ECONOMY, ENERGY AND FAIR WORK COMMITTEE

ENERGY INQUIRY

SUBMISSION FROM Scottish Islands Federation (SIF)

Electric Vehicles

1. The impact of increasing numbers of EVs on electricity generation, transmission and distribution?

The Scottish Islands Federation (SIF) welcomes and supports ambitious Scottish Government plans to decarbonise road transport through increased uptake of EVs, recognising island communities are particularly vulnerable to potential impacts of climate change. While increasing numbers of islanders may recognise the emergency of our situation and embrace transition to low carbon vehicles as a positive development, some may not feel so ready for the change.

SIF recognises the transition process to be already underway in some island situations. Early EV adopters on Mull have long since been sharing relevant information online to keep each other up to speed with new installation and malfunctioning charging points, technology developments, advice for others considering switching to an EV, and more. SIF anticipates that the rate of take up of EVs will vary between islands, with higher purchase price of EVs a decisive discouragement for many islanders.

Ready availability of convenient well maintained charge points is also important to EV drivers, but significant investment may be required to upgrade efficiencies and capacities of generation, transmission and distribution infrastructure, to assure the inclusion of every island community in strategic plans for roll out of essential EV battery charging infrastructure, fit for purpose, everywhere there is traffic on public roads.

Insofar as installed transmission and distribution infrastructure applicable to each island was not designed to displace consumption of petrol and diesel by island vehicles, smart technologies seem critical to achieve better efficiencies, and new generation capacity may also be integral to meeting increased electricity demand in some areas.

If increased mains supply of electricity to recharge EVs on some islands (and in other remote locations) might be technically problematic, perhaps a new generation of small scale community led renewable energy projects might be triggered in some situations, specifically designed to meet progressively growing local demand for electricity to power transport.

It seems unlikely that EVs will put many island motor mechanics or islanders supplying fuel to motorists at imminent risk of loosing their livelihoods, but SIF is concerned that islanders should be able to access affordable training and qualifications in relevant skills, in order to win contracts for installation and maintenance of island charge points, and also to service EVs on their respective islands, rather than depend on mainland specialists for such purposes.

Despite manifestly abundant local resources of wind, flowing water and seasonal sunshine with potential to generate considerable power in many island situations, grid constraints (and withdrawal of Feed in Tariffs) have effectively inhibited the strategic development of otherwise viable and exciting local renewable energy projects, including some on islands.

Understanding that EVs are soon expected to become the norm for road travel and transport on islands, as on the mainland, significantly increased local demand for electricity on islands seems inevitable as progressively more residents and visitors make the change from fossil fuel to EVs, whether as privately owned or as shared fleet vehicles.

In some situations, (notably including islands), perhaps the viability of local renewable energy project ideas and proposals, shelved or abandoned due to grid constraints or withdrawal of FiTs, might usefully be reviewed afresh with increased local demand for electricity to fuel electric transport virtually certain.

Perhaps a new generation of community led energy projects in remote areas might aim to help sustain and improve the local quality of life by generating renewable energy locally to help meet local and wider transport needs. Every island community is different, but some may be in a strong position to profit from locally owned and operated charge points selling locally generated community owned energy to charge batteries of EVs, for residents' and visitors' cars alike, (subject of course to diverse other business planning considerations,).

SIF commends the inspiring portfolio of successful community led energy projects on islands, developed by islanders in association with Community Energy Scotland. We note with regret that withdrawal of FiTs effectively undermined incentives for enterprising island communities to collaboratively engage in the challenging hard work of planning and delivering cost effective island energy projects from scratch, for the common good of their islands.

Perhaps wider take up of EVs on islands could potentially revive the appetite of some island communities to grapple with practicalities of delivering a new generation of small scale energy projects to help keep island transport moving.

Such developments could also enhance the resilience of island communities during challenging years of transition ahead, while disarming uncertainties concerning Brexit, implications of climate change, and other consequences of overdependence on fossil fuels unfold and play out for Scottish island communities.

One SIF contact suggests that a more sustainable approach to island road travel in his remote community might entail community led arrangements for a collectively managed island based fleet of EVs for shared use, (ideally charged with locally generated electricity). Benefits of low carbon local travel could thus become more affordably and equitably available to benefit all islanders, including for community transport purposes.

SIF recognises exciting potential for local and community ownership of energy generation schemes specifically designed to charge EVs, where grid or transmission constraints otherwise apply.

Prioritising the displacement of fossil fuelled vehicles with EV's charged with locally generated energy could also help to plug major leaks in local cash flows to achieve more circular island economies.

2. The role of EVs in balancing electricity transmission and distribution networks. Are new battery and grid technologies being adequately supported and rolled out to enable this?

No. Many islands are restricted in exporting their renewable energy. An example from a SIF member in Tiree: "the main thing holding us back right now on Tiree in terms of renewables is the lack of capacity on our grid connection (which specific funding to address would

help!) and/or the lack of grid storage on the island to absorb surplus wind generation for later use, and EVs with smart grid connectivity would potentially be useful there but I'd like to see us get more dedicated larger capacity facilities for that in future."

A Mull contact advocates development of a new generation of EVs with easily demountable batteries specifically designed to standard specifications for quick and easy removal, replacement and recharging. Battery standardisation could replace the need to recharge at a mains connected charge points in favour of simply replacing spent batteries for fully charged ones, as speedily and conveniently as pumping a tank full of fossil fuel. He envisages banks of modular standardised EV batteries being charged by solar, wind or hydro installations designed for the purpose, to fit a new range of EVs designed to accommodate them.

3. Are enough and the right type of EV charging points delivering accessible charging, and keeping up with consumer demand?

Many islands do not yet have enough fast or rapid charging points. In some cases as in Tiree, installation of charging points has stalled because the amount of funding on offer through the grant scheme may not adequately take into account the additional costs of undertaking such work on islands - Perhaps an enhanced payment for island based homes/businesses would help, or special training arrangements for island based contractors.

The award winning Mull and Iona Sustainable Transport project was a pioneering community led initiative, successfully championing local awareness and take up of low carbon local travel options on the islands, including promoting Mull as an EV 'hotspot' in 2015. (see https://www.mict.co.uk/projects-services/mist/). Subsequent local experience has confirmed that EVs can present a viable alternative to petrol and diesel vehicles for islanders able to afford the switch, but has also flagged particular frustrations with protracted delays on the part of mainland contractors responsible for rectifying technical problems arising with island charging points.

Where capacity of local infrastructure networks is currently inadequate to accommodate 3 phase rapid chargers, it is challenging to envisage installation of a new generation of 100kW and 150kW charge points to equitably benefit resident or visiting EV drivers on islands. As with chickens and eggs, just so with EVs and efficient charging point networks on islands.

4. Given the declaration of a climate emergency, what more needs to be done to promote a change in culture where EVs are the preferred alternative to fossil fuelled vehicles?

The Energy Savings Trust's Plugged in Households scheme presented inspiring but very fleeting opportunities for Housing Associations and community groups to muster credible bids for costs of establishing new EV car sharing arrangements with significant potential for very positive behaviour change. Further funding rounds might be of particular interest in some island situations, including Mull where the proposed programme for year 2 of the Mull and Iona Sustainable Transport Project envisaged exactly such developments in 2017, but costs of purchasing a third fleet vehicle and also installing an additional rapid charge point were deemed excessive by Climate Challenge Fund decision makers.

Affordability of EVs is a major consideration. Increased take up of EVs might be more readily achieved through shared ownership or car club arrangements in some situations, including island communities, than through private ownership.

Concerned to advocate the best interests of Scottish island communities, SIF suggests that particular consideration might be given to prioritising engagement with islands, in the context of developing strategic local plans for universal transition to low carbon travel. Many island communities have been (and still are) disadvantaged by shortcomings of national programmes for roll out of broadband and mobile phone coverage which have not (yet) addressed challenges of problematically remote and difficult locations. Alert and sensitive to many islanders disappointed frustration with their exclusion from access to these technologies, SIF is keen to champion the case for island communities to be showing the way with EVs, rather than catching up with the rest of the country, many years later.

Arguably, the benefits of EVs over petrol and diesel vehicles in terms of lower mileage and maintenance costs are generally understated.

Improved battery technology is enhancing the appeal of newer EVs and progressively lessening need to schedule recharging opportunities, but demountable batteries could prove a simpler, more cost effective and popular approach to completing long journeys in EVs without need to schedule unpredictable delays at busy charging points.

Research and Development might encourage the farmers and crofters to adopt EVs more widely, particularly if they held a stake in new renewable energy installations to charge them.

Local Energy

1. The appropriateness and achievability of the 2020 and 2030 community and locally owned energy targets. What are the key issues impacting the viability of relevant schemes?

Access to funding and technical support, re-instatement of FiTs, and enhanced community capacity for volunteer engagement entailing onerous responsibilities for managing challenging energy projects are all relevant considerations.

There is a need for wider demonstration and understanding of technologies, systems and development processes suited to community engagement in isolated situations such as islands. The ultimate success of North Uist's wind project depended upon community NGO commitment and stamina to negotiate effective ways forward through a particularly daunting and complex mix of planning, legal, policy, technology, financing and logistical obstacles and other issues, involving diverse local and remote stakeholders representing a spectrum of quite different perspectives.

Wider appreciation of the relative benefits of low carbon energy technologies might usefully enhance general levels of energy literacy amongst some stakeholders and motivate collaborative support for local initiatives to address particular needs and targets.

2. Whether it is appropriate to incorporate community and locally owned schemes in the same target and policy area? What more could be done to encourage and support community owned schemes?

To elaborate comments above concerning merits of increased local generation capacity to meet increased demand by electrified transport sector, particularly through demountable battery technology and/ or where grid constraints apply: SIF recognises that community led energy projects have benefitted many island communities very significantly, in terms of empowerment to identify our respective islands' investment priorities, and our capacity to address them.

For many community led projects, if not necessarily all, Feed in Tariffs represented a critical incentive for unpaid volunteers to come together, sometimes for hours at a time over a period of years to negotiate technical and bureaucratic complexities, and often tiresome delays inherent in progressing developments to fruition, many in association with Community Energy Scotland (CES). SIF is proud that so many island communities have demonstrated their capacity to deliver sustained commitment to renewable energy generation for the good of their islands, but is also aware of the need for capacity building so that more islanders better understand opportunities and technologies suited to their situation.

By using renewable energy near to where it is generated, its financial value can be retained in the local economy, with reduced wastage associated with long distance transmission inefficiencies. Potentially, renewable technologies could displace need to import fossil fuels for local transport and heating purposes on islands. Encouragement of communities to make more of natural local energy resources through shared ownership of collaborative projects may present ways forward, but FiTs incentives - with appropriate specialist technical advice on tap for community owned schemes has proved itself a successful and viable model to motivate and empower local communities to produce energy.

It can be challenging for island communities, smaller ones in particular, to access or acquire relevant technical knowledge and expertise to initiate renewable projects and maintain facilities. Incentives for islanders to invest in training and qualifications to equip themselves with necessary skills to maintain island energy installations and to develop new projects to exploit local opportunities for renewable generation might also be helpful to development of new models of energy scheme ownership and arrangements for supply.

Potential for community organisations to engage more fully with challenges associated with incremental transition to low carbon energy, transport, economies, households and lifestyles, has been very well demonstrated (particularly in association with organisations such as CES), despite constraints on resources to implement strategic national policies.

3. Do CARES Grants and Loans adequately support relevant projects?

More funding is likely be required to support this transition. SIF's own successful experience as a CARES beneficiary achieved a lot on a relatively modest budget. Making the application process and reporting requirements even simpler might encourage wider uptake.

4. The role of Distribution Network Operators in connecting community and locally owned projects. What more could be done by DNOs to encourage and support projects?

The key point here is that the main obstacles are regulatory (OFGEM). There are difficulties in getting the electricity networks to engage with local supply projects when they have already defined their priorities under their own (OFGEM regulated) business planning processes. Scottish Government needs to do more to create a policy and strategy environment with these key players that actually encourages local low carbon energy supply projects.

5. What role can smart, decentralised local energy systems play in ensuring security of supply and supporting a just transition to net-zero by 2045?

A huge role, islands can be local energy hubs, potentially transