for Vessels and Ports looks forward to 2045 – well beyond the current Parliamentary term. The Plan therefore covers the replacement of the entire CHFS and NIFS fleets and aligns to the date of the Government's legal obligation to achieve net zero climate emissions.

We will reduce the average age of the fleet to around 15 years by the end of this decade

The draft Plan sets a key network-wide objective that has been established through stakeholder engagement. The top priority identified by stakeholders was to improve resilience and reliability – we will aim to do this by reducing the average age of the CHFS and NIFS fleet to 15 years old by the end of the 2020s. On this basis we have based the draft Plan on our ambitions to replace the fleet and enhance resilience as quickly as possible, but this will be subject to affordability and value for money, with each project assessed and developed through detailed business plans.

Due to the longevity of the Plan it will rely on the commitment of future Governments as well as on the budget approval of the current and future Parliaments. In that, I am encouraged by the interest in ferry services across the Parliament and by the recognition of the importance of planning for, and investing in, new vessels and port works.

Like any Plan it will have to be adapted in response to future changes – to that extent it can only ever reflect plans at a single point in time. But my ambition is that the first version of the Long-Term Plan for Vessels and Ports commands wide support from island communities and stakeholders as well as from across the political spectrum.

We will therefore take the necessary time to ensure that the final published first version of this Long-Term Plan reflects the responses to this draft, as well as the results of impact assessments, the outcomes of planned assessments of community needs and the outputs of the Parliamentary inquiries being undertaken by the Public Audit Committee and the Net Zero, Energy and Transport Committee.

I would encourage everyone with an interest to submit their comments.

Executive Summary

1. The Scottish Ministers set the policy context and strategic direction for ferry services in Scotland. This will be set out more fully in the Islands Connectivity Plan (ICP) which will replace the current Ferries Plan. This Long Term Vessels and Ports Plan is the first element of the ICP, providing detail on the Scottish Government's objectives for the Clyde & Hebrides Ferry Services (CHFS) and Northern Isles Ferry Services (NIFS) which the Scottish Government is directly responsible for.

2. The network-wide objectives for vessel and port investment as set out in the Scottish Government's Infrastructure Investment Plan (IIP) published in February 2021 are to:
    - improve resilience,
    - improve reliability,
    - improve capacity,
    - improve accessibility,
    - increase standardisation, and
    - reduce emissions.

3. Engagement with key stakeholders during the development of this draft Long Term Vessels and Ports Plan indicates that **reliability and resilience** are their key priorities for vessel and port investment.

4. These objectives will primarily be realised by upgrading existing infrastructure and replacing the existing vessels with an efficient and sustainable modern ferry fleet.

> ***We will reduce the average age of the fleet to around 15 years old by the end of the decade***

5. Through work on the Islands Connectivity Plan, we will develop a series of Key Performance Indicators (KPIs) for our ferry services which will include consideration of better measures of actual passenger and user experience vs contractual performance measures. In addition to the proposed KPI on fleet age, further KPIs are likely to cover:

    - Network reliability
    - Service and/or vessel/port outages – frequency and duration
    - Network carryings

- Age of the oldest vessel in the fleet and/or age of vessels at replacement
- Rolling average number of vessels replaced
- Capacity available and utilisation (passengers and vehicles)

6. This draft Plan sets out the "baseline scenario" needed to sustain services and communities and the investment programme required to:
   - renew the fleet and upgrade ports in response to asset age and condition;
   - improve technical and weather reliability when investing in new vessels and port upgrades;
   - improve resilience through an expansion in the major vessel fleet and through increased interoperability of vessels and ports within the major and small vessel fleets.
7. In addition to the baseline scenario there are a number of opportunities to enhance the networks during the life of this Long-Term Plan that have been highlighted for further consideration.

8. The Scottish Government invests significantly in ferry services; however the vessel replacement programme since 2012 has not kept pace with need. This draft Plan therefore outlines the need for significant and sustained funding to achieve its delivery, in particular during the 2020s and into the 2030s.

9. The second Strategic Transport Projects Review makes recommendations for ferry vessel renewal and replacement in addition to progressive decarbonisation and for investment in port infrastructure to support that. STPR2 represents the strategic case for investment by the Scottish Government.

10. In the context of constrained public finances in the years ahead, we must ensure that investment achieves Value for Money, informed by the Scottish Government's aims set out in the National Islands Plan and the National Transport Strategy. We will capture Value by taking a holistic view of the benefits and costs of the investment – it is recognised that there are a number of costs and benefits associated with ferry services that cannot be easily quantified or monetised such as integration, accessibility and social inclusion. The cost of that investment is offset in part through fares revenue, which need to be balanced with maintaining the principles of affordable and sustainable fares structures to support our island communities. This draft Plan for vessels and ports cannot therefore be considered or finalised in isolation from the other elements of the Islands Connectivity Plan, including renewed community needs assessments of services and a holistic review of future ferry fares options.

11. **Delivery against this plan will also require decisions to be taken as part of annual budget reviews going forward.** The draft Plan therefore proposes an

objective and transparent approach to “Investment Prioritisation” that would guide those difficult prioritisation decisions.

12. This Long-Term Plan for Vessels and Ports will be finalised in 2023 as part of the overall work on the ICP. This will enable it to be shaped in light of the outcomes of the refreshed needs assessments that we intend to undertake in 2023 for each community served by CHFS and NIFS services. It will also enable this draft Plan to be reviewed following the outcomes of the current Parliamentary inquiries by the Public Audit Committee and the Net Zero, Energy and Transport Committee and by the outcomes of a number of impact assessments. The final version of the Plan will set out the strategic business case for a sustained forward investment programme, supporting decision-makers when evaluating individual project and programme funding proposals for both vessels and ports.

Introduction

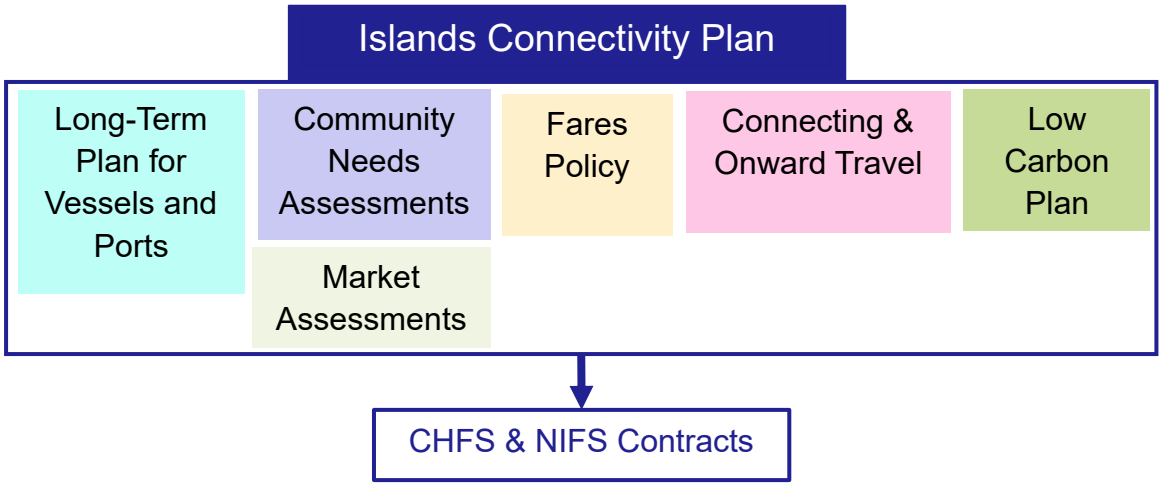
The Islands Connectivity Plan

1. The Islands Connectivity Plan (ICP) will replace the Ferries Plan 2013-2022 but will be wider in scope, taking account of ferry services, aviation and fixed links, as well as onward and connecting travel. The ICP will be supported by a number of delivery plans.

