Net Zero, Energy and Transport Committee

4th Meeting, 2023 (Session 6)

Tuesday 31 January 2023

Inquiry into a modern and sustainable ferry service for Scotland

Introduction

1. At its meeting on 15 March 2022, the Committee agreed to undertake an inquiry into ferry services. The Committee had been referred Petition 1872: Improve the reliability of island ferry services. The petition said the unreliability of ferries has resulted in losses to island economies relying on tourism and in travel restrictions for island residents, who need reliable and regular services.

2. The Committee noted there were issues with island connections beyond those covered by the petition. It agreed it needed to look at ferry services comprehensively and to launch an inquiry into current and future ferry provision in Scotland. The inquiry aims to seek out how best to secure a state-funded ferry service that is future-proofed, compatible with Scotland's net zero goals and will meet the needs of all service users, having regard in particular to the long-term sustainability of island communities. (See **Annexe A** for full inquiry remit.)

3. The Committee will consider what island residents, businesses, and other ferry users need from Scottish Government-supported ferry services and the institutional and funding arrangements that would most likely meet the needs of current and potential future ferry users. The inquiry will also explore what vessel size, type, deployment and crewing arrangements would best satisfy the needs identified.

Evidence so far

4. On 28 June, the Committee opened the inquiry with an evidence session with a panel of island community members to discuss their experiences of ferry services in Scotland and their ideas for the inquiry. Read the Official Report here. The Committee then issued a call for written views on 1 July, which closed on 26 August. All published submissions to the call for views are available here.

5. On 1 November, the Committee heard from private ferry operators their approach to running ferry services, and on how national service provision should be structured and procured. Read the Official Report here.

6. On 8 November, the Committee held an evidence session with representatives from the business and tourism sectors. Read the Official Report here.

7. On 15 November, the Committee took evidence from representatives of trade unions to discuss crewing arrangements for ferry services and union members' experiences of working on ferries. Read the Official Report here.

Other information gathered so far

8. There have been three visits in connection with the inquiry, during which Members took ferry trips and met with met with a variety of local stakeholders, such as ferry users, community groups and local authority representatives:
- on 7 November, to Arran;
- on 28-29 November, there were parallel visits to Orkney and the Western Isles.

9. On 17 January, the Committee held an online engagement event with Members of the Scottish Youth Parliament to learn more about how ferry services could better meet the needs of Scotland's young people. The Committee also held an online meeting with representatives of island communities to hear about their priorities for future ferry services.

Ferry services in Scotland

10. Major Clyde and Hebrides ferry services and services linking the Scottish mainland and Northern Isles are specified, let, and funded by Transport Scotland. Multi-year contracts for the provision of these services are awarded following competitive tendering exercises. The current operators are—
- CalMac Ferries Ltd: A subsidiary of David MacBrayne Ltd, itself wholly owned by Scottish Ministers, which provides ferry services to 22 islands and four peninsulas on Scotland's west coast. The current contract runs between October 2016 and October 2024.
- SERCO Northlink: A private sector operator, part of the major outsourcing company SERCO. It operates ferries between the Scottish mainland, Orkney, and Shetland. The current contract runs between June 2020 and June 2028.

11. Scottish Government supported ferry services are operated using vessels owned by Caledonian Maritime Assets Ltd (CMAL). CMAL is owned by Scottish Ministers and owns 36 ferries; 31 leased to CalMac Ferries and five to SERCO NorthLink. It is also leading on the procurement of new vessels for these services. It also owns 16 Clyde and Hebrides harbours and owns or leases properties and port infrastructure at 10 other Clyde and Hebrides locations.

12. Orkney and Shetland Islands Councils operate all inter-island ferries in their area. Argyll and Bute and Highland Councils run a small number of short ferry services. There are two private sector operators running car ferries (Orkney- mainland and Gourock-Dunoon routes).

Scottish Government ferries policy

13. The Scottish Government's current strategy for ferry services in its Ferries Plan 2013-2022, published in December 2012. This is due to be replaced by a new Islands Connectivity Plan (ICP) from the end of 2022. The Scottish Government says the ICP 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". It will have several components—

- Long term plan for vessels and ports
- Community Needs Assessments
- Fares Policy
- Connecting and Onward Travel
- Low Carbon Plan

14. The Scottish Government published a draft Long-Term plan for vessels and ports on the Clyde & Hebrides and Northern Isles networks (2023 – 2045) in December 2022. This was circulated to "key stakeholders" and a final draft for consultation is expected in "early 2023".

Evidence session 31 January

15. On 31 January, the Committee will take evidence from a panel of ferry service experts to explore their views on ferry provision in Scotland—

- Dr Alf Baird, former Professor of Maritime Business and Director of the Maritime Transport Research Group, Edinburgh Napier University;
- Neil M. Kay, Professor Emeritus, Economics Department, University of Strathclyde; and
- Roy Pedersen, Author and Consultant.

16. The panel are all former members of the Scottish Government's Ferry Industry Advisory Group/Expert Ferry Group. See **Annexe B** for a response to the Committee's call for views from Roy Pedersen. See **Annexe C** for a response to the Committee's call for views from Professor Neil Kay.

17. The Committee will then hear from a panel of CalMac's Ferries Community Board, comprising ferry users from across Scotland's west coast who input into the ferry operator's asset management and operational decision making—

- Angus Campbell, Chair, Ferries Community Board;
- Angus D Campbell, Member, Cumbrae, Ferries Community Board; and
- Kirsty MacFarlane, Member, Isle of Coll, Ferries Community Board.

18. Prior to this session, the Committee received a response to its call for views from Angus Campbell, Chair, on behalf of the Ferries Community Board. This submission can be found in **Annexe D**.

Next steps

19. At future meetings, the Committee is likely to hear from—

- Ferry operators;
- International experts;
- local councils; and

- National transport agencies and the Scottish Government.

20. The Committee expects to issue a report with its main findings in Spring.

Clerks
Net Zero, Energy and Transport Committee

ANNEXE A

Remit - Inquiry into a Modern and Sustainable Ferry Service for Scotland

The Net Zero, Energy and Transport are holding a major inquiry into current and future ferry provision in Scotland, which will ask—

1. What do island residents, businesses, and other ferry users need in the short, medium and long term from Scottish Government-supported ferry services?

- Meeting the needs and sustainability of island and remote rural communities and businesses, including secure jobs providing ferry services.
- Meeting the needs of mainland communities and businesses, including visitors.
- Service needs at different times of the year.
- Which needs are better met by other modes, e.g. air travel where available?
- How should the Scottish Government support council-run ferry services?
- How can ferry users and island communities be involved in decision making at strategic and operational level?

2. What institutional and funding arrangements would most likely deliver service patterns, vessels, and crewing arrangements that meet the needs of current and potential future ferry users?

- Can the current tri-partite arrangement (Transport Scotland, CMAL, Ferry Operator) for managing most ferry service provision be improved?
- Can current tendering arrangements be improved, e.g. through service unbundling?
- Can Scottish Government subsidies be better deployed to meet the needs of current and future ferry users?
- Are current services providing best value for the taxpayer?

3. What vessel size, type, deployment and crewing arrangements would best satisfy the needs you have identified?

- Vessel size and type
- Sustainable propulsion systems (including energy-use and moves to low carbon systems)
- Compatibility with harbour facilities
- Onboard crew accommodation
- Current procurement criteria and processes: what are their strengths and weaknesses? Are they “future proofed” to accommodate new technologies and the need for sustainable low-carbon travel?

During the inquiry, the Committee will also pursue the following objectives:

- To engage with communities impacted by problems with ferry services and understand better the impact these have, particularly on island life (in particular, the effects of weather on services, sustainability of population and attracting inhabitants, access to key services and businesses)
- To understand what a modern ferry service should look like from different perspectives, from island and mainland residents, individuals and businesses,
- To consider and draw attention to best practice in ferry provision and service including considering examples from private enterprise or internationally;
- To hold the Scottish Government, operators and asset holders to account and scrutinise carefully whether their decisions and strategies are in the best interests of service users and the taxpayer;
- To help inform Scottish Government's policies and strategies on ferries and island connectivity as well as the procurement process for future vessels.
- To identify the needs and views of different groups in particular young people and disabled people;
- To adapt scrutiny to the different needs, experiences and solutions of different islands and communities;
- Recognise the importance of island impact assessments carried out by relevant authorities; and
- To incorporate the contribution of transport to net zero goals into scrutiny throughout the inquiry.

Conclusions and recommendations will be set out in a report to the Scottish Government and Transport Scotland, setting out the Committee's views on how best to secure a state-funded ferry service that is future-proofed, compatible with Scotland's net zero goals and will meet the needs of all service users, having regard in particular to the long-term sustainability of island communities.

ANNEXE B – WRITTEN SUBMISSION

Response from Roy Pederson to the Net Zero, Energy and Transport Committee's Call for Views on 'A Modern and Sustainable Ferry Service for Scotland'.

A. Needs

1. What do island residents, businesses, and other ferry users need in the short, medium and long term from Scottish Government-supported ferry services?

THE REMIT

If the overriding aim of the inquiry is to secure ferry services (plural surely) in an environmentally and economically sustainable manner while fostering the economic and social well-being of Scotland's island and rural communities, a number of quite fundamental issues need to be addressed.

1. The Clyde and Hebrides (CHFS) services operated by the David MacBrayne Group (DMG)/CalMac Ferries utilising vessels, and in many cases, terminals provided by CMAL have attracted widespread condemnation and anger on grounds of unreliability and capacity and scheduling constraints, notwithstanding grossly disproportionate disbursement of public funds.

2. The majority of traffic, however, is carried by nine other year-round operators of vehicle ferries plying in Scottish waters in either a very efficient or adequate and reliable manner, in a number of cases without any subvention of public funds at all.

3. For reasons of historical accident, Scottish Government ferry policy is focussed almost entirely on the highly dysfunctional and unproductive state sector, while ignoring private and local authority operators where in many cases best practice and best value is to be found. The concept of value for public funds seems to have been absent from official consideration.

4. Neither does the Scottish Government and its agencies seem to be aware of international best practice so as to take advantage of and encourage operators to adopt cost effective institutional, technical and operating innovation.

5. For the overriding aim, paraphrased above, to be equitable for all of our island and remote rural communities, a radically different institutional and policy framework is required by Scottish Government. How this might be achieved is discussed below.

ISLAND BENEFIT AND CONNECTIVITY

Perhaps the best starting point in considering how ferry services may best serve island communities in sustainable ways is for them to meet the main objectives and strategy of the Scottish Government's Islands Plan in relation to several "improving outcomes" for island communities, viz:

Increasing population levels,
Improving and promoting—
(i) sustainable economic development,
(ii) environmental wellbeing,
(iii) health and wellbeing, and
(iv) community empowerment,

Improving transport services,
Reducing fuel poverty.

How these outcomes may be achieved in terms of ferry provision were described in some detail in the paper Ferries and the Islands Plan and are summarised below:

- Island population growth can be enhanced by some 1,200 by basing vessels at the islands they serve with their crews and families living ashore rather than on board ship.
- For ships crews living as part of island communities, accommodation will need to be created, but shore-based crews will lead to more flexible manning of vessels and therefore to greater resilience of service.
- The bigger the stake communities have in their ferry services the more likely these services are to be tailored to community needs, especially if communities own and run their ferry services.
- The natural beauty and drama of island landscapes, seascapes and built environments are fundamental to their sense of well-being, mental health and are key attractions to tourists. These amenities need to be protected from obtrusive and ugly ferry related infrastructure.
- Ferries are major emitters of CO2, but some such as Pentland Ferries and Western Ferries have been able to ameliorate such emissions. Hybrid (electro-diesel) ferries are expensive and have not so far proven greatly to reduce CO2 emitted. In the long run hydrogen fuel generated using peak sustainable electricity may offer the best CO2 reduction option.
- The introduction of modified RET (road equivalent tariff), on CHFS services has stimulated traffic and economic activity. It is a blunt instrument that brings a number of problems and is very costly to the public purse. More focused market orientated fares for non-island residents, coupled with reduced fares for all island residents regardless of who the operator might be, would enhance revenue, reduce subsidy, benefit island residents and could be based on the National Entitlement Card (bus pass).

- There are many examples of good practice in the provision of island ferry services in terms of good connectivity, cost effectiveness, environmental amelioration and community engagement. If, however, the current policy of building large inefficient ships and overly complex terminals persists and is rolled out further, the already high financial and environmental cost to the Scottish Government will increase. If, on the other hand, policy is changed as recommended below to adopt the more cost-effective and 'greener' practices, service frequencies and capacity would be enhanced, costs greatly reduced and island communities' social and economic well-being would be improved.

TRAVEL OPTION REQUIREMENTS

Ferry schedules should, where feasible, in broad order of priority, aim to make possible the following travel options:

1. Daily access to and from main Scottish centres without the need for overnight stay en route;

2. Day return access to a regional centre with adequate time for business or social purposes;

3. Timings convenient to hauliers for import of supplies and export of products;

4.Timings useful to tourists to maximise visitor spend in the communities served;

5. Daily commuting in either direction where distances are short;

6. Evening travel to extend access opportunities in either direction for business and social purposes.

2. Are current services meeting the needs and sustainability of island and remote rural communities and businesses? This includes the provision of secure employment for those working for ferry services.

THE STATE FUNDED SECTOR PRODUCTIVITY

The productivity (that is to say cost in relation to output) of the DMG/CMAL (and also the NorthLink) operation, particularly as regards the larger open water Europe B routes, is abysmal by any normal international or domestic standard. As set out in a representation to Transport Scotland in August 2020 this is attributable to a number of factors that have been ventilated many times by myself and others as follows:

a) The Class B (larger open water) vessels are of inefficient old-fashioned (high displacement) fuel thirsty design, including new vessels which are conceptualised in-house rather than seeking proven efficient designs on the open market;

b) Several routes are longer and less frequent than they could be, resulting in high

operating cost and reduced frequency and capacity. Advantage is not taken of the “shortest crossing” and “land bridge” principle;

c) Productivity is further diminished by the prevailing design of terminal used by these vessels, which is labour-intensive, costly in terms of capital and running costs and slows berthing;

d) The tendency to operate one large and complex ship on an infrequent service leads to inflexibility and unnecessarily large and expensive terminal facilities where two or three simpler vessels would provide greater frequency, flexibility, capacity and resilience to breakdown or weather disruption – and generate more revenue;

e) The ratio of passenger capacity to cars on these vessels is around seven to one when three or four to one would be sufficient to cater even for exceptional peaks;

f) This means that passenger accommodation is generally spread over two decks rather than one, which reduces deadweight (payload). and adds to capital cost as well as the complexity of evacuation in emergency;

g) These vessels carry large crew complements (typically around 30 instead of 12 to 14 as typical with other operators of vessels of similar capacity and in similar or more demanding operating conditions;

h) Almost half the crew complement is involved in catering and retail, often on passages of less than an hour, where other operators manage with between one and three. Each unnecessary and under-employed crew member adds more than £100,000 to the annual running cost of the vessel. Furthermore, contrary to the aims of the Islands Plan, on-board catering abstracts from the income of land-based businesses;

i) Crew are invariably required to live-on-board even where the route is relatively short such that on-board accommodation further increases vessel displacement, which again increases capital and operating costs and can impede vessel manoeuvrability due to the windage created by excessive top hamper;

j) It is widely believed that the very costly and inefficient crewing arrangements are attributable to the labour union vested interest and that indeed, the Clyde and Hebrides Ferry Services tender is slanted unduly for the benefit of the CalMac personnel rather than the island communities.

CalMac’s annual operating subsidy of some £150m, is among the highest per passenger mile in the world, is now two-thirds of total income, farebox income just one third. In 1991 the subsidy was £5.8m or 18% of turnover and the service then carried more passengers (6.4m). Notwithstanding the enormous sums of public money now devoted to DMG/CMAL, community dissatisfaction with ferry services has never been greater and is adversely affecting the reputation of the Scottish Government. In short,

the Scottish state funded ferry sector is not fit for purpose and requires radical overhaul.

Poor productivity of Clyde and Hebrides ferries pre-dates even the creation of Caledonian MacBrayne and has existed under administrations of every political hue. It was highlighted in 1968 with the introduction by Western Ferries of their efficient no frills roll-on roll-off service to Islay and later to Cowal, which significantly reduced costs while greatly improving connectivity. The productivity gap was further demonstrated by the introduction in 2009 by Pentland Ferries on the Pentland Firth service of catamaran Pentalina at running costs and CO2 emissions of around one third those of, and with superior reliability compared with, the competing and heavily subsidised NorthLink Hamnavoe. Pentland Ferries recent introduction of its second catamaran, Alfred, demonstrates further significant improvements in carrying capacity, CO2 reduction, lower unit cost and reliability relative to traditional monohulls.

REMEDIAL MEASURES

To address the above productivity defects, which are now diverting very large sums of public funds from, say cash starved health and educations services, alternative much more efficient ship and terminal designs, route scheduling and capacity configurations have been put forward to Transport Scotland officials, but these have been studiously ignored to date. If the enquiry genuinely wants to address these defects some pointers are tabled below:

a) Adopting aspects of Norwegian/Shetland Islands Council/Western Ferries/Pentland Ferries ferry policies, vessel and terminal design and operating practices by regarding ferries as part of the road system (i.e. integrated transport);

b) Selecting the shortest feasible route and the land bridge principle, thereby reducing costs, improving frequency, reliability and connectivity and accelerating overall journey times. Road transport is between one quarter and on ninth the cost of vehicle ferry conveyance and twice as fast;

c) Employing simple economical vessels generally with a 3 or 4 to 1 pax to car ratio and in particular by trialing proven fuel and deadweight efficient catamaran designs of superior sea-keeping characteristics initially on shorter Arran and Mull stations;

d) Employing two or more simpler ships where one large and expensive vessel is currently employed. This allows back-up at time of breakdown and reduction of service to one ship in winter to match demand;

e) Reducing crew complements to live ashore and work in shifts to provide frequent services from early until late each day, or for 24 hours if necessary;

f) Basing crews and their families on the island communities served which would boost island populations, in line with the Islands Plan;

g) Limiting on board catering to a tea/coffee/soft drink and snack service on all but the longest routes;

h) Operating to “lock-on” linkspans which require no shore-side personnel and minimal on board personnel to operate;

i) Embarking and disembarking passengers over the linkspan (with a fenced-off passenger lane), rather than cumbersome and labour-intensive side access;

j) Replacing some ferry passages with fixed links where feasible.

All of the above proven, cost-effective best practice measures are widely understood and employed on a worldwide basis. While numerous worked up examples have been presented to officials as to how these globally established principles can be applied in practice network-wide, there appears to be strong but unexplained resistance to their adoption by Transport Scotland/DMG/CMAL. Why?

3. Are current services meeting the needs of mainland communities and businesses, including visitors?

INTERNATIONAL CONNECTIONS

Trade is the life blood of any nation, and in this regard Scotland is at a disadvantage. Lack of modern port capacity means much of Scotland’s traded goods today must be sent to and from distant ports in England, so raising costs. There is however an opportunity now for the Scottish Government to take leadership in making the radical changes necessary to develop new international trading links. The detail is set out in the Maritime Policy for Scotland mentioned earlier.

There is only one operational quasi international Scottish ferry port, Cairnryan with two ferry connections to Northern Ireland and the EU market. There are currently no direct ferry links with the Continent, whereas Ireland has four and Norway benefits from having more than ten daily, high-capacity ferry sailings to various EU states. To remedy this there is an on-going proposal, currently blocked by the Scottish Government, to create a much needed cruise ship turn-around facility at Cockenzie for Edinburgh (currently non-existent), giving a major boost to tourism and creating c1,000 jobs and a Motorway of the Sea (MOS) ferry gateway to continental Europe. This facility would not only add, initially some £5-10 billion of trade value per annum to Scotland’s European trade by-sea, but could enable an independent Scotland to act as a land-bridge between Ireland and the Continent by-passing Brexit England.

The Cockenzie Europort project should be developed as a matter of urgency.

4. Are service needs different at different times of the year?

Yes. Traffic volumes of cars, campers and passengers are generally significantly greater in Summer than in winter.

5. Which needs are better met by other modes of transport, e.g. air, where available?

Generally, the longer the distance of overall journey, the more economic and convenient is air transport, e.g. between Shetland and Scottish mainland centres. Air is also important to enable day return journeys between island and regional centres when ferry service frequencies are low, e.g. Colonsay, Coll, Tirtee, Orkney North isles, etc.

6. How should the Scottish Government support council-run ferry services?

Support for ferries, where necessary should be to operators or their customers regardless of ownership, i.e. state, local authority or private, as described for Norway. See under Debundling.

RET

Ferry fares have been a matter of debate in Scotland for many decades. In 1961 the Highland Panel recommended that charges to remote mainland centres should be used as a yardstick for determining sea service charges. The Government of the day set up the Highland Transport Board which recommended that “the Secretary of State should adopt the criterion that the general level of charges to islands should not be materially in excess of charges to distant parts of the mainland”.

The Board noted the Norwegian experience of vehicle ferry operations and in particular that of the Norwegian county of Møre and Romsdal whose Chief Roads Surveyor Mr K H Oppegård recommended the adoption of simple Norwegian style roll through vehicle ferries in Shetland. The essence of the Norwegian approach is selection of the shortest crossings with standardised vessels and terminals, resulting in low operating costs, high frequency and low fares. The technique was adopted in Shetland and by Western Ferries firstly to Islay and subsequently on the Clyde but not elsewhere in Scotland. In short, this approach has the concomitant effect of reducing operating costs, which as stated ad nauseam brings with it the multiple benefits of greater frequency of service, increased capacity, reduced ferry charges and less environmental damage.

The Highland Transport Board’s report was submitted to the newly appointed Highlands and Islands Development Board (HIDB), who prepared a detailed paper which described how a meaningful “mainland comparison” might be realised. The ensuing debate coincided with the conversion of most routes to RO-RO which made possible the introduction of a system of lineal charging on vehicles to replace the old and complex commodity based cargo rates. It had been hoped that this change would have the effect of reducing the cost of transporting at least full lorry-loads to the islands but this was found in practice not to have been the case. Concern about the burden of freight charges to island economies intensified and in 1974 the HIDB re-examined the issue. Case study analysis revealed that in many cases island business was disadvantaged by sea freight charges. The HIDB case was re-stated and refined and the concept of “Road Equivalent Tariff” or “RET” was born.

The logic was that payment of road tax, used to construct and maintain roads, entitled road users to drive anywhere on the road system. Islanders pay road tax but are uniquely denied access to the great bulk of the road system without paying a substantial ferry surcharge. Thus RET relates the cost to the road user of crossing the ferry to the cost of travelling along an equivalent length of road. As vehicle operating costs can be expressed on mileage basis and related to the length of each type of vehicle, a formula was created, by this writer, to translate the concept into a lineal ferry charge. The formula included a “toll”, equivalent to 4 kilometres of distance; similar to tolls charged to road users for exceptional capital expenditure, such as on certain bridge crossings. Thus a one kilometre crossing would be charged as five kilometres, two kilometres, as six, etc. The formula was set out as follows:

C = L O D + T or L O D + 4 L O

Where: C = charge for a single journey
O = operating cost per km, per meter of vehicle length (average)
L = length of vehicle in meters
D = passage distance in kilometres
T = toll element = 4LO

In the event RET and the short crossing concept excited much interest at the time but was rejected by Government of the time on grounds of expense. Where such methods were employed, in particular in Shetland and by Western Ferries on the Clyde, traffic volumes soared while subsidy costs per passenger or per vehicle were reduced or eliminated.

Three decades later Comhairle nan Eilean (Western Isles Council) commissioned a study into ferry fares in which the concept of RET and alternative ferry charging mechanism were examined. Among its deliberations, the study compared the level of passenger, car and commercial vehicle charges on ferries serving the Western Isles with a range of other subsidised and unsubsidised operators internationally. Interestingly, a number of islands furth of Scotland served by commercial unsubsidised operators, all had buoyant economies, despite high passenger fares and freight rates, e.g. the Isle of Man, Isle of Wight, Channel Islands, etc.

The Western Isles study tested elasticity of demand based on price and frequency of service and established that frequency was at least as important as price and that while the price elasticity of demand was significant as regards passengers and cars, freight demand was price inelastic. In other words while reducing prices stimulated passenger and car traffic, it had little or no traffic generational effect on freight traffic conveyed on commercial vehicles.

This was borne out when the Scottish Government introduced a variant of RET on Western Isles services where passenger and car traffic were significantly stimulated, but freight was not, nor was there any perceivable reduction in shop prices. This posed the reasonable question; why subsidise freight when subsidy makes no material difference to economic outcomes? As a consequence, freight rates were returned more or less to their previous levels, again with no perceptible effect on commercial vehicle traffic or prices.

The scheme introduced by the Scottish Government was not RET in its original conception, because, if applied as such, charges on certain long routes such as Oban-Barra would have risen rather than reduced. In those cases rates at less than RET were applied. In similar circumstances, arguments for extension of RET to the long routes between Aberdeen and Orkney and Shetland were undermined by the fact that charges would have risen if RET had been applied in its pure form.

This form of RET for passengers and cars was gradually extended to other services operated by CalMac Ferries. There were a number of consequences. The increased patronage, by tourists' cars and camper vans in particular on some routes exceeded the capacity of vessels to cope such that local residents could not book space for essential journeys. In some cases the decision by visitors to take cars, where they may otherwise have left them behind, resulted in a decreased patronage of island bus services.

A MORE FOCUSED APPROACH TO FERRY CHARGES

RET, even its current modified form, has undoubtedly stimulated traffic and economic activity within many island communities, but it is a blunt instrument that brings in its train a number of problems and is very costly to the public purse.

Many transport operators adopt yield management fares structures which in effect smooth out demand and maximise revenue by charging higher fares at busy times. The practice is now almost universal among airlines where extreme variations of fare may be found even by passengers sitting next to each other on the same flight.

For Scotland's ferries the adoption of some form of yield management charging is well worth considering. One example of such a scheme is that operated by Red Funnel between Southampton and the Isle of Wight. An October Saturday booking in 2019 for one car plus driver can vary between £25.75 and £48.50 depending on time of travel and whether a saver or flexi ticket.

Some aims to be considered in introducing such a scheme in Scotland could be:

Maximising revenue to reduce subsidy levels by introducing:

- Higher fares at times of peak demand.
- Higher fares for tourists to contribute to, rather than abstract from the economy.
- Higher fares for camper vans and caravans as users are likely to spend less on island facilities.
- Reduced fares for island residents especially the low paid.
- Surcharging for use of a premium or 1st class on-board lounge on longer routes.

One downside of present arrangements is that Government ferry fares schemes have been focused only on services heavily subsidised directly by it – namely – NorthLink and subsidiaries of David MacBrayne Ltd. This can have the effect of undermining more efficient private operators that provide reliable services at reasonable prices

without any Government financial support at all and exclude local authority operated ferry services that are subject to their own fares regimes.

If more market orientated fares were to be aimed at non-island residents and hauliers, it would make sense for reduced fares to be available to all island residents regardless of who the operator might be, perhaps along the lines of the National Entitlement Card (bus pass). As with the bus pass which also serves, for example, as a library card, it should be possible for such cards to be made available to any person with a permanent island address and indeed for the licence number of any car registered at an island address to an island keeper to be added to the keeper of such a car's card. In this way islanders and their cars could secure an agreed discount on the ferry charges pertaining to their island or archipelago. Such a card, colour coded for under 60s to distinguish it from the bus pass and applied universally, could also be used for islander air travel discount. If, in time, a full smart travel card system is created Scotland-wide for use on all or most forms of public transport, the above functions could readily be incorporated.

Adopting more demand responsive and focused charging regimes that maximise revenue, e.g. from tourism, but offer reduced cost passage for island residents would contribute to the Islands Plan 'improving objective' of 'improving transport services'.

7. How can ferry users and island communities be involved in decision making at strategic and operational level?

COMMUNITY OWNERSHIP OR CONTROL

The bigger the stake communities have in their ferry services the more likely these services are to be tailored to community needs. One important step in this direction will of course be the move to house crews in the island communities they serve as described above. There are, however, other aspects of community involvement that may have relevance to the ferry sector.

In the late 1970s, against a climate of widespread scepticism, the Highlands and Islands Development Board (HIDB) launched its then speculative Community Co-operative Scheme, a self-help initiative whereby communities were encouraged and assisted to create businesses on islands and other rural areas where enterprise had theretofore been under developed. Sceptics were confounded and the scheme was a success, such that over the ensuing decades, a multitude of viable community enterprises were created throughout the Highland and Islands, culminating in the community land ownership movement.

Several island communities have bought out their island estates or part thereof from their former private proprietors. While this is no guarantee of a brighter future, the results so far have been promising and in some cases quite transformational. Since community buy out, the inhabitants of Eigg and Gigha, for example, have been able to build new homes where the existing stock had been sub-standard and have been able to set up businesses, where this had in some cases previously been forbidden. Community electricity grids have been established using green energy and other amenities have been created or improved. As a consequence of these initiatives, families have been encouraged to stay on the islands where formerly out-migration

was a favoured option, others have moved in, as a result of which the island populations have grown in number and in confidence and with this the school rolls have swelled.

In this climate of enterprise, it is not inconceivable that island communities could if desired take ownership and control of some of their ferry related assets. One obvious opportunity could be provision of housing or other accommodation for ferry crews as alluded to in the previous chapter. In taking such an initiative forward, it would be important to remove much of the 'red tape' that currently inhibits such developments. It may also be feasible to extend this concept further to include operational aspects of the ferry sector such as terminals or even the operation of vessels.

To focus on one practical possibility, there has been much local debate on Mull about the future of the currently inadequate Oban-Craignure ferry service. Mull Community Council and others were extremely worried about a costly £78 million proposal to enlarge the terminal to take a proposed very large vessel which, if utilised, would at a stroke deposit up to 130 cars in one go on Mull's fragile road network. The second concern was the proposed construction of a wholly out-of-scale and unnecessary marshalling area and terminal building designed to handle 1,500 persons (over half the Mull population).

The alternative that has been considered is a more frequent service operated by two (or three) basic vessels of moderate size operating to the terminal as currently configured, albeit refurbished as necessary. This solution, while of lower capital and operating cost, would provide a clock-face service, hourly in summer and two hourly in winter, enable commuting, double capacity and would be completely self-contained with built in resilience in the event of breakdown. Craignure pier is currently in the ownership of Argyll and Bute Council and has received little investment in recent decades. Transfer of the asset to the community with assistance from the Scottish Land Fund and Highland and Islands Enterprise could, if the Mull community were so motivated, provide a viable community enterprise, while better aligning its development and use to local needs.

In view of current capacity constraints, unreliability and inconvenient scheduling of some ferry services operated by Calmac Ferries, some communities, Mull included, are now seriously considering taking over the operation of their main ferry service, in partnership with an experienced ship management company. While there is every reason why such an initiative could be operated profitably, if commercial fares were charged, a public subsidy would be required if low RET type fares were in place. In that circumstance, the community entity would require to bid for the contract, assuming debundling is instituted.

If enhancing the Scottish Government's policies of community empowerment and other Islands Plan outcomes were requirements of the contract to operate the ferry service, a community ferry company would, it is suggested, be able exhibit a much stronger level of compliance than either a private company or a state-owned concern.

B. Institutions and funding

1. What institutional and funding arrangements would most likely deliver service patterns, vessels, and crewing arrangements that meet the needs of current and potential future ferry users?

DEBUNDLING

If a sustainable model for provision of Scottish ferry services is to be created, the currently expressed Scottish Government policy against debundling is a mistake, is unsustainable and if adhered to will condemn our Hebridean and Clyde islands to inferior connectivity, impaired economic growth, while costing ever greater amounts of public funds to maintain.

By comparison, the Norwegian state funded ferry system is highly efficient and cost effective. In Norway ferry operator tenders are for single routes or for small bundles of routes in a specific geographic area, requiring the winning bidder to procure their own vessels. Design and order of the ships is not considered the role or competence of government. Government simply concession the route and pay an agreed annual subsidy for the transport capacity provided at a given price. The ferry line then provides sufficient transport capacity on the agreed terms, just like a local authority school bus contract. This is in contrast to the vastly overly complex highly specified CHFS contact that inhibits any opportunity for operator innovation and has led to massive public sector capital and operating costs, partly because the CalMac/CMAL one-off ferry design specifications are so very costly (to buy and operate).

Norwegian government and public agencies tenders generate high interest from the market, with 3-4+ major private and partly public operators in Norway bidding. For example see Torghatten Nord AS (torghatten-nord.no) whose current 120 car, 380 passenger vessels on the 3¾ hour Lofoten run have crews of not more than 13 as compared with 27 crew for the new Islay ferries of less carrying capacity.

Under this model, it is not necessary for there to be a CMAL at all, as operators fund and bring their own vessels and may operate several contracts. Contracts are staggered so that no operators is faced with finding a large number of ships in one go. There is no reason, therefore, to prevent CalMac Ferries, restored as owner of its own ships, or any other operator, from bidding for several routes, albeit in competition with other operators. To prevent inefficiencies from creeping in, no one operator should have a monopoly.

Tender documentation should be short and simple, a few pages only, setting out the key parameters in terms of capacity, minimum schedules, maximum fares and charges, reliability, etc. and the agreed Government subvention. It would then be for the ferry operator to decide vessel design, acquisition, crew numbers, terms and conditions, etc., subject of course to fulfilling all legal requirements.

To facilitate change from the present CHFS contract to a multi-tender system, it is suggested that a future CHFS contract be designed such that routes or small groups of routes be enabled to be detached one at a time at approximately yearly intervals and let out as separate tenders with time for prospective operators to acquire vessels. In cases where a community expressed an interest in operating the route and could

demonstrate its capacity to do so, granting the operating contract, on the basis of amplified community empowerment, would at a stroke fulfil several of the Scottish Government's policies.

2. Can the current tri-partite arrangement (Transport Scotland, Caledonian Maritime Assets Ltd (CMAL), Ferry Operator) for managing most ferry service provision be improved?

THE TRIPARTITE ARRANGEMENT

The question is asked: Can the tripartite Transport Scotland, CMAL, ferry operator be improved? Experience suggests that the track record of this arrangement is so bad that it should be dismantled and a new structure staffed by experienced and suitably experienced and qualified personnel created in its place.

It may have been assumed that Transport Scotland, as advisors to ministers, custodians of taxpayers' funds and paymasters of CMAL, the David MacBrayne Group and NorthLink-Serco, are in control of setting policies and procedures to ensure efficient and cost effective investment in and operation of those ferry services that it funds. That the productivity and performance of the state funded sector is so manifestly abysmal, demonstrates that these objectives are not being achieved. The findings of Holyrood's RECC of 'catastrophic failure' regarding vessels 801/02 merely serves to confirm a longstanding legacy of dire decision making on vessel specification, procurement and related aspects (see appendix).

While civil servants are well-meaning, as generalists they do not have expertise in maritime economics and other specialist skills and tend to follow precedent rather than pursue innovation. Transport Scotland officials appear to have become over reliant for guidance, on appointed individuals in CMAL and DMG, each with their own vested interests and prescribed operating arrangements to protect, and in some cases with debatable previous experience or success in ferry operations.

Such a reliance on CMAL in particular for advice, seems highly questionable. A recent press statement attributable to a spokesperson stated that CMAL "was the only organisation in the public sector in Scotland that possesses the professional and technical skill, expertise and experience to manage large vessel and harbour infrastructure" – surely a statement of breath-taking arrogance, bearing in mind the numerous costly blunders that have occurred under that organisation's watch. In fact several Scottish local authorities, harbour authorities and others manage large marine infrastructure projects with success. Highland Council alone owns 100 piers and Harbours, from busy ports such as Kyle, Lochinver and Kinlochbervie, seven vehicle ferry terminals and a wide variety of other marine works. Shetland Islands Council has a long history of commissioning and operating a fleet of efficient ferries that provide a quality of service far in excess of any in the CHFS network. And of course private operators have proven able to commission large vessels in short timescales and operate them with exemplary efficiency, without the need for public funding. If cost-effective solutions are to be secured CMAL is not the model to embrace.

The David MacBrayne group is in the unenviable position of inheriting from previous managements a dysfunctional system – obsolescent vessels, unhelpful schedules and

restrictive labour practices. There is next to no opportunity to innovate due to the above, the inflexibility of the constraining CHFS contract and the requirement to operate CMAL vessels.

A BETTER ARRANGEMENT

Some pointers to a more effective, radical and focussed approach to the domestic and international ferry sector are set out in the paper A Maritime Policy for Scotland. The key changes required are institutional and practical.

The required institutional change is perhaps the more challenging as it necessitates a radical culture shift from a generalist to an expert Scottish Maritime Administration to set policy and facilitate the provision of ferry services and other maritime requirements. The overriding aim of policy should be advancing trade and developing Scotland's capacity to prosper. In undertaking its functions, it is essential that such an administration be independent of and not, as at present, dependent on CMAL/DMG who should be dealt with at arm's length and in equal manner to other entities such as local authorities, private ferry operators, harbour authorities, etc. In fact the existence of CMAL as a separate vessel owning body is irregular, inefficient and unique to Scotland. It should be disbanded with vessels transferred pro tem to DMG.

In terms of practicalities, several papers have been tabled to Transport Scotland that illustrate how significant improvements can be made to the provision of ferry services at considerably less cost to the taxpayer – i.e. better for less. Drawing on these papers and on Scandinavian practices and those of efficient domestic operators such as Western Ferries, Pentland Ferries and Shetland Islands Council would be a good starting point. It may be added that certain island community ferry groups, in particular Mull, Arran and Barra, have both come forward with innovative proposals, all of which thus far have been rejected. Hence we are left with the continued failed strategy to procure ever more expensive traditional designs each requiring more expensive port infrastructure.

The high level of dissatisfaction felt by several communities with the ferry provision by CMAL/DMG has therefore prompted them to seek alternative and more cost-effective, responsive and self-contained arrangements, the logical outcome of which would be de-bundling these connections under separate tenders. The myth that the large CalMac fleet enables vessels to be replaced easily in the event of breakdown or other disruption is belied in practice in that CalMac performs much worse in this regard in terms of service disruption and capacity constraints than any other Scottish operator.

Scotland's predicament now seems very reminiscent of Italian state-owned Tirrenia ferry company whose enormous and out of control subsidies were eventually ended by Rome, leaving an obsolete and mostly unrepairable ferry fleet laid-up in the Port of Civitavecchia, and with island communities left in the lurch. All so reminiscent of the unfortunate yet inevitable direction of travel for state ferries in Scotland, which is entirely due to an unwillingness to change.

With the growing anger among communities about their inadequate ferry provision, my colleagues and I have been approached on a number of occasions to give advice. In our response, besides drawing on our own expertise in maritime best practice and

intimate knowledge of island socio-economic realties, we have been fortunate to have access to a range of high-quality expertise in naval architecture, fleet operation, seafaring, ship-broking, legal structures, community development, etc. This combined expertise, we will be more than happy to contribute to assist the Scottish Government in resolving the vexed issue of Scotland's state funded ferries.

TRADE UNION RELATIONS

The right of trade unions to seek to protect members terms and conditions is of course a given. That right does not extend to demanding employment at public expense of more personnel than necessary to undertake a given function, especially in the light of serious labour shortages in other sectors such as haulage, hospitality, health and education. Nor should that right extend to refusing to accept Government policy such as de-bundling certain ferry services, simply because trade unions perceive ministers as a "softer touch" than commercial managers.

Previous instances of ministers and managers in the state funded sector caving in to unreasonable trade union demands has cost the Scottish public purse and island communities dear. Much more robust and skilled bargaining is required to balance the public good with realistic labour terms and conditions. The Scottish Government must decide whether the huge and ever growing sums devoted to one uneconomic ferry operator is for the benefit and largesse of CalMac's personnel or the communities it purports to serve.

LANDSCAPE AND AMENITY

Environmental issues with regard to ferries can be considered from two perspectives. These are island landscape and amenity and the wider issue of climate change.

For most of our islands the natural beauty and drama of their landscapes, seascapes and the distinctiveness of their built environments are not only fundamental to their communities' sense of well-being and mental health, but are key components of their attraction to tourists. The social and economic value of these assets are, therefore, almost beyond price.

Bearing in mind the increasing pressures of tourism in recent years, other developments and the need for transport infrastructure to cope with increased demand, it will be most important to conserve and enhance the quality of islands' natural and built environments. In practical terms this will demand carefully considered planning, a code for well-mannered architecture and care taken that transport infrastructure is as unobtrusive as possible. Where ferry related infrastructure does of necessity obtrude, such as ferry terminals, parking and marshalling areas, offices, waiting rooms and associated roads, every effort should be made meld these into the existing landscape in as elegant a manner as possible, enhanced and softened by well-thought-through landscaping and tree planting.

Recent £30 million terminal developments at Brodick, Arran, are an example of falling well short of this objective. The new pier is untenable in certain wind conditions. The large two storey terminal building is unsightly, more suited to an urban industrial estate than a rural island setting and made worse visually by a lengthy and unreliable

walkway between the upper level of the terminal building and ship's side. The increased size of the new and phenomenally expensive ferry Glen Sannox, has necessitated a larger marshalling area, further diminishing the visual amenity of Brodick's otherwise idyllic waterfront.

Likewise the despoiling of Tarbert, Harris with a large marshalling area necessitated by the over-large 802 has been seriously detrimental to visual amenity. The employment of say two smaller simpler vessels in place of one large vessel, as described in Little Minch Ferry Options , operating to simpler terminals and embarking passengers over the linkspan, rather than by walkways to the ships' side will obviate such adverse visual impact. It will also have the multiple advantages of increased frequency, greater capacity, increased revenue, less pressure of traffic surges on island roads and, assuming efficient ship design, less fuel burn per unit carried. In fact well-selected ship design can have an important influence on mitigating environmental harm even before novel fuel options are considered.

3. Can current tendering arrangements be improved, e.g. through service unbundling?

DEBUNDLING

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4. Can Scottish Government subsidies be better deployed to meet the needs of current and future ferry users?

VESSEL SPECIFICATIONS

The ferry requirement for each island or peninsular community varies so that "one size fits all" is not practicable. There is a case, however, for standardisation, with variants.

In the 1970s the Norwegian Transport Authority devised a series of ferry designs, based on experience and detailed analysis of what worked best. These designs became standards adopted by most operators until recently. In Scotland, Shetland and to an extent Orkney Islands Councils and Western Ferries also adopted variants of these standard designs which proved to be both robust, reliable and economical in operation.

This experience is in contrast to the CMAL/DMG one-off large ships with their inherent inefficiencies as described. The fleet of Loch Class ferries operating to slipways, function comparatively well although not as efficiently as the Western Ferries/Shetland examples.

Medium Speed Catamarans

Design concepts have moved on, however, since the 1970s, with efficient medium speed catamarans proven superiority over traditional monohulls in terms of low build cost, capacity, economy of operation, speed and sea-keeping, certainly on medium length crossings. That being so, there is a short to medium term opportunity to transform island connectivity in a number of cases by employment of series built catamarans, as follows:

Oban Craignure: 2 x 80 metre, 3.4 MW, 90 cars, 450 plus pax, 10-14 crew
Ardrossan – Brodick: 2 x 80 metre, 3.4 MW, 90 cars, 450 plus pax, 10-14 crew

Campbeltown & Relief 1 x 80 metre, 3.4 MW, 80 cars, 450 plus pax, 10-14 crew
Islay/Jura/Colonsay land bridge: 3 x 50 metre, 1.8 MW, 50 cars, 250 pax, 5 crew
Orkney Outer Isles: 3 x 50 metre, 1.8 MW, 50 cars, 250 pax, 5 crew
Orkney Inner Isles: 3 x 35 metre, 0.9 MW, 30 cars, 125 pax, 3 crew

Capital costs of catamarans of proven design compared with equivalent monohulls are about half depending on where built with delivery times typically of around two years, viz:

80 metre = £15 m (Far East), £25 m (Europe)
50 metre = £11 m (Far East), £18 m (Europe)
35 metre = £6 m (Far East), £10 m (Europe)

Thus a building programme for 13 vessels as outlined above would cost an estimated total of £160 million if built in the Far East or £260 million if built in Europe and possibly significantly cheaper if series built – that is to say 13 ships for less than the cost of 801 and 802 but with three times the total vehicle carrying and revenue generating capacity). In the case of the Islay/Jura/Colonsay land bridge scheme, a substantial road upgrading would be required, costing perhaps £250, but with the greatly reduced operating costs compared with the current long big ship passages, these costs would be recovered in about 15-20 years while providing greatly increased frequency, capacity and travel opportunities. As important would be the enormous saving in combined road and ferry CO2 emissions, to about one seventh. I can provide costed detail if required.

While, for each of the above scenarios, capital and operating costs would be roughly halved (about one fifth in the case of Islay/Jura) over current or planned provision, vehicle capacity would be approximately doubled.

If such a programme were put in place over the next three to six years, it would allow disposal of some large time-served vessels and redeployment of newer tonnage to other capacity constrained routes and would of course reduce the number of routes on which large and expensive monohulls would be required at all.

In the medium to longer term, say five to ten years, there is scope for introduction of catamarans of this class on other crossings, such as Wemyss Bay – Rothesay, Mallaig – Armadale, Tiree/Coll – Tobermory (assuming all weather berthing at Tiree), and elsewhere, so that within ten years most if not all of the Scottish medium length ferry connections could be revolutionised by doubling capacity while halving costs and CO2 emissions. Further CO2 emission reduction/elimination may be achieved by retro fitting for green hydrogen fuel.

The suitability of medium speed catamarans on longer more exposed crossings is as yet unproven. Once a number of such vessels are in service, the opportunity should be taken to test performance in winter on, for example, the Little Minch, which is crying out for a two ship provision to resolve the current capacity constraints and infrequent, irregular scheduling which will not be resolved by the introduction of 802.

Shetland

With regard to longer passages, the longest are those connecting Shetland with the Scottish Mainland. As the current ROPAX vessels Hjaltland and Hrossay are 20 years old, and are chronically inefficient in terms of payload per installed power (20MW for 650 lane metres), supplementary cargo ferries are required to meet demand. Now that the new more capacious harbour at Nigg Bay, Aberdeen, is nearing completion, the opportunity will exist to build two longer more economic multi-deck vessels of the Visentini class for the service with approximately four times the lane length of the current vessels.

One way in which Shetland is disadvantaged, is that the current ferry service does not meet any of the travel option requirements set out above, not even “daily access to and from main Scottish centres without the need for overnight stay en route”. This means that travel to and from the Scottish mainland can be expensive for families when the cost of overnight berths are taken into account. There is a way in which this disadvantage can be overcome. That is a daylight service connecting Grutness adjacent to Sumburgh Airport with Kirkwall. Completing the connection necessitates a 37 km (23 miles) road link to Burwick and a ferry connection thence to Gills Bay. It is a six hour drive between Gills Bay and Edinburgh, such that the overall time between Lerwick and Edinburgh would be some 14 hours – a long day, but feasible bearing in mind opportunities for rest and refreshments on the ferry passages.

This scheme assumes access by Pentland Ferries to Burwick as has long-desired been by that firm, but so far blocked by Orkney Islands Council. Such a development would not only reduce the cost of the ferry crossing, but would enable frequency and capacity to be doubled, thereby rendering the Stromness – Scrabster crossing and its high costs redundant. The sailings indicated below would be reserved for Shetland traffic.

It will be understood readily that if a 120 car vessel of the Torgatten Nord Lofoten Class would be ideal for the Shetland – Orkney crossing, the operating cost would be about one quarter that of the Aberdeen service. One ship compared with two, less than half the crew and a third of the power requirement. It is suggested that this arrangement be introduced as a summer supplementary service and that it would be particularly attractive with its lower costs to both Shetland families heading south on vacation and tourists traveling to Shetland in both cases at an affordable cost. A reciprocal arrangement with Torgatten Nord would be beneficial. An illustrative schedule is set out below.

Lerwick Bus dep 08:00
Grutness dep 09:15
Kirkwall (Hatston) arr 14:00
Bus to Burwick arr 15;00
Burwick dep 15:30
Gills Bay arr 16:00

Gills Bay dep 11:30
Burwick arr 12:00
Bus to Kirkwall 14:00
Kirkwall (Hatston) dep 15:15

Grutness arr 20:00
Lerwick Bus arr 21:15

There is not time or space here to outline what further positive change could be wrought elsewhere, but my associates and I would be happy to work with Transport Scotland in fleshing out such options.

5. Are current services providing best value for the taxpayer?

No.

There are many examples of good practice in the provision of island ferry services in terms of good connectivity, cost effectiveness, environmental amelioration and community engagement. If, however, the current policy of building large inefficient ships and overly complex terminals that diminish the natural and built environments of some of our islands persists and is rolled out further, the already high financial and environmental cost to the Scottish Government will be hugely disproportionate to any benefits and will abstract from funding that could go to financially strapped health and education services.

This response demonstrates how adoption of more cost effective and proven ship designs can have the multiple benefits of reducing public funding subventions, increasing capacity and frequency of service and reducing CO2 emissions while enhancing the economic well-being of our island communities.

To achieve the required shift in policy, a fundamental rethink of ferry policy and practice is required and should be undertaken by individuals or an entity familiar with best practice. My associates and I will be happy to assist Transport Scotland in carrying forward such policy and practice.

As new investments have been taken forward, resistance to adopting more efficient vessel and terminal designs and modus operandi has had the effect of reducing productivity and increasing the scale of public subvention required to support the Clyde and Hebrides ferry services, all for little if any improvement in connectivity. Some examples of how this has occurred are listed below:

Loch Seaforth

The decision to replace time expired Stornoway freighter Muirneag and 680 pax, and 123 car, 32 crew Isle of Lewis (1995) with a single 700 pax, 143 car, 42 crew vessel Loch Seaforth (2014) necessitated expensive terminal works at Ullapool and Stornoway. This decision flew in the face of an almost universal plea for a two-ship solution, i.e. a simple replacement of Muirneag, but also with some passenger accommodation, running in consort with Isle of Lewis. This would have offered greater frequency of service, provided back-up at time of refit and breakdown and rendered terminal expansion works unnecessary. Note that the maximum and exceptional number of passengers ever carried by Loch Seaforth is 501. One unfortunate side effect is that Isle of Lewis has been cascaded to the Oban – Barra station on which she is grossly over size and on which the maximum number of passenger carried is 271, 40% of capacity, and in practice the average is circa 60 pax (9% capacity), 1½

CVs and 24 cars.

Finlaggan

Once again this vessel introduced in 2011 was over specified with a passenger capacity of 550, a large live aboard crew and a fuel hungry 8 MW installed power. The maximum number of passengers ever carried is again 271, 49% of capacity. Newbuild cost was some £24.5m, which was over three times as much as, with operating cost also three times greater than, the similar car capacity Pentalina which was built at the same time.

Electo-diesel vessels

Hallaig, the first of the hybrid battery/diesel electric 23 car vessels, was introduced in 2012 with the aim of reducing CO2 emissions (actual diesel consumption in practice is 4.07 litres per car, per hour). The capital cost was £12 million which compares with Western Ferries conventional, but economical 40 car Sound of Shuna and Sound of Seil introduced at the same time at a quarter of the capital cost at £3 million each for almost twice the capacity. The WF vessels also have a superior fuel economy of 1.83 litres per car per hour. It should be noted that Hallaig and her two subsequently built sister ships have deadweight (i.e. payload) limitations due in part to the heavy weight of batteries carried on board.

A new vessel for Arran

In a presentation of vessel options for the Arran service, CMAL erroneously quoted an 80-car catamaran design proposed by Messrs Sea Transport Solutions (STS) of Queensland, Australia as being unsuitable in that they alleged that she had a deadweight of only 200 tonnes, so supposedly limiting carrying capacity to just four commercial vehicles. In fact the “revenue deadweight” (i.e. payload) of this proven and robust design is 440 tonnes which is more than adequate for virtually any CalMac service. Furthermore, such vessels, which are commonplace worldwide, have superior sea-keeping and environmental qualities and can be built more rapidly, currently for about £15 million if built in Asia or perhaps £25 million if built in a capable UK yard; this is a tiny fraction of the unit cost of 801 and 802 which see below.

Brodick

The Ardrossan – Brodick service has long been prone to weather disruption. To alleviate this problem and bring about a general upgrade, CMAL instituted the construction of a new pier and linkspan at Brodick together with a wholly over-scale terminal building and unwieldy covered walkway at a total cost of no less than £30 million. In the event, due to its misjudged alignment, this new berthing facility is untenable in strong easterly winds such that there is little if any improvement in reliability.

801 and 802

The costly (over one third of a billion pounds including terminals) debacle of the conceptualisation, unique design and ordering of these vessels has been well aired and need not be reiterated here, except to say that when the concept was first put before the Expert Ferry Group, the question was asked: why build a vastly oversized 1,000 passenger vessel for the Little Minch station when two ships of simpler 80 car, 250 pax, 12-14 crew would provide more vehicle capacity, double frequency, revolutionise connectivity and grow revenue, without the need for major terminal and marshalling area expansion, all at much less capital and running cost than the 802 option. The question remained unanswered.

Mull

Mull Community Council, Mull & Iona Ferry Committee and others roundly condemned the costly £78m proposal to enlarge the Craignure terminal to take an 802 type vessel at a cost of a further £50 to £150 million which, if utilised, would deposit up to 130 cars in one go on Mull's fragile road network. The second serious concern in this was the proposed construction of a wholly out-of-scale and unnecessary terminal building designed to handle no less than 1,500 persons (over half the Mull population).

What the Mull community seek is a frequent service operated by two (or three) basic vessels of moderate size and proven design operating to the Craignure terminal as currently configured and most importantly permitting commuting to Oban, which is not possible at present. The availability for around £10-12 million of a 60 metre STS designed catamaran building at Batam, Indonesia, was identified as ideal as a year-round Oban-Craignure vessel, subject to minor on-board modification, it being able to berth overnight at Craignure overnight. CMAL's CEO, Kevin Hobbs, claimed that this vessel was non-compliant and presented challenges regarding crew accommodation. On requesting specifics, it transpired that practical modifications could meet all of CMAL objections. Mr Hobbs then set out an erroneous table to demonstrate that the vessel had inadequate deadweight (wrong) and refused further communication. Joe Reade, Chair of the Mull & Iona Ferry Committee negotiated with STS as to modifications required to and to ensure that this vessel is compliant, yet CMAL made no attempt to contact STS to secure the deal.

Then CMAL purchased from Norway a vessel, Utne, that was also non-compliant and necessitating substantial modification, with no crew accommodation, limited vehicle accommodation, low speed, deep draft issues and a two meter wave height restriction, all of which means that the vessel could not provide the winter service without a second vessel, the high cost Isle of Mull, as consort. A phenomenally wasteful solution compared with the STS catamaran that could have provided the winter service economically and unaided.

NorthLink

NorthLink's three ROPAX vessels, built to CalMac specification, suffer from even more severe productivity issues. The two 120 metre Hjaltland and Hrossay operating the overnight Aberdeen-Kirkwall-Lerwick service, with their excessively high 20 MW installed power and single main vehicle deck compare very unfavourably with say the

similarly powered multi-freight-deck standard, proven Visintini type vessel in terms of lower operating cost and emissions per unit of payload, hence the huge Government subvention required to support their operation.

As already indicated, the heavily subsidised Hamnavoe on the Pentland Firth costs some three times as much to operate and emits about four times the CO2 and is more weather prone to cancellation compared with unsubsidised Pentland Ferries Alfred / Pentalina yet there is an impression that the powers-that-be seek to frustrate Pentland Ferries while rewarding the competing an inefficient NorthLink operation.

When the very costly 18-year bank leasing arrangement for these three ROPAX vessels expired, they were purchased in a privately negotiated sale by CMAL. When Dr Alf Baird asked the cost, he was told by Kevin Hobbs: “It’s none of your business”. Dr Baird also asked why there was no tender for the acquisition of these vessels, or for the RORO vessels subsequently acquired by CMAL, the latter of which Mr. Hobbs previously managed whilst a director at Seatruck Ferries Ltd. Surely where public money is involved, such transactions should be transparent and it is the business of advisors to seek answers to such questions if they are to give considered advice.

New Islay Ferries

Presenting the design for the new Islay ferries revealed further flawed decision making. Tow improvements over previous designs were lower block co-efficient offering a more fuel efficient hull form and passenger capacity reduced from the usual 500 plus to a more realistic 350. The proposed crew compliment, however, was no less than 27 of which, 11 were catering/retail for a two hour crossing on which passenger numbers are typically around the 40-70 level. In comparison, Pentland Ferries crew for MV Alfred is 13/14 for 430 passengers (98 cars), Torghatten Nord’s Landegode class vessels operate with 8/9 plus 3/4 catering, in the latter case employed on the 3¾ hour Bodø – Lofoten open Atlantic passage.

In a webinar presentation in spring 2021, a comparative catamaran specification was provided and discounted on grounds of deep draft and high fuel consumption which flew in the face of the known performance of Alfred and STS designed vessels which have much superior draft and fuel consumption characteristics. On pressing for more information, a post-dated GA eventually emerged, which can only be described as infantile in concept. It was described by one senior naval architect as a first year student naval architect fail. It is difficult to understand why such an inept specification was selected when a much more apt design could have been obtained form an experienced designer with a track record of success. Or was there a deliberate attempt to discredit the catamaran model so as to justify the inferior but favoured monohull?

Misinformation

There have been many instances of erroneous statements, whether misguided or deliberate, in response to genuine concerns by advisors. One recent example in a meeting with the Minister for Transport as to why Pentalina could not be chartered or acquired to aid the current problems. The answer by the civil servant, was that it would

take six month to get a passenger certificate. In fact when Pentalina was brought into service by Pentland Ferries following the grounding of Alfred, it took less than a week to get full certification.

One of the most frustrating and regrettable features of involvement with the Scottish state funded ferry system is that, over the years, when the considerable shortcomings of DMG/CMAL have been pointed out and corrective measures recommended, rather than take remedial action, critics have been vilified, as often as not behind their backs. Meantime serious ship design, terminal, and related public sector procurement issues remain to be addressed. In that light, the decisions to progress with 801 and 802 would never have taken place had the advice of independent advisors been taken by Transport Scotland, its ferries agencies, and Ministers.

C. Vessels and crews

1. What size and types of vessels are required?

VESSEL SPECIFICATIONS

The ferry requirement for each island or peninsular community varies so that “one size fits all” is not practicable. There is a case, however, for standardisation, with variants.

In the 1970s the Norwegian Transport Authority devised a series of ferry designs, based on experience and detailed analysis of what worked best. These designs became standards adopted by most operators until recently. In Scotland, Shetland and to an extent Orkney Islands Councils and Western Ferries also adopted variants of these standard designs which proved to be both robust, reliable and economical in operation.

This experience is in contrast to the CMAL/DMG one-off large ships with their inherent inefficiencies as described. The fleet of Loch Class ferries operating to slipways, function comparatively well although not as efficiently as the Western Ferries/Shetland examples.

Medium Speed Catamarans

Design concepts have moved on, however, since the 1970s, with efficient medium speed catamarans proven superiority over traditional monohulls in terms of low build cost, capacity, economy of operation, speed and sea-keeping, certainly on medium length crossings. That being so, there is a short to medium term opportunity to transform island connectivity in a number of cases by employment of series built catamarans, as follows:

Oban Craignure: 2 x 80 metre, 3.4 MW, 90 cars, 450 plus pax, 10-14 crew
Ardrossan – Brodick: 2 x 80 metre, 3.4 MW, 90 cars, 450 plus pax, 10-14 crew
Campbeltown & Relief 1 x 80 metre, 3.4 MW, 80 cars, 450 plus pax, 10-14 crew
Islay/Jura/Colonsay land bridge: 3 x 50 metre, 1.8 MW, 50 cars, 250 pax, 5 crew
Orkney Outer Isles: 3 x 50 metre, 1.8 MW, 50 cars, 250 pax, 5 crew
Orkney Inner Isles: 3 x 35 metre, 0.9 MW, 30 cars, 125 pax, 3 crew

Capital costs of catamarans of proven design compared with equivalent monohulls are about half depending on where built with delivery times typically of around two years, viz:

80 metre = £15 m (Far East), £25 m (Europe)
50 metre = £11 m (Far East), £18 m (Europe)
35 metre = £6 m (Far East), £10 m (Europe)

Thus a building programme for 13 vessels as outlined above would cost an estimated total of £160 million if built in the Far East or £260 million if built in Europe and possibly significantly cheaper if series built – that is to say 13 ships for less than the cost of 801 and 802 but with three times the total vehicle carrying and revenue generating capacity). In the case of the Islay/Jura/Colonsay land bridge scheme, a substantial road upgrading would be required, costing perhaps £250, but with the greatly reduced operating costs compared with the current long big ship passages, these costs would be recovered in about 15-20 years while providing greatly increased frequency, capacity and travel opportunities. As important would be the enormous saving in combined road and ferry CO2 emissions, to about one seventh. I can provide costed detail if required.

While, for each of the above scenarios, capital and operating costs would be roughly halved (about one fifth in the case of Islay/Jura) over current or planned provision, vehicle capacity would be approximately doubled.

If such a programme were put in place over the next three to six years, it would allow disposal of some large time-served vessels and redeployment of newer tonnage to other capacity constrained routes and would of course reduce the number of routes on which large and expensive monohulls would be required at all.

In the medium to longer term, say five to ten years, there is scope for introduction of catamarans of this class on other crossings, such as Wemyss Bay – Rothesay, Mallaig – Armadale, Tiree/Coll – Tobermory (assuming all weather berthing at Tiree), and elsewhere, so that within ten years most if not all of the Scottish medium length ferry connections could be revolutionised by doubling capacity while halving costs and CO2 emissions. Further CO2 emission reduction/elimination may be achieved by retro fitting for green hydrogen fuel.

The suitability of medium speed catamarans on longer more exposed crossings is as yet unproven. Once a number of such vessels are in service, the opportunity should be taken to test performance in winter on, for example, the Little Minch, which is crying out for a two ship provision to resolve the current capacity constraints and infrequent, irregular scheduling which will not be resolved by the introduction of 802.

Shetland

With regard to longer passages, the longest are those connecting Shetland with the Scottish Mainland. As the current ROPAX vessels Hjaltland and Hrossay are 20 years old, and are chronically inefficient in terms of payload per installed power (20MW for 650 lane metres), supplementary cargo ferries are required to meet demand. Now that

the new more capacious harbour at Nigg Bay, Aberdeen, is nearing completion, the opportunity will exist to build two longer more economic multi-deck vessels of the Visentini class for the service with approximately four times the lane length of the current vessels.

One way in which Shetland is disadvantaged, is that the current ferry service does not meet any of the travel option requirements set out above, not even “daily access to and from main Scottish centres without the need for overnight stay en route”. This means that travel to and from the Scottish mainland can be expensive for families when the cost of overnight berths are taken into account. There is a way in which this disadvantage can be overcome. That is a daylight service connecting Grutness adjacent to Sumburgh Airport with Kirkwall. Completing the connection necessitates a 37 km (23 miles) road link to Burwick and a ferry connection thence to Gills Bay. It is a six hour drive between Gills Bay and Edinburgh, such that the overall time between Lerwick and Edinburgh would be some 14 hours – a long day, but feasible bearing in mind opportunities for rest and refreshments on the ferry passages.

This scheme assumes access by Pentland Ferries to Burwick as has long-desired been by that firm, but so far blocked by Orkney Islands Council. Such a development would not only reduce the cost of the ferry crossing, but would enable frequency and capacity to be doubled, thereby rendering the Stromness – Scrabster crossing and its high costs redundant. The sailings indicated below would be reserved for Shetland traffic.

It will be understood readily that if a 120 car vessel of the Torgatten Nord Lofoten Class would be ideal for the Shetland – Orkney crossing, the operating cost would be about one quarter that of the Aberdeen service. One ship compared with two, less than half the crew and a third of the power requirement. It is suggested that this arrangement be introduced as a summer supplementary service and that it would be particularly attractive with its lower costs to both Shetland families heading south on vacation and tourists traveling to Shetland in both cases at an affordable cost. A reciprocal arrangement with Torgatten Nord would be beneficial. An illustrative schedule is set out below.

Lerwick Bus dep 08:00
Grutness dep 09:15
Kirkwall (Hatston) arr 14:00
Bus to Burwick arr 15;00
Burwick dep 15:30
Gills Bay arr 16:00

Gills Bay dep 11:30
Burwick arr 12:00
Bus to Kirkwall 14:00
Kirkwall (Hatston) dep 15:15
Grutness arr 20:00
Lerwick Bus arr 21:15

There is not time or space here to outline what further positive change could be

wrought elsewhere, but my associates and I would be happy to work with Transport Scotland in fleshing out such options.

2. What type of sustainable propulsion systems (including energy-use and moves to low carbon systems) would meet the needs of ferry services?

CLIMATE CHANGE

One of the main and immediately available technological advances that can improve vessel environmental performance (and also address the chronically poor productivity of much of the increasingly obsolete monohull ferry fleet) is the medium speed steel hulled catamaran. The superiority of the catamaran is demonstrated in a paper by Professor Baird tabled at the Cancun Inter-ferry Conference. A number of erroneous criticisms have been promoted by CMAL with regard to deadweight (payload), sea keeping and other issues. However, the catamaran Pentalina, operated by Pentland Ferries, a relatively small vessel of 70 metres length, regularly carries nine laden trailers, plus some 30 cars and in excess of 100 passengers per crossing with great reliability over one of Scotland's roughest passages and requiring half the power and crew of an equivalent monohull to undertake this task. In so doing, and without public subsidy, Pentalina with her shorter route, while carrying more traffic, notwithstanding less deadweight, emits one fifth the CO2 emissions than the competing heavily subsidised service operated by NorthLink's Hamnavoe as demonstrated in the table below:

Hamnavoe, Northlink Pentalina, Pentland Ferries
Deadweight Approx. 1,000 t 475 t
Commercial vehicle carryings 5500 7500
Annual return journeys Approx 850 Approx 1090
Crossing Time 1.5 hrs 1 hr
Fuel consumption per return Approx 4,000 litres Approx 1,700 litres
Crew 28 12

An even more telling contrast was demonstrated in a prizewinning report of 2012 in which total journey emission were compared for passengers, cars and commercial vehicles travelling between Edinburgh and Orkney by three alternative routes. The CO2 emitted per car for each route was as follows:

Edinburgh-Aberdeen (by road) thence Aberdeen-Orkney (by ferry) = 687 kg CO2/unit
Edinburgh-Scrabster (by road) thence Scrabster-Orkney (by ferry) = 196 kg CP2/unit
Edinburgh-Gill Bay (by road) thence Gills-bay-Orkney (by ferry) = 93 kg CO2/unit

Thus it has been shown that driving a car from Edinburgh to Gills Bay and crossing by Pentalina to St Margaret's Hope emitted half the emissions compared with driving to Scrabster and crossing by Hamnavoe to Stromness, and one seventh the emissions compared with driving to Aberdeen and taking passage on Hjaltland or Hrossey to Kirkwall. Similar results were revealed for Commercial vehicles and for overland travel by bus or train. This clearly demonstrates that combining short ferry crossings with longer road journeys is environmentally much less damaging than long ferry passages.

Battery Electric

Recent improvements in battery technology have increased the practicability of battery electric vehicles and ferries. Remaining downsides are cost and the dependence on the democratic Republic of Congo (with its appalling labour conditions) as the main source of the cobalt necessary to recharge lithium batteries. For the present, however, battery weight is a major factor with electric vessels with 4MW power needing well over 100 tonnes of batteries which significantly reduces deadweight by around a third. It is telling that CMAL's recently introduced hybrid electro-diesel 23 car capacity ferries consume some 4 litres of diesel fuel per passage hour per car space, whereas for the conventional diesel 40 car capacity Western Ferries' vessels, with their efficient hull design, the figure is less than 2 litres of diesel fuel per passage hour per car space. When it is realised that the Western Ferries vessels were built for about one third the cost of the hybrid vessels, there is a case, for the present, for utilising efficient diesel technology together with proficient hull design until such time as electric technology is more mature. Interestingly, CMAL's oldest vessel Isle of Cumbrae is more fuel efficient per car space than the new hybrid vessels.

Hydrogen

While issues remain with battery electric transport, a viable alternative is emerging, namely, green hydrogen, which can be made from two ingredients that Scotland has in abundance. These are water and electricity generated either from wind turbines or increasingly from tidal stream turbines. Scotland's potential for tidal steam energy in particular is enormous and ultimately much greater than our current electricity requirement. By stripping out tidal peaks and other surplus wind generation from base load, to electrolyse water, "green" hydrogen can be generated at marginal cost. Such hydrogen can readily be utilised as both an automotive and marine fuel either through fuel cells to drive electric motors or directly in conventional internal combustion engines. Either way the only emission is water vapour which will end up in the sea from whence it came. No need for large batteries.

Several countries, such as Iceland, Norway and Canada are investing heavily in this technology. The most advanced of these and most relevant to Scotland is the two new hydrogen 120 metre, 120 car, 599 pax ROPAX vessels building for year-round Torghatten Nord Bodø Lofoten service involving a close to 100 km open ocean crossing of the Vestfjord above the Arctic Circle, considered Norway's most challenging crossing.

Torgatten Nord's New Hydrogen Ferry

According to the Norwegian Public Roads Administration, the new ferries will reduce CO2 emissions on the Vestfjord route by 26,500 tonnes annually compared to today's LNG-powered ferries. This corresponds to the annual emissions from 13,000 diesel cars.
The new ferries will be about 120 meters long and with a capacity to carry 120 cars and 599 passengers.

3. How can we ensure ferries are compatible with harbour facilities?

Keep it simple, as per western Ferries, Pentland Ferries and Shetland islands Council ferries. Load foot passengers at one level over the linkspan. Complex labour-intensive terminals divert large sums of public funds from more important sectors such as health and education. Most Norwegian ferry terminals are unmanned, as in Shetland.

LANDSCAPE AND AMENITY

Environmental issues with regard to ferries can be considered from two perspectives. These are island landscape and amenity and the wider issue of climate change.

For most of our islands the natural beauty and drama of their landscapes, seascapes and the distinctiveness of their built environments are not only fundamental to their communities' sense of well-being and mental health, but are key components of their attraction to tourists. The social and economic value of these assets are, therefore, almost beyond price.

Bearing in mind the increasing pressures of tourism in recent years, other developments and the need for transport infrastructure to cope with increased demand, it will be most important to conserve and enhance the quality of islands' natural and built environments. In practical terms this will demand carefully considered planning, a code for well-mannered architecture and care taken that transport infrastructure is as unobtrusive as possible. Where ferry related infrastructure does of necessity obtrude, such as ferry terminals, parking and marshalling areas, offices, waiting rooms and associated roads, every effort should be made meld these into the existing landscape in as elegant a manner as possible, enhanced and softened by well-thought-through landscaping and tree planting.

Recent £30 million terminal developments at Brodick, Arran, are an example of falling well short of this objective. The new pier is untenable in certain wind conditions. The large two storey terminal building is unsightly, more suited to an urban industrial estate than a rural island setting and made worse visually by a lengthy and unreliable walkway between the upper level of the terminal building and ship's side. The increased size of the new and phenomenally expensive ferry Glen Sannox, has necessitated a larger marshalling area, further diminishing the visual amenity of Brodick's otherwise idyllic waterfront.

Likewise the despoiling of Tarbert, Harris with a large marshalling area necessitated by the over-large 802 has been seriously detrimental to visual amenity. The employment of say two smaller simpler vessels in place of one large vessel, as described in Little Minch Ferry Options , operating to simpler terminals and embarking passengers over the linkspan, rather than by walkways to the ships' side will obviate such adverse visual impact. It will also have the multiple advantages of increased frequency, greater capacity, increased revenue, less pressure of traffic surges on island roads and, assuming efficient ship design, less fuel burn per unit carried. In fact well-selected ship design can have an important influence on mitigating environmental harm even before novel fuel options are considered.

4. What type of onboard crew accommodation is required?

ISLAND BASED CREWS

As noted in the previous chapter, crews live aboard the larger publicly funded Class B open water vessels. It has long been argued that it would be more beneficial to island economies, and more family friendly, if crews were shore based, and lived in the island communities they serve. It was something of a shock to discover that of the crew of MV Finlaggan on the Islay service, not one of the officers or ratings were Islay residents.

Crews do live ashore in the cases of the smaller Loch Class vessels of the CalMac fleet, the various council operated short crossing ferries, including the Shetland Islands Council fleet, Western Ferries fleet and Pentland Ferries Class B vessel(s). In these cases crews and their families contribute to their communities by using local shops and services and maintaining school pupil numbers.

As crews generally work fortnight on/fortnight off with up to ten weeks annual leave in addition, each ship requires two and a half times the on-board complement to maintain regular operation. The total number of such personnel for the Class B Clyde and Hebrides fleet is some 700, representing a total annual wage bill of perhaps £80 million to which should be added the cost of on-board catering and accommodation. Only a tiny proportion of these funds finds its way into the economies of the islands served.

By basing vessels of simpler design with lower passenger to car ratios and average crewing of say 12 to 14 on several of the islands served and arranging for the crews to live ashore on those same islands, a very considerable contribution would be made by these personnel and their families to the local economy and community life. Because of lack of shelter, it will not always be possible for some of these larger vessels to be based overnight at an island port, but it is estimated that some 500 crew, currently living aboard, could be island based. With families added the total becomes some 1,300.

As some islanders are already employed on ships with live-aboard accommodation, then to calculate the additional island population increase attributable to shore based crewing, the total should be reduced by an estimated 40%, bringing the revised total to around 800. That is to say 800 additional island residents attributable directly to island based crewing of vessels. A conservative multiplier of 1.3 would suggest a further 230 jobs created, which, when associated families are added, results in some 390 residents additional to crews and their families. Thus when all these factors are taken into account, island based crewing, on the basis described above, would add a total of some 1,200 persons to the populations of the islands involved.

The implementation of a shore-based crew policy will require to be introduced in stages as new more cost-effective vessels are built and routes re-configured. For any particular island, crews will have to be recruited locally and trained or relocated to the island as older personnel retire.

Clearly if ships crews are to be based on and live as part of island communities, they

will need to be housed. In fact addressing the Islands Plan ‘improving objective’ of ‘increasing population levels’ has the obvious consequence that island housing stock will have to be increased to accommodate the increased number of inhabitants. In the past, it has not been unusual in sparsely populated locations, when new developments have been planned, for housing and/or special accommodation to be factored into the development. Examples include Dounreay, Corpach, Invergordon, Sullom Voe, etc. With the introduction of shore-based crews, the numbers of individuals and their accommodation requirements on any one island will be much less and more localised than with those substantial developments.

The major benefit of crews and their families living ashore on the island that they serve is that they will then be part of community life; they will shop in the local shops, their children will attend the local school and the families will have the opportunity to participate in the social activities of the community, creating a bond between crews and community that is largely absent at present.

Apart from the positive benefits of normalisation of crew’s family lives, residence within the community will lead to more flexible manning of vessels and therefore to greater resilience of service. For example, whereas a vessel with a live-aboard crew is limited in its operating hours by working hour’s regulations, this need not be the case with shore based crews. If the locally based vessel is required by virtue of traffic demand or weather interruption to make additional sailings beyond normal hours, a crew will be at hand ashore to operate a second shift. Indeed, if it is considered desirable to operate the islands ferry service for longer hours in the day on a regular basis, then a two shift system is perfectly feasible, so long as as sufficient number of personnel are employed. This has been the case for many decades for ferries operated by Shetland Islands Council and Western Ferries. In this way the asset, the vessel, can easily be sweated to increase capacity and travel opportunities in a way that is not normally feasible with a live-aboard crew.

5. Current procurement criteria and processes: what are their strengths and weaknesses? Are they “future proofed” to accommodate new technologies and the need for sustainable low-carbon travel?

With debundling, operators would bring their own efficient vessels, thereby saving the public purse very large sums of public money - much more flexible arrangement that can adapt to future requirements.

ANNEXE C – WRITTEN SUBMISSION

Response from Professor Neil Kay to the Net Zero, Energy and Transport Committee's Call for Views on 'A Modern and Sustainable Ferry Service for Scotland'.

I enclose some notes on the subject of the Inquiry which may complement my evidence to be heard on Tuesday 31st January.

I will make particular reference to the Gourock-Dunoon ferries: (1) as a regular user of these ferries, I am most familiar with both ferry services and operators here; (2) it is one of the busiest and most strategically important in Scotland, In 2019 Western Ferries carried 633,000 cars on this one route, equal to over 40% of the total number of cars caried by the entire CalMac network; (3) it is probably the most heavily studied and evidenced of the routes in Scotland, having been the subject of government commissioned economic analyses over the years.

However, the points made in this connection may also be applicable to other routes, this submission is intended to suggest some possibilities that may be worthy of further investigation.

1. What do island residents, businesses, and other ferry users need in the short, medium and long term from Scottish Government-supported ferry services?

(a) Investment needs

The most obvious need of island residents, businesses, and other ferry users is reliability of services through investment in new vessels. Prior to the introduction of RET, I did an analysis of likely effects of price decreases on the CalMac network on ferry usage, based on previous Scottish and other studies. The best approximation I could find was an average elasticity of demand about -1 (this varying on a route-by-route basis). This meant that for a 10% reduction in price we could expect, on average, a 10% increase in demand over a wide range of price decreases. This should have signalled a major expansion of investment in the CalMac network when in fact the reverse has happened. This is in addition to the well-publicised issues around the Ferguson's contracts.

(b) Ports and harbours

Ports and harbours owned by CMAL should be transferred to local authority control. As far as meeting the needs and sustainability of island, remote rural and mainland communities, businesses and visitors is concerned, a prime requirement here is accountability. At the moment, too many decisions are made remote from, and not directly accountable to, these stakeholders. Local authorities should own the ports and harbours within their boundaries and the operator should own the vessels they use.

2. What institutional and funding arrangements would most likely deliver service patterns, vessels, and crewing arrangements that meet the needs of current and potential future ferry users?

(a) Reorganisation

CMAL should be abolished and. as implied above, ports and harbours should be transferred to local authorities with its vessels transferred to CalMac. The original split of CalMac into CalMac and CMAL was in principle intended to facilitate transparency and accountability, with EU regulations in mind. However, that is not the only solution that would ensure transparency and accountability. CMAL in particular is distanced in governance terms from accountability to the users and communities affected by its decisions.

(b) Long term leasing of port and harbour facilities

Long-term leasing of port and harbour facilities by operators could open up possibilities for outside investment in services and vessels for the routes. At the moment, the short-term nature of public contracts militates against operators taking the risk of long term investment in vessels for routes. Long-term leasing of harbour facilities could give operators the security and time horizon needed to invest in vessel construction There is precedent for such arrangements in the UK and abroad, e.g. a 41-year lease of Portsmouth Council harbour facilities was recently concluded by Canada Life, annual costs of the lease pegged to RPI. As part of the deal an occupational lease to Wightlink Ferries made on identical terms will remain in place.

For example, the government-sponsored reports by Deloitte-Touche (1998) and MVA Consultants (2013) found that an unsubsidised frequent vehicle-carrying service between the town centres had the potential to be commercially profitable, even with the presence of the commercial operator Western Ferries nearby. Long term leasing opportunities of the Dunoon and Gourock facilities with the annual costs of the leases pegged to RPI could make a commercial service feasible on this route.

(c) Outside finance and joint venture possibilities

The Scottish Government has determined to maintain bundling of the CalMac routes. This has a number of advantages such as interchangeability of vessels and crews. However, the debate is often framed in terms of CalMac and bundling versus private operators and outside finance. There are possibilities which could marry the advantages of both.

To take one example, CalMac could joint venture with an outside operator with access to outside finance on a route such as Gourock-Dunoon. Joint ventures tend to work when the respective partners bring complementary resources to the venture. For example, CalMac as local (and de facto incumbent) partner could supply the management and crewing resources as the operational partner, the other partner helping source finance. Technical design issues could be a joint partnership issue, with the balance of responsibility depending on respective partners' skills and experience, with vessel compatibility and interchangeability with relevant routes built into designs to maintain bundling advantages.

3. What vessel size, type, deployment and crewing arrangements would best satisfy the needs you have identified?

(a) Short crossings

The case of Gourock-Dunoon helps illustrate aspects of short crossings which are generally ignored in public policy. The CalMac town centre Gourock-Dunoon vehicular service has been terminated and the short crossing Western Ferries is now the only vehicle-carrying ferry service on this route. Patterns of vehicle traffic are generally well known from previous studies here, such as the MVA (2013) Report; for example, MVA found 90% of a sample coming off Western Ferries at McInroys Point headed eastward in the direction of Gourock and Glasgow, while 74% of a sample coming off Western Ferries at Hunters Quay headed westward in the direction of Dunoon. Whether they would be carried by Western Ferries or a town centre service, the substantial majority of traffic tends to head for or through the respective towns.

In short, the considerable bulk of Western Ferries traffic tends to go into the towns anyway. It just takes longer and travels further to get there than if a town centre to town centre vehicle-carrying service was available. Such short crossings can create a detour from the town centre to town centre route alternatives, meaning that each ferry load of vehicles can add considerably to user travel time, vehicle emission, road usage and congestion costs compared to more direct routes between town centres. Also, short crossings can have limited connections to public transport compared to town centre to town centre services and in some cases can undermine an existing public ferry service between town centres.

These costs are all external to the operator of the short crossing and are borne instead by users, the public and the taxpayer. They are nonetheless real costs which should be taken into account in public policy terms. In general, there should be a presumption against short crossings where there is an existing public service between town centres.

(b) Passenger-only vessels

The climate change objectives of the Scottish Government are commendable. However, in their application they can sometimes be more suited to towns and urban conurbations where public transport such as bus and rail can be readily available. Car usage can be a necessity for many users in the Highlands and Islands s given that public transport may be patchy or non-existent. The climate change objectives of the Scottish Government should reflect these particular features of the region and adapted to their needs.

For example, the Scottish Government has decided to not encourage vehicle carrying on the town centre route Gourock-Dunoon route in order to pursue climate change objectives of reducing vehicle emissions. This was subsequently expanded on in a response to a FOI request in 2019; “a vehicle service on the town centre crossing would increase vehicle emissions in both town centres. The decision to have a passenger-only service reflects Low Carbon Policy developments which encourage the use of public transport and the promotion of active travel to reduce vehicle emissions”.

Smaller foot passenger-only vessels are generally not suitable for the conditions on the Scottish ferry network. The introduction of an unreliable foot passenger service on the Gouorck-Dunoon route in 2011 has led to a dramatic fall in the number of passenger carryings, despite a significant increase in the number of scheduled sailings and diverted traffic meaning longer journeys for most vehicular traffic. This is very much against the aims of Scottish Government objectives of encouraging public transport use.

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ANNEXE D – WRITTEN SUBMISSION

Response from Angus Campbell, Chair of CalMac's Ferries Community Board to the Net Zero, Energy and Transport Committee's Call for Views on 'A Modern and Sustainable Ferry Service for Scotland'.

A. Needs

1. What do island residents, businesses, and other ferry users need in the short, medium and long term from Scottish Government-supported ferry services?

Across the network we need a reliant and resilient ferry service with adequate capacity. It should be designed to meet the needs of individual communities and allowing our islands to grow their economies, tackle population issues and have a sustainable future.

2. Are current services meeting the needs and sustainability of island and remote rural communities and businesses? This includes the provision of secure employment for those working for ferry services.

Current services are most definitely not meeting the needs of our islands even when fulfilling the timetables. The last few years of failure in service, unreliability and real economic and social damage has challenged peoples resolve to live on our islands and businesses ability to survive economically and thus provide employment. The major benefits brought through RET have been more than counteracted by the negativity created by the constant failure to deliver even lifeline services.

Direct employment through the operator does bring valuable income into the islands but we believe much more could be done particularly in basing many more back room services and management in the heart of our communities. There is a danger at the moment that front line staff are being asked to be the face of a failing service and the stress that brings.

3. Are current services meeting the needs of mainland communities and businesses, including visitors?

Again the answer is no. Mainland visitors will not visit when they cannot be sure of their arrival of return. Mainland companies will not want to carry out services to our islands for the same reason. Those that do have to charge significant premiums to cover that uncertainty and that cost is passed on to islanders.

4. Are service needs different at different times of the year?

There are maybe different volumes travelling and different timetables but the need to provide lifeline service remains and the damage caused by service failure remains. In the winter for instance weather adds to disruption and cancellation particularly when decisions are been made based on a very ageing fleet. A large proportion of our working population have to work off island and gaps in service brings added.

5. Which needs are better met by other modes of transport, e.g. air, where available?

Many islands do not have the option of flying and where it is available capacity is low and tickets prices are out of reach economically for many. If you are a young island family on island wages travelling by air is not viable.

6. How should the Scottish Government support council-run ferry services?

Many parts of the network question if having individual services run by councils on the West coast bring value for money or take best advantage of economies of scale. Organisations that are fully focused on Ferry services if they are properly resourced should bring added benefits and shared good practice.

We have no experience of the Northern Isles.

7. How can ferry users and island communities be involved in decision making at strategic and operational level?

There should be mechanisms to allow Island voices to be part of the decision making at the strategic and operational level.

At the highest level Island and user knowledge would add value to the decision making process. Decisions would be better informed and better value would result. Many examples could be given where better outcomes and preventative spend achieved if Island voices were meaningfully included.
In all levels of consultation from strategic to route specific consultation must be front loaded and meaningful. There is real consultation fatigue out there because individuals ask why invest my time and effort when it effects little.

B. Institutions and funding

1. What institutional and funding arrangements would most likely deliver service patterns, vessels, and crewing arrangements that meet the needs of current and potential future ferry users?

Funding to match need requires to be set out long term with targets as to fleet age and island needs identified. Islanders should be much closer to prioritisation process and spend decisions.
Ferry services and their vital importance to Island survival has to be valued much more and in a similar way to trains, buses and roads. Cost benefit analysis of the loss to the national economy of islands not functioning properly should be included in financial decisions. The detrimental effect on other Government priorities such as population and equality of access for all citizen's should influence investment decisions.

2. Can the current tri-partite arrangement (Transport Scotland, Caledonian Maritime Assets Ltd (CMAL), Ferry Operator) for managing most ferry service provision be improved?

There should be streamlining of the present system which presently encourages avoidance of responsibility. Increased transparency on decision making and including user voices will bring better value for money, understanding of the system and best use of skills.
The present contract arrangement has to be changed to one that is designed to deliver maximum benefit to islands and not just deliver a basic timetable.

3. Can current tendering arrangements be improved, e.g. through service unbundling?

As above tender should be designed to deliver on needs of island communities not a statistical timetable procedure.

Unbundling does carry a risk for smaller less economical routes and also financial leakage. Benefits of scale and having interchangeability of vessel would be missed if more lucrative areas went their own way.

4. Can Scottish Government subsidies be better deployed to meet the needs of current and future ferry users?

Public investment in providing equality of access to all should be no different for ferries as other modes of transport. Encouraging that equality means we need the infrastructure to provide the service just as we invest in other transport we should not discriminate against different types of users but ensure fairness.

5. Are current services providing best value for the taxpayer?

Underinvestment has damaged the outcomes for the taxpayer, the users and the country's economy. There is work to be done in maximising the benefits of future investments as described above.

C. Vessels and crews

1. What size and types of vessels are required?

This should be led by community needs assessment but also include reliability and interchangeable vessels to give continuity of service level. It is vital Community needs are at the front of the process and room for growth built into plans.

Vessels should be capable of operating 24 hours when necessary.

Low carbon emissions are desirable but must be linked to reliability and proven trusted systems. Any extra cost must be factored into investment levels. Renewable energy sources should be as close to the user point as possible and economic advantage of supporting island economies by using local energy recognised.

2. What type of sustainable propulsion systems (including energy-use and moves to low carbon systems) would meet the needs of ferry services?

Take the best technical advice.

3. How can we ensure ferries are compatible with harbour facilities?

Absolutely vital at design specification stage. Harbour facilities and vessel design should ensure compatibility to keep down cost, ensure ease of usage and increase reliability.

4. What type of onboard crew accommodation is required?

Depends on the route and likely time at sea. Shore based crew can be more effective in certain places and cut down vessel size and be more environmentally friendly. Needs detailed examination and technical input.