2. The diagram below illustrates the components that make up the ICP. An overarching ICP document will provide guidance and direction to the delivery of island transport connectivity. It will set out how island transport connectivity aligns with the ambitions of the Scottish Government and contributes towards meeting Scottish Government objectives as set out in the National Islands Plan and the National Transport Strategy.

3. A suite of supporting documents, of which the Long Term Vessels and Ports Investment Plan is the first, will provide more detail on the Scottish Government's objectives for the Clyde & Hebrides Ferry Services (CHFS) and Northern Isles Ferry Services (NIFS) which the Scottish Government is directly responsible for.

4. As illustrated in the diagram below, the ICP will provide the foundations for developing the CHFS and NIFS contracts moving forward.



5. The CHFS and NIFS services play a key role in supporting the economic, social and cultural development of those remote and island communities. This document sets out the draft Long-Term Plan for the vessels and ports used by the CHFS and NIFS services and represents a key delivery plan for those services. This draft is being published now, in advance of other elements of the Islands Connectivity Plan, to make public the Government's long-term plans, to

invite comments on them, and to give confidence that investments are being planned and actions are being taken.

The Long Term Plan for Vessels and Ports

6. There are currently 40 vessels deployed on the CHFS and NIFS services: 35 on CHFS and 5 on NIFS; these are all owned by Caledonian Maritime Assets Ltd (CMAL) except for 3 passenger vessels serving Dunoon and Kilcreggan (the Gourock-Dunoon vessels are owned by CalMac's parent company, David MacBrayne Ltd, and the Gourock-Kilcreggan vessel is owned by the previous route operator, Clyde Marine). Around half of the ports are owned by CMAL with the others owned by local authorities, trust ports and private companies – the the Annex for details.

7. Other ferry services in Scotland are the responsibility of local authorities and some others are operated commercially by private operators. Although not covered by this draft Long-Term Plan, local authority ferry fleets face similar challenges to those facing the CHFS and NIFS networks. Those local authorities have undertaken, or are undertaking, similar appraisal and planning work in support of their own investment cases.

8. The Scottish Government's Infrastructure Investment Plan (IIP) (February 2021) stated that:

   "We will produce and maintain a long-term plan and investment programme for new ferries and development at ports to improve resilience, reliability, capacity, and accessibility, increase standardisation, and reduce emissions to meet the needs of island communities and give confidence on our ongoing commitment supported by investment of at least £580 million during the next five years [April 2021 to March 2026]"

9. Stakeholder feedback has indicated the priority of reliability of vessels and resilience of services. This draft Plan therefore focuses on improving reliability by replacing vessels and renewing port assets on the basis of age and condition and increasing resilience that modernisation and also through the size and flexibility of the different fleets.

10. This draft Plan sets out the "baseline scenario" needed to sustain services and communities and the required investment programme to deliver that. Delivery against this Plan will require decisions to be taken as part of annual budget reviews going forward. The draft Plan therefore proposes an objective and transparent approach to "Investment Prioritisation" that would guide those difficult prioritisation decisions.

11. Transport Scotland has developed this draft of the Plan in consultation with CMAL and the incumbent operators – CalMac Ferries Ltd (CFL) and Serco NorthLink Ltd (SNF) – and through engagement with a range of key stakeholders including local authorities, Regional Transport Partnerships, Highlands and Islands Enterprise (HIE), the Mobility and Access Committee for Scotland (MACS) and the Ferries Community Board for CHFS.

12. This Long-Term Plan will be finalised in 2023 as part of the overall work on the ICP. This will enable it to be shaped in light of the outcomes of the refreshed needs assessments that we intend to undertake in 2022 and 2023 for each community served by CHFS and NIFS services. It will also enable it to be reviewed following the outcomes of the current Parliamentary inquiries by the Public Audit Committee and the Net Zero, Energy and Transport Committee and by the outcomes of a number of impact assessments. The final version of the Plan will set out the strategic business case for a sustained forward investment programme, supporting decision-makers when evaluating individual project and programme funding proposals.

13. The final Plan will, additionally, respond to identified community needs and feedback from both the CHFS and NIFS networks for improvements in, for example, the frequency and capacity of services, including where this could require new vessels in addition to those already scheduled for replacement due to age. This draft Plan proposes that the priority must be to sustain lifeline transport connectivity for all communities, but that opportunities continue to be taken to enhance transport connectivity to support the growth of island populations and economies.

Strategic Approach

Policy Context

14. The Scottish Ministers set the policy context and strategic direction for ferry services. This will be set out more fully in the Islands Connectivity Plan (ICP) which will replace the current Ferries Plan.

15. The strategic approach to this draft Long-Term Plan for Vessels and Ports reflects the following:

- The strategic context provided by the National Transport Strategy (NTS) and the National Islands Plan (NIP).
- The pressing need for fleet replacement and port renewal due to asset life.
- The strategic objectives set out in the Infrastructure Investment Plan (IIP): improve resilience, reliability, accessibility and capacity, increase standardisation, and reduce emissions.
- The strategic challenges facing Scottish Ministers' ferry networks at this time.

National Islands Plan

16. The National Islands Plan (2019) sets out a number of Strategic Objectives to meaningfully improve outcomes for island communities. The Island Connectivity Plan, and the delivery plans which support it, can support progress on a number of these objectives, in particular:

- address population decline and ensure a healthy, balanced population profile
- improve and promote sustainable economic development
- improve transport services
- improve and promote health, social care and wellbeing
- contribute to climate change mitigation and adaptation and promote clean, affordable and secure energy actions to improve transport services.

National Transport Strategy

17. The 2020 National Transport Strategy 2 (NTS) is the overarching guidance for all transport interventions in Scotland. The NTS recognises the role of transport in contributing to the Vision for transport in Scotland and the four Priorities of: reducing inequalities; delivering inclusive economic growth, improving health and wellbeing and taking climate action. Although primarily driven by fleet and port renewal and resilience, the delivery of this Long-Term Plan provides opportunities

to address objectives set out in the National Transport Strategy and is aligned to its 4 key themes:

- **Reduces inequalities**: NTS includes an objective to: "Minimise the connectivity and cost disadvantages faced by island communities and those in remote rural and rural areas, including safeguarding of lifeline services". Ensuring the continuity and resilience of lifeline services through the replacement of life expired assets, in line with the sustainable investment hierarchy, supports this objective.

- **Deliver inclusive economic growth**: the continuity of ferry services is essential to the sustainability and growth of island businesses including in key sectors such as agriculture, aquaculture, food and drink and tourism. The reliability and resilience of ferry services supports the efficiency of freight transport to and from the islands, reducing disruption to import and export, particularly of time-sensitive goods.

- **Improves our health and wellbeing**: access to mainland healthcare is a key need for many island, and some remote peninsula, communities; island populations are generally older and therefore have a higher than average use of health services; repopulation is the primary objective of the National Islands Plan and the key investment objectives of increasing reliability and resilience support access to healthcare that current and prospective island residents can have confidence in.

- **Takes climate action**: the opportunity to reduce emissions through vessel specification and design support this objective, alongside other initiatives to support the use of the ferry as part of a public, shared or active travel journey.

Strategic Transport Projects Review 2

18. Transport Scotland's second Strategic Transport Projects Review (STPR2) will be used to inform transport infrastructure investment in Scotland over the next 20 years. The STPR2 has identified recommendations focusing on the strategic transport network in Scotland. The case for sustained investment in ferries and ports is supported by a number of recommendations in the final report of the STPR2, in particular:

    - Recommendation 24 Ferry vessel renewal and replacement and progressive decarbonisation.

  - Renewal and replacement of the Clyde and Hebrides Ferry Services (CHFS) and Northern Isles Ferry Services (NIFS) vessels including progressive decarbonisation by 2045.

- Recommendation 42 Investment in port infrastructure to support vessel renewal and replacement and progressive decarbonisation.

  - an investment programme in port infrastructure, including power supplies, to support STPR2 recommendation 24

Also relevant are:

- Recommendation 18: Supporting integrated journeys at ferry terminals.

  - A detailed review of key ferry terminals to consider physical integration and accessibility improvements in timetable information, signing, ticketing and other facilities required to deliver a seamless and integrated journey between different travel modes. The review will make recommendations on a programme of integration improvements to enhance the traveller experience and accessibility at ferry terminals.

- Recommendation 41: Potential Sound of Harris/Sound of Barra fixed links and fixed link between Mull and Scottish mainland

  - Further work is undertaken on business cases to better understand the benefits, costs and challenges associated with these options. These studies would consider the feasibility of replacing existing ferry services currently delivered by CalMac as part of the Clyde and Hebrides Ferry Services (CHFS) contract. These studies would also ascertain the potential savings associated with the public sector subsidies required to operate the ferry services and involve input from communities that may potentially be affected

Ferries Plan Delivery

19. The ten years since the publication of the Ferries Plan have seen many positive achievements in terms of new routes, increased sailings, reduced fares, new vessels, port renewals and growth in both passenger and vehicle numbers:

- Increased sailings to Arran, Bute, Coll, Tiree, Small Isles, Colonsay, Mull, Islay and the Outer Hebrides

- Roll-out of Road Equivalent Tariff (RET) fares for passengers and cars to CHFS completed in 2015 (except Gourock-Dunoon/Kilcreggan and Kerrera which have since been added to the CHFS contract) – saving passengers approximately £25m per year
- New summer service to Campbeltown
- New Mallaig-Lochboisdale service
- Delivery of 3 new small hybrid vessels serving Raasay, Mull and Arran
- Delivery of MV Loch Seaforth to Stornoway-Ullapool route and upgrade of Stornoway and Ullapool ports
- Upgrade of Brodick pier; works at Oban (short-term), Lochaline, Wemyss Bay and Tarbert (Harris)
- Kerrera service brought into CHFS network; new vessel and slips constructed
- Gourock-Kilcreggan service brought into CHFS network
- Deployment of second vessels in summer for Arran and Mull
- Purchase of the 3 NIFS vehicle/passenger vessels and 2 NIFS freight vessels, ensuring continuity of service
- Ferries Accessibility Fund introduced with the majority of the £500,000 budget now invested in a series of improvements.

20. A number of other Ferries Plan commitments have not been delivered. The key ones of relevance to this draft Long-Term Plan are:

- Replacement of major vessels (MVs Hebridean Isles, Isle of Arran and Isle of Mull) **–** this can be achieved with the delivery of 801/802 and the 2 new Islay vessels (subject to decisions on fleet resilience).
- Replacement of small vessels (MVs Isle of Cumbrae, Loch Linnhe and Loch Riddon) – small vessels will be replaced as part of the Small Vessel Replacement Programme.
- Small Isles: changes to timetable and vessel deployment (not supported by those communities).
- Colonsay: island-based service through deployment of an alternative vessel (proposed vessel not supported by community).
- Replacement of Lochboisdale and Armadale piers (projects underway or in development).
- Enhanced winter service to Arran – dependent on delivery of new tonnage (801).
- Lismore: work towards a single vehicle-passenger service from Point to Port Appin has not progressed due to other priorities.

Strategic Challenges

21. Alongside this progress, a number of significant challenges have emerged:

- Sailing frequencies have increased – scheduled sailings on the CHFS network have increased by 24% since 2007/08.
- Demand has also increased, particularly for vehicle deck space. For example, in the last full year before Covid, CalMac carried over 5 million passengers and around 1.5 million vehicles.
- Demand increase is due in part to significant reductions in fares with the rollout of RET fares for passengers and vehicles on most CHFS services and more recent targeted fares reductions and freezes on NIFS.
- As vehicle demand has grown faster than passenger demand, this has created shortages of vehicle space on key routes at peak times.
- Conversely, significant unused capacity exists year-round for passengers and, outside peak season, for vehicles too.
- Reliability has declined, noting that the majority of cancellations are due to weather and, more recently, Covid. In 2021, 1% per cent of services were cancelled because of mechanical issues; three times as many were cancelled because of weather conditions; weather is also reported to be worsening.
- The average age of the fleet has risen; the rate of vessel replacement has not kept pace with requirements and when new vessels have entered the fleet older ones have still been retained rather than disposed.
- The CHFS major vessel fleet (for the purposes of this draft Plan, the 10 larger vessels generally deployed on longer routes to larger islands; see the Annex for a list) has been fully deployed since 2016 – affecting resilience across the network: disruption to one route can impact on a number of communities due to necessary short-term vessel redeployments; increased demand also makes it more challenging to clear back-logs of traffic in busy periods.
- The age and condition of some of the vessels has reduced flexibility of deployment during such periods of disruption, with further impacts on network resilience.
- Mixed picture on connectivity for non-vehicle users.
- No current operationally and commercially viable low emission option for major vessel replacement.
- No network-wide Key Performance Indicators (KPIs) for: reliability, resilience, capacity or connectivity.
- High demand for freight capacity on some routes.

22. The proposals in this draft Plan will target improvement by guiding investment planning and decision-making, including objectives and priorities.

Objectives

23. The average age of the total fleet (CHFS and NIFS) in 2022 is around 23 years. We propose a key objective of this draft Plan to reduce the average age of the fleet to around 15 years by the end of this decade.

24. Engagement with key stakeholders during the development of this draft Plan indicates that **reliability and resilience** are the key priorities. The importance to users and communities of reliable services has been brought into sharp focus by a number of significant breakdowns during recent years. Investment decisions taken under this Long-Term Plan will place a high priority on vessel and port designs which will provide high standards of technical and operational reliability and improved weather reliability, including the need to adapt to the effects of climate change.

25. Investment in vessels and ports should improve reliability but cannot eliminate disruption, particularly when it comes to weather and worsening climate impacts. Resilience is therefore vital to maintain a service to communities during times of disruption, and to recover as quickly as possible when services are interrupted. An expansion in the CHFS major vessel fleet, to provide the operator with more flexibility when disruption occurs, is required, at least until this part of the fleet has been substantially modernised.

26. Increased standardisation, such as that already being pursued through the procurement and construction of 4 “Islay class” vessels and through the Small Vessel Replacement Programme, is another means to greater resilience. There is already a high level of interoperability of vessels within the CHFS major and non-major vessel fleets, and within the NIFS fleet, though with some key exceptions. Given the wide variety of communities and routes served by these fleets, increased standardisation does not need to mean identical vessels but should allow for increased interoperability of vessels and ports.

27. The Scottish Government is committed to improving the accessibility to transport services of all users. Design of vessels and ports and – as importantly – the passenger interface between the two and with connecting travel will reflect good practice, including the toolkit for improving accessibility at ferry terminals produced by the Mobility and Access Committee for Scotland (MACS).

28. The scheduled replacement of a vessel can also be used to increase vehicle deck capacity on a route although, on a number of key routes, port space will constrain this. There would also be a significant additional cost to providing sufficient vehicle deck capacity to meet peak demand both directly and in terms of funding excess off-peak capacity throughout the year, including where there is

often significant unused passenger capacity even during peak summer. The finalisation of this Long-Term Plan will require consideration of options for the better use of existing and planned capacity. Overall vehicle deck capacity can also be increased in the longer term through investment in additional sailings or additional vessels; vehicle deck capacity can also be freed up through "demand management" measures including the provision of viable alternatives to taking a car on-board.

Engagement and Consultation

29. The lead party for each investment project – normally CMAL or a third party port owner – is responsible for consulting, engaging and communicating throughout the life of projects to ensure that vessel and port designs respond to user and community needs.

30. For projects led by CMAL, at the initiation of each project the CMAL project manager will agree with TS and the relevant operator, and publish, a communications and engagement plan which will follow a consistent pattern, typically:

- A series of public events (in-person and/or on-line) at key stages of the project or programme to inform and seek views.
- A "reference group" of key stakeholders for more detailed consultation and engagement on the development of the project or programme.
- A dedicated project page on the CMAL website to host updates and information.
- A log of all stakeholder comments and how these have been responded to.
- A report detailing all communications and engagement undertaken during the project, including "lessons learned" for other and future projects.

31. Evidence and consultation from STPR2 has been used to inform the development of this draft Plan and we will revisit this over the period of delivery of the Plan. Although the STPR2 evidence provides some support it does not provide the detailed views needed on individual projects.

32. We recognise that there may be some consultation fatigue in communities; however, it is important that sufficient evidence is collected to ensure the right investment decisions are made to support our island and rural communities.

Funding

33. This Long-Term Plan will require significant and sustained funding for its successful delivery. This Plan is a strategy for investment and sets out the focus of funding over the period of the Infrastructure Investment Plan (2021-2026) and the optimal investment programme over the longer term.

34. The Scottish Government's Infrastructure Investment Plan committed to investment of at least £580 million in ports and vessels, in addition to the completion of MV Glen Sannox / Hull 802, to support and improve Scotland's ferry services. This funding allocation is historic both in terms of the value and the time horizon but it was always acknowledged that it was less than would be required to deliver all the projects identified in the IIP in full, and that further investment in the fleet and associated shore side infrastructure would be required.

35. Individual investment proposals are developed in line with Transport Scotland guidance and based on robust business cases which make the case for multi-annual budget commitments. Investment proposals need to cover not just one-off capital costs but also ongoing operating costs of the crew, fuel, harbour dues and other costs of operating a vessel or the staffing, maintenance and other costs of operating a port.

36. In the context of constrained public finances in the years ahead, we must ensure that investments achieve Value For Money (VFM) and are affordable.

37. VFM is a judgement based on the benefits and costs of options meeting project objectives. This is informed by the Scottish Government's aims set out in the National Islands Plan and the National Transport Strategy. We will capture Value by taking a holistic view of the benefits and costs of the investment – it is recognised that there are a number of costs and benefits associated with ferry services that cannot be easily quantified or monetised such as integration, accessibility and social inclusion. Assessing VFM ensures that recommended proposals meet objectives and strategic goals, where value includes the social, economic and environmental benefits of public investment, including where there is an opportunity through a vessel replacement or port renewal to make service enhancements which address identified transport connectivity needs.

38. The cost of that investment is offset in part through fares revenue, which need to be balanced with maintaining the principles of affordable and sustainable fares structures to support our island communities. This draft Plan for vessels and ports cannot therefore be considered or finalised in isolation from the other

elements of the Islands Connectivity Plan, including renewed community needs assessments of services and a holistic review of future ferry fares options.

39. Affordability is confirmation, at the time of the investment decision, that the necessary funding is, and will be available, in the financial years covered by the construction project.

40. The investment programme set out in this draft Plan represents the optimal programme, and has been informed by initial stakeholder engagement, to deliver the "baseline scenario" (see below). It is important to highlight that although funding has been made available for the initial years of the Plan (2021-2026), the full programme of investment in future years falls into the decision-making responsibility of future Parliaments and Governments and is therefore not yet backed by funding. Given the long time period of the Plan some reprioritisation and flexibility is expected to be required as the availability of funding will ultimately determine the programme of delivery.

41. Individual investment decisions will be taken in the context of budget allocations and market conditions prevailing over time, and guided by the approach to "Investment Prioritisation" described below. This approach has been proposed to prioritise the funding allocated to the Vessels and Ports Plan only and does not apply to the prioritisation of other Transport Scotland or Scottish Government investment.

42. Transport Scotland normally uses capital funding (CDEL) for vessels and ports projects. Grants to the operators to support ongoing ferry services provided through the CHFS and NIFS contracts use resource funding (RDEL). Pressure on RDEL is extremely tight and this is expected to continue. The programme proposed in this draft Long-Term Plan therefore assumes that investment projects for the replacement or renewal of current vessel and port assets should not lead to increases in the costs of operating those assets and, wherever possible, should seek opportunities for operating costs to be reduced, enabling savings to be reinvested in services.

Investment Prioritisation

43. This draft Plan is based on renewing the vessel and port assets required for the sustainability of the current network of routes and services. It therefore sets out the requirements for investments to achieve required reliability and resilience improvements within the fleet and achieve a target average vessel age of around 15 years by the end of this decade. However, when individual projects reach key decision points, the necessary funding may not be available. An objective and transparent approach to prioritisation is therefore needed.

44. In such circumstances, the approach to investment prioritisation proposed in this draft Plan is to firstly ensure that the fundamentals for sustainable services and communities are in place. In cases where affordability requires difficult decisions to be taken, the following three elements would be prioritised (these are not in order and would all be considered together):

    1. The sustainability of ferry services by maintaining and increasing reliability and resilience.

    2. Ferry routes and services providing the primary transport connection for people, goods and services required for the sustainability of each community.

    3. Those communities identified as at greater risk of depopulation and economic decline. This Plan will not identify those communities – this will be based on analysis and advice from the Scottish Government and local authorities.

45. Prioritisation decisions would be approved by Ministers.

Monitoring and Review

46. The final version of this Long-Term Plan will set out arrangements for its ongoing monitoring and periodic review.

47. Monitoring of implementation will be ongoing, primarily through regular reporting from individual projects and programmes.

48. Progress against, and routine updates to, the Long-Term Plan as a whole would be reported annually. This would reflect:

    - Progress with project implementation
    - Changes arising from decisions made during project / programme implementation
    - Outputs of mid-life reviews and refreshed needs assessments.

49. The Plan would also be reviewed and updated every 2-3 years so that there is always a 20-25 year forward look, recognising that this Plan cannot be static.

50. To measure the success of the Long-Term Plan as a whole, we intend to develop a set of KPIs. Potential measures are likely to include:

    - Average fleet age (as proposed in this draft Plan)

- Network reliability
- Service and/or vessel/port outages – frequency and duration
- Network carryings
- Age of the oldest vessel in the fleet and/or age of vessels at replacement
- Rolling average number of vessels replaced
- Relevant indicator on port age/condition
- Capacity and capacity utilisation (passengers and vehicles)

Investment Plans and Scenarios

Baseline Scenario – "Asset Renewal"

51. Asset life expiry is the primary driver for investment and prioritisation in this draft Long-Term Plan.

52. The "baseline scenario" sets out the core investment requirement to:
    - renew the fleet and upgrade ports in response to asset age and condition;
    - improve technical and weather reliability when investing in new vessels and port upgrades;
    - improve resilience through an expansion in the major vessel fleet and through increased interoperability of vessels and ports within the major and small vessel fleets.

53. The objective for vessels is to bring the average fleet age down to around 15 years whilst making improvements in reliability and resilience.

54. As progress is made with the delivery of the programme, we will be able to look and plan further ahead. The intention is to undertake reviews of assets at their approximate mid-life – this will inform decisions on, for example, planned life extension projects, redeployment of vessels and the planned timing of replacement or disposal. Such reviews would be part of asset management and the results feed into future versions of this Long-Term Plan.

55. Second hand tonnage will continue to be explored and may present opportunities to accelerate benefits to communities by meeting an interim need when longer-term tonnage is being developed, or may represent a more appropriate provision for the fleet/route. Each case will be considered on its own merits and the Plan adjusted accordingly if appropriate.

56. The proposals below include references to a number of major port projects identified by CMAL and through initial contact with third party port owners – these are not comprehensive and only reflect the most significant and costly projects based on the information available at this point. As part of the finalisation of this Plan, we will be engaging in more depth with all port owners about their future plans.

57. This Long-Term Plan is broken down into 4 broad time phases:

    Phase 1 – projects listed in the IIP for initiation or delivery 2021-2026.

Phase 2 – projects for initiation or delivery 2026-2031.

Phase 3 – projects for initiation or delivery 2031-2036.

Phase 4 – projects for initiation or delivery 2036-2045.

Phase 1 – 2021-2026

58. The Scottish Government's Infrastructure Investment Plan in February 2021 set out a series of vessel and port projects that would be taken forward during the 5 years of the IIP from April 2021 to March 2026, in addition to the completion of vessels 801 (MV Glen Sannox) and 802 by Fergusons Marine Port Glasgow:

Replacement vessel projects for:	Major harbour development projects at:
• Islay • Gourock-Dunoon-Kilcreggan passenger services • Up to 7 small vessels for the Clyde & Hebrides network • Craignure-Oban • Mallaig-Lochboisdale • Northern Isles freighters	• Ardrossan • Skye Triangle: Uig, Tarbert and Lochmaddy • Gourock • Lochboisdale • Armadale • Kennacraig • Oban

59. All of these projects are now underway: either under construction or at various stages of business case development. Given the long lead-times for vessel and port projects, it was always known that a number of these would require further funding for construction beyond the 5-year period of the IIP.

60. Since the publication of the IIP, decisions have also been taken:

- to purchase the second hand vessel MV Loch Frisa;
- to procure 2 rather than 1 new vessels for Islay;
- to procure 2 more "Islay class" vessels to enable a 2 vessel service on the Uig-Tarbert/Lochmaddy routes in the summer.

61. In addition, a number of other third party port projects are underway, notably:

- Craignure – Argyll & Bute Council (ABC) are working towards an Outline Business Case for a major redevelopment of the existing port which is reaching asset life expiry.
- Dunoon and Kilcreggan – As part of the replacement vessels project being led by CMAL, ABC are developing designs to accommodate future vessels for services to Gourock.

62. The delivery of new vessels during Phase 1 will also enable an increase in the resilience of the major vessel fleet through:

- As a priority, the retention of a major CHFS vessel following the delivery of new tonnage to provide network resilience; although remaining part of the CHFS fleet, this increased fleet size should also provide a potential option for responding to an unplanned outage on the NIFS network;
- The deployment of 2 vessels, in summer, on the Uig-Tarbert/Lochmaddy services ("Skye Triangle"). This will strengthen resilience of the services to the Outer Hebrides as a whole (in case of disruption to the services to Stornoway or Barra, for example) and to the wider CHFS and NIFS networks.

63. These two decisions increase the required number of these major CHFS vessels from 10 to 12 (this would be reviewed once the fleet was renewed, probably when all the 8 major CHFS vessels at or approaching 30 years old have been replaced and the impact on resilience of a modern fleet can be assessed). The "resilience vessel" would be one of the current vessels retained for that purpose and its identity would change over time as replacement vessels enter the fleet and current vessels are made surplus. Therefore, the impact of these decisions on the long-term replacement programme would be for one additional major vessel rather than two; from 10 to 11. Replacements (newbuild or second hand) for 9 of these 11 major vessels will be required within phases 1 and 2 with the final 2 vessel replacements (for Finlaggan and Loch Seaforth) due in phase 4. 8 of these 9 replacements are already at various stages in the investment programme; the successful delivery of all these projects will therefore leave a baseline requirement for one further CHFS major vessel during Phase 2. Following which, excluding the "resilience vessel", the oldest major vessel in the CHFS fleet would be MV Finlaggan, 20 years old in 2031, and the average age of the major vessel fleet would be approximately 9 years old.

- 801 (Glen Sannox) and 802 – under construction – delivery in 2023 and 2024
- 2 new vessels for Islay – under construction – delivery in 2024 and 2025
- 2 additional "Islay design" vessels – under procurement – preferred bidder announced and vessel delivery dates to be confirmed shortly
- Replacement vessel for Mallaig-Lochboisdale – project in development
- Future tonnage for Craignure-Oban – project in development.

64. The consideration of future service and vessel solutions for Craignure-Oban route is being taken forward alongside the Council's work to replace Craignure pier. Future service options, and the number and size/capacity of vessels and the associated port requirements, are being considered by TS, CFL and CMAL through engagement with the Council and community.

65. The IIP includes a commitment to a Small Vessel Replacement Programme (SVRP), reflecting the age of many of this type of CHFS ferry, and to replacement passenger ferries for services from Gourock to Dunoon and Kilcreggan, reflecting the reliability and condition of the former rather than strict vessel age.

66. An Outline Business Case (OBC) for the first phase of SVRP, recommending the number of vessels to be replaced, the type of vessel replacements and the timing of procurements, is expected to be completed in the first half of 2023. Based on the emerging OBC, this draft Plan includes replacements for up to 7 of the oldest vessels in the fleet. Proposed deployment of new and current vessels, associated port works and vessel disposals are being developed for the OBC and will be shared through that programme. The small vessel fleet already benefits from the resilience provided by additional vessels: currently MV Loch Linnhe and MV Loch Bhrusda. We aim to retain these resilience benefits through the replacement programme.

67. Work on the OBC has identified particular issues with the Oban-Lismore ferry: the current slipway at Oban is unsuitable for any vessel larger than the current Loch Class vessels and even these vessels are not well-suited to the slipway, causing extensive wear and tear to the vessel's ramp, and there is no permanent overnight berth at Oban, which is an issue for overnight charging. The Ferries Plan included a proposal to work towards a single passenger and vehicle crossing from Point to Port Appin, which is the shorter of the two crossings to Lismore, recognising that the delivery of this long-term proposal would require considerable improvements to port infrastructure, public transport and road links. Given the passage of time, we intend to review the Ferries Plan proposal in partnership with Argyll & Bute Council, as the responsible local authority as well as the provider of the current Point to Port Appin passenger ferry service, and in consultation with the Lismore and Appin communities. This will be undertaken as part of our work on refreshed community needs assessments for the ICP, with the conclusions informing the design of future services, vessels and port infrastructure.

68. The Gourock-Dunoon/Kilcreggan vessel replacement project is also moving towards the completion of an OBC following the conclusion of a refreshed assessment of community needs and service options through the Islands Connectivity Plan. The community needs assessments for Cowal (Dunoon) and Roseneath (Kilcreggan) are being prioritised due to the link to this vessel replacement project and are due to be completed in early 2023.

69. Other than these routes, passenger-only vessels have not featured in recent service provision under the CHFS and NIFS contracts. With an increased focus

on public transport, there may be the potential for services elsewhere on the network which complement vehicle ferry services and offer increased connectivity. Such options and opportunities would be identified during the course of community needs assessments under ICP.

70. A CMAL-led project to replace the 2 Northern Isles freight vessels with an improved design, adding capacity and reducing passage time, and potentially adding some flexible passenger-carrying capacity, is now at the design stage and moving towards the submission of an Outline Business Case.

71. A number of major port projects are expected to conclude or significantly progress during Phase 1: Tarbert, Lochmaddy, Uig, Troon enabling works, Islay enabling works, and Ardrossan. Other CMAL port projects are under development: the most significant of these projects (in terms of scale) are Gourock terminal redevelopment, Port Ellen terminal redevelopment and Gasay (Lochboisdale) port construction.

72. During Phase 1 we also propose to commence a number of new projects, in addition to those listed in the IIP, to ensure that later phases of this draft Plan are on track:

- Small Vessel Replacement Programme Phase 2, including consideration of future vessels for Mallaig-Armadale
- Small Isles vessel replacement project
- CHFS major vessel replacement project for MV Hebrides
- NIFS ro-pax replacement project for MVs Hrossey, Hjaltland and Hamnavoe

Phase 2 – 2026-2031

73. Phase 2 will require significant further investment planning and delivery of vessels and ports on the CHFS and NIFS networks. Based on an assumed vessel operating life of 30-years on these networks, plans would include:

- Completion of Phase 1 and much of Phase 2 of the CHFS Small Vessel Replacement Programme.
- Replacement of the 2 NIFS freighters.
- Completion of the renewal of the CHFS major vessel fleet including vessels for Craignure-Oban and Mallaig-Lochboisdale.
- New tonnage for the Small Isles.
- Port enabling works associated with the above vessel projects.
- Significant CMAL port projects at Armadale, Oban and Castlebay in addition to the completion of those projects commenced during Phase 1.
- Development/procurement of replacements for the 3 NIFS ro-pax vessels.

- Planning for the replacement of CHFS “medium” vessels (see below).

74. SVRP will continue into a Phase 2, with the objective of replacing a further series of small vessels including that serving the Sound of Harris.

75. Two large ro-pax vessels, MVs Hrossey and Hjaltland, serving Shetland and Orkney from Aberdeen, will be 30 years old in 2032 and the MV Hamnavoe, serving Orkney across the Pentland Firth, will reach that age a year later. Work on planning for and procuring their replacements will commence during Phase 1 with a view to the delivery of new tonnage in Phase 3. This will include engagement with the Orkney and Shetland communities and liaison with the 4 port owners.

76. The Small Isles vessel, MV Lochnevis, was built in 2000 and therefore due for replacement during Phase 2. There is an outstanding proposal in the Ferries Plan for a change to the number and type of vessels serving the Small Isles which was not taken forward following further engagement with the communities. Work on replacement tonnage will therefore follow the conclusion of a refreshed assessment of community needs and service options through the Islands Connectivity Plan. This project is scheduled for initiation in Phase 1 and will include engagement with the 4 Small Isles communities and liaison with the port owners.

77. The current assumption is that timing of major port works by CMAL at Coll and Tiree will be after the delivery of the CHFS major vessel projects initiated in Phase 1. This points towards the final vessel in the series being one that can serve those communities reliably in the meantime as well as the retention of suitable overall cover within the fleet. However, this should be considered alongside the timing, feasibility and affordability of port investment options at Coll and Tiree.

78. During Phases 2 and 3, replacements for a number of “medium” CHFS vessels will be required for:

- Mallaig-Armadale, currently served by MV Loch Fyne (1991) and MV Coruisk (2003)
- Wemyss Bay – Rothesay, current served by MVs Bute (2005), Argyle (2007) and (winter relief) Coruisk;
- MV Loch Frisa (2015, into service on CHFS 2022) recently introduced to the Craignure-Oban service alongside the major vessel MV Isle of Mull (1988).

79. These 3 routes share some characteristics that distinguish them from both the major vessels and small vessels used on CHFS both now and as planned for the

future. They are all in more sheltered waters, which is reflected in the vessel classification requirements, and are also relatively short crossings of less than an hour with high volumes of passenger and vehicle traffic particularly in summer. Whilst future service requirements for each of these routes will be examined through community needs assessments under ICP, the potential for a class of vessel suitable for these routes, but potentially with wider resilience benefits beyond these locations, is one we consider worth exploring. The initial decision point for this will be the replacement tonnage required for Craignure-Oban (see above).

80. Due to approaching asset life expiry, a number of the major port renewal projects being led by CMAL and listed in the IIP will require delivery during Phase 2, notably Lochboisdale, Armadale and Kennacraig. Major investment at Oban harbour is also anticipated to be taken forward during Phase 2 following the completion of planning work which will be initiated during Phase 1.

Phase 3 – 2031-2036

81. The 5 years from 2031-2036 will require further significant investments, again based on an assumed operating life of 30 years on these networks:

- Delivery of replacements for the 3 NIFS ro-pax vessels.
- Replacement of CHFS “medium” vessels including replacement tonnage for the Wemyss Bay-Rothesay route to Bute
- Replacement of the MV Loch Shira, currently serving Cumbrae, potentially as part of a third phase of the Small Vessel Replacement Programme
- Significant CMAL port projects at Colonsay and Coll and completion of projects commenced during Phase 2.
- Comhairle nan Eilean Siar has indicated that works are anticipated to be required to the port infrastructure supporting the Sound of Barra and Sound of Harris services around this time, subject to a fuller assessment.
- Mallaig Harbour Authority (MHA) has indicated that significant works will be required to the port assets supporting ferry services; MHA has published ambitious proposals for the future development of the port which would include improved facilities for ferry services.
- Planning of “life extension” projects.

82. As they approach normal working life expiry, replacements will be procured to replace the MV Loch Shira serving Cumbrae, the 3 hybrid vessels introduced in the last decade and the smallest vessel in the fleet, MV Carvoria, which provides the short crossing to Kerrera.

83. Other CMAL major ports scheduled for major investment due to advancing age during Phases 3 and 4 are Coll, Tiree, Colonsay and Wemyss Bay. The planning and delivery of these projects will need to be considered alongside vessel replacement plans but also to support network resilience through the flexible deployment of the future fleets.

84. During Phases 3 and 4 of this Plan, we will explore vessel life extension projects to smooth the future investment programme and also, in line with commercial and technical feasibility, enable the conversion of vessels to zero/low emission technology.

Phase 4 – 2036-2045

85. The final decade of the proposed "baseline" Plan would see:

- Continued replacement of vessels as they reach operational life expiry including MVs Finlaggan and Loch Seaforth.
- Significant port work at Tiree and the completion of projects commenced during Phase 3.
- Lerwick Port Authority has indicated that the main port assets used by the NIFS ferry service will be required during this Phase.
- Life extension options planned in for mid-life of vessels.
- Decarbonisation requirements ahead of 2045 – including those vessels delivered and/or procured in the 2020s.
- The commencement of planning for the replacement of the vessels now due for delivery in the early 2020s.

86. Phase 4 would see the replacement of MVs Finlaggan (2011) and MV Loch Seaforth (2014). Alongside this – although subject to analysis and decisions closer to the time – we envisage a number of the major vessels (from either or both networks) delivered in the 2020s undergoing "life extension": this would help smooth the future investment programme and also provide the opportunity for retrofitting of zero emission propulsion – subject to technical and commercial feasibility.

Future Scenario – "Service / Asset Enhancement"

87. Whilst the "baseline scenario" above sets out the core investment requirement, there are a number of opportunities to enhance the networks during the life of this Long-Term Plan that have been identified for further consideration. Some have already been indicated in this draft Plan:

- Resilience vessel for the CHFS major vessel fleet
- Two vessel summer service on the Skye Triangle
- Enhanced freight vessels for the Northern Isles, including the option of having some passenger carrying capacity
- Potential three vessel service on Craignure-Oban.

88. Other potential enhancements to services, with implications for the future investment programme set out in the final version of this Long-Term Plan, are expected to be identified through:

- Responses to the consultation on this draft Plan;
- The outcomes of the community needs assessments including updated demand forecasts;
- Impact assessments;
- Consultation undertaken as part of STPR2.

89. Any proposed enhancement will be subject to VFM and affordability. Due to the scale of investment needed to deliver the "baseline scenario", the opportunity to implement some of these enhancements is likely to come in the longer-term, once the significant investment identified for the next decade to maintain the current network of services has been secured – see also the section on Investment Prioritisation, above.

90. The final version of the Long-Term Plan will also revisit proposals set out in the Ferries Plan but not taken forward (see para 19). These will be reconsidered through the Community Needs Assessments to be conducted as part of work on the ICP:
    - Lismore (see para 75)
    - Colonsay
    - Small Isles (see para 66)

91. Other potential enhancement options that have been identified during earlier appraisal work, including for STPR2, include:
    - 2 vessel service for Stornoway-Ullapool
    - Fixed link or increased service frequency on Sound of Harris
    - Fixed link or increased service frequency on Sound of Barra
    - Claonaig port major upgrade to allow year round service from Kintyre to Arran
    - Relocation of Islay mainland port to reduce crossing times and increase service frequencies

- Mull connectivity including potential fixed link options (including at Corran narrows).

92. Although we aim to finalise this Long-Term Plan in 2023, the intention is that it is reviewed and updated every 5 years so that there is always a 20-25 year forward look. However it also intended that the Plan is refreshed every 2-3 years to reflect changes – recognising that this Plan is dynamic not static – see the above section of this draft Plan on "Monitoring and Review".

Emissions and Environmental Impact

93. The shipping industry as a whole faces significant challenges moving towards net zero. Emissions from Scottish domestic ferries, including council and private operators, have been calculated at 1.7% of transport emissions and therefore less than 1% of total emissions; these shares are predicted to rise as other sectors decarbonise. The Scottish Government is committed to reducing emissions of the CHFS and NIFS fleets in line with wider Government targets. This will be achieved by encouraging efficient design and by adopting modern technologies to build on ongoing work to modernise the fleet.

Total Emissions

94. Modernisation of the fleet will ultimately lead to lower total emissions by adopting, and encouraging, the use of modern technologies and efficient design to make the strongest possible contribution to the climate change targets set out in NTS. However, it should be recognised that adding additional vessels to the fleet – to provide improved resilience – and increasing the number of sailings on some routes – to improve capacity – are likely to increase the total emissions of the fleet pending the introduction of alternative fuels. However, as we work to reduce the average age of the fleet to 15 years old by the end of the decade, this will see modern, more efficient vessels enter the fleet; during the overall life of the Plan to 2045, we aim to introduce alternative, zero/low emission propulsion options when these become technically viable and commercially available.

Emerging Technologies

95. The Scottish Government is committed to encouraging the efficient use of assets throughout the network to work towards net zero targets.

96. For ferries, there are currently limited options available for low/zero carbon alternative to fossil fuels, especially for the larger vessels on the longer routes. If ferries are to make a more significant contribution towards carbon reduction, and ultimately achieve zero carbon, then emerging alternatives such as all-electric

and, potentially in the longer-term, vessels powered by green hydrogen, ammonia or methanol will need to be developed.

97. Battery technology is the most readily available low-carbon option (assuming greening of the electricity supply) and CMAL's Small Vessel Replacement Programme (SVRP) is exploring the option of all-electric ferries.

98. The SVRP focuses on building low emissions vessels, in line with Scottish Government climate change commitments and will utilise the latest proven battery and onshore charging technologies. Moving forward, the future vessel investment programme set out in this draft Plan will build on the work undertaken as part of the SVRP and take cognisance of the lessons learnt when applying the same ambition to the major vessels fleet.

99. There is potential for the use of all-electric ferries to be expanded onto other shorter routes with smaller vessels, potentially those described above as "medium vessels", but for the longer routes, with larger and heavier vessels, and higher energy requirements, other options will need to be explored.

100. The Scottish Government has supported the various phases of the HySeas project, which is developing a concept design for a hydrogen fuelled vessel that could operate in Scotland. Although further advancement of the technology is required until the fuel can be economically viable for use on the networks, new vessels should be designed to accommodate future technologies. For example, vessels currently being designed and built by CMAL are considering the option of mid-life retrofits to allow any future technology solutions, including hydrogen, to be utilised.

Improved Design

101. Where zero emission technology is not currently feasible new vessels can take advantage of the latest technology and design concepts to maximise efficiency and reduce emission

102. Alongside work on alternative fuels, Caledonian Maritime Assets Ltd (CMAL) is appraising design improvements to new vessels which can reduce fuel consumption. There are opportunities to design vessels that require less energy and can make use of existing lower emission propulsion options.

Shore Power

103. Action is also being taken to improve fuel efficiency, through the introduction of overnight charging of vessels from electric shorepower – an initiative also

taken forward by Serco NorthLink and Orkney Islands Council (with Scottish Government funding) for the MV Hamnavoe berthing overnight at Stromness.

104. Of the major vessel fleet, the majority of vessels currently use auxiliary generators run by the engines to provide internal power for heating, lighting and the ships safety systems. With the appropriate on-board equipment and on-shore power supply, vessels can directly connect with a shore side power source transferring the load to the shore side with minimal interruption to onboard facilities and services. Whilst berthed, this results in:

- Reduced direct emissions;
- Reduced noise pollution;
- Provides better onboard comfort while in port;
- Provides green profile for ship owners and customers;
- Reduces lifecycle cost by fewer fuel consumption and maintenance costs.

105. The use of shorepower requires both vessel and shoreside infrastructure and adequate local electric supply on-shore. To reduce emissions overall, shore supply needs to be from renewable sources – or at least from electricity production with lower emissions than Marine Gas Oil (MGO).

106. Scotland is in the fortunate position to be able to capitalise upon the renewable energy supplies that are currently available. However, collaboration with the energy sector will be critical to ensure that energy supply will continue to meet demand.

107. The long-term decarbonisation of the fleet by 2045 relies on one or more emerging technologies reaching technical and commercial maturity in the coming years – a challenge faced by the whole maritime transport sector. The Scottish government will continue to monitor developments and opportunities to harness the benefits of alternative fuel to lower emissions and contribute towards meeting net zero targets.

108. More information on plans to progressively remove emissions from our ferries by 2045 will be set out as part of the wider Islands Connectivity Plan and in the next Scottish Government Climate Change Plan in 2023.

Annex

1 List of Vessels – Clyde & Hebrides

Vessel	Year entered service	Proposed replacement	Owner	Type	Primary route (Summer)	Primary route (Winter)
Isle of Cumbrae	1977	Phase 1	CMAL	Small	Tarbert – Portavadie	Relief cover
Isle of Arran	1984	Phase 1	CMAL	Major	Ardrossan-Brodick / Campbeltown	Relief cover
Hebridean Isles	1985	Phase 1	CMAL	Major	Islay	Islay / Relief cover
Loch Linnhe	1986	Phase 2	CMAL	Small	Spare	Relief cover
Loch Riddon	1986	Phase 2	CMAL	Small	Cumbrae	Relief cover
Loch Striven	1986	Phase 2	CMAL	Small	Lismore	Lismore
Loch Ranza	1987	Phase 2	CMAL	Small	Gigha	Gigha
Isle of Mull	1988	Phase 2	CMAL	Major	Oban-Craignure	Oban-Craignure
Lord of the Isles	1989	Phase 2	CMAL	Major	Mallaig – Lochboisdale	Mallaig / Oban – Lochboisdale
Loch Dunvegan	1991	Phase 2	CMAL	Small	Colintraive- - Rhubodach	Colintraive- - Rhubodach
Loch Fyne	1991	Phase 2	CMAL	Small	Mallaig – Armadale	Relief cover
Loch Buie	1992	Phase 2	CMAL	Small	Iona	Iona
Loch Tarbet	1992	Phase 2	CMAL	Small	Tobermory - Kilchoan	Tobermory - Kilchoan
Caledonian Isles	1993	Phase 1	CMAL	Major	Ardrossan - Brodick	Ardrossan - Brodick

Isle of Lewis	1995	Phase 1/2	CMAL	Major	Oban-Castlebay	Oban-Castlebay
Loch Bhrusda	1996	Phase 2	CMAL	Small	Spare	Relief cover
Loch Alainn	1997	Phase 2	CMAL	Small	Sound of Barra	Sound of Barra
Clansman	1998	Phase 2	CMAL	Major	Oban – Coll / Tiree / Colonsay	Oban – Coll / Tiree / Colonsay
Lochnevis	2000	Phase 2	CMAL	Small	Small Isles	Small Isles Mallaig - Armadale
Hebrides	2001	Phase 2	CMAL	Major	Uig – Tabert / Lochmaddy	Uig – Tabert / Lochmaddy
Loch Portain	2003	Phase 3	CMAL	Small	Sound of Harris	Sound of Harris
Coruisk	2003	Phase 2/3	CMAL	Medium	Mallaig – Armadale	Relief cover
Bute	2005	Phase 3	CMAL	Medium	Wemyss Bay - Rothesay	Wemyss Bay - Rothesay
Loch Shira	2007	Phase 3/4	CMAL	Small	Cumbrae	Cumbrae
Argyle	2008	Phase 3/4	CMAL	Medium	Wemyss Bay - Rothesay	Wemyss Bay - Rothesay
AliCat	2000	Phase 1	DML	Passenger	Gourock-Dunoon	Gourock-Dunoon
Argyll Flyer	2001	Phase 1	DML	Passenger	Gourock-Dunoon	Gourock-Dunoon
Chieftain	2007	Phase 1	CMS	Passenger	Gourock-Kilcreggan	Gourock-Kilcreggan
Finlaggan	2011	Phase 4	CMAL	Major	Islay	Islay
Hallaig	2013	Phase 4	CMAL	Small	Raasay	Raasay
Loch Seaforth	2014	Phase 4	CMAL	Major	Stornoway – Ullapool	Stornoway – Ullapool

Lochinvar	2014	Phase 4	CMAL	Small	Fishnish - Lochaline	Fishnish - Lochaline
Loch Frisa	2015	Phase 4	CMAL	Medium	Oban- Craignure	Oban- Craignure
Catriona	2016	Phase 4	CMAL	Small	Claonaig - Lochranza	Tabert – Lochranza / Portavadie
Carvoria	2017	Phase 4	CMAL	Small	Kerrera	Kerrera

2 List of Vessels – Northern Isles

Vessel	**Year entered service**	**Proposed replacement**	**Owner**	**Type**	**Primary route (Summer)**	**Primary route (Winter)**
MV Helliar	1997	Phase 2	CMAL	Freighter	Aberdeen – Kirkwall - Lerwick	Aberdeen – Kirkwall - Lerwick
MV Hildasay	1999	Phase 2	CMAL	Freighter	Aberdeen – Kirkwall - Lerwick	Aberdeen – Kirkwall - Lerwick
MV Hrossey	2002	Phase 3	CMAL	Major	Aberdeen – Kirkwall - Lerwick	Aberdeen – Kirkwall - Lerwick
MV Hjattland	2002	Phase 3	CMAL	Major	Aberdeen – Kirkwall - Lerwick	Aberdeen – Kirkwall - Lerwick
MV Hamnavoe	2003	Phase 3	CMAL	Major	Scrabster - Stromness	Scrabster - Stromness

Some replaced vessels will be retained to provide short-term stand-by cover for new vessels. Some surplus vessels will also be retained as network-wide “resilience vessels”.

3 List of Ports – Clyde & Hebrides

Alphabetical list of CHFS ports and overnight berths

Port	Location	Owner	Type
Ardmhor	Barra	CNES	Slip
Ardrossan	North Ayrshire	Peel Ports	Linkspan
Armadale	Sleat, Skye	CMAL	Linkspan
Berneray	Berneray	CNES	Slip
Brodick	Arran	CMAL	Linkspan
Bull Hole	Mull	CMAL	Overnight berth
Campbeltown	Kintyre	ABC	Linkspan
Canna	Canna	NTS	Slip
Castlebay	Barra	CMAL	Linkspan
Claonaig	Kintyre	CMAL	Slip
Colintraive	Cowal	CMAL	Slip
Coll	Coll	CMAL	Linkspan
Colonsay	Colonsay	CMAL	Linkspan
Craignure	Mull	ABC	Linkspan
Cumbrae	Cumbrae	CMAL	Slip
Dunoon	Cowal	ABC	Linkspan
Eigg	Eigg	THC	Slip
Eriskay	Eriskay	CNES	Slip
Fionnphort	Mull	ABC	Slip
Fishnish	Mull	CMAL	Slip
Gallanach	Near Oban	CMAL	Slip

Gigha	Gigha	ABC	Slip
Gigha berth	Gigha	ABC	Overnight berth
Gourock	Inverclyde	CMAL	Linkspan Boat steps
Iona	Iona	ABC	Slip
Kennacraig	Kintyre	CMAL	Linkspan
Kerrera	Kerrera	CMAL	Slip
Kilchoan	Ardnamurchan	CMAL	Slip
Kilcreggan	Rosneath	ABC	Pier (no linkspan)
Largs	North Ayrshire	CMAL	Slip
Leverburgh	Harris	CNES	Slip
Lismore	Lismore	ABC	Slip
Lochaline	Morven	CMAL	Slip
Lochboisdale	South Uist	CMAL	Linkspan
Lochmaddy	North Uist	CNES	Linkspan
Lochranza	Arran	CMAL	Slip
Mallaig	Mallaig	MHA	Linkspan
Muck	Muck	THC	Slip
Oban	Oban	CMAL	Linkspan Slip
Otternish	Berneray	CNES	Overnight berth
Port Askaig	Islay	ABC	Linkspan Slip
Port Ellen	Islay	CMAL	Linkspan
Portavadie	Cowal	CMAL	Slip
Raasay	Raasay	THC	Slip

Rhubodach	Bute	CMAL	Slip
Rothesay	Bute	ABC	Linkspan
Rum	Rum	THC	Slip
Sconser	Skye	THC	Slip
Stornoway	Lewis	SPA	Linkspan
Tarbert, Harris	Harris	CMAL	Linkspan
Tarbert, Loch Fyne	Kintyre	TLFHA	Slip
Tayinloan	Kintyre	ABC	Slip
Tiree	Tiree	CMAL	Linkspan
Tobermory	Mull	CMAL	Slip
Uig	Skye	THC	Linkspan
Ullapool	Ullapool	UHT	Linkspan
Wemyss Bay	Inverclyde	CMAL	Linkspan

4 List of Ports – Northern Isles

Port	**Location**	**Owner**	**Type**
Aberdeen	Aberdeen	Aberdeen Harbour Authority	Linkspan
Lerwick	Shetland	Lerwick Port Authority	Linkspan
Kirkwall	Orkney	Orkney Islands Council	Linkspan
Stromness	Orkney	Orkney Islands Council	Linkspan
Scrabster	Caithness	Scrabster Harbour Trust	Linkspan

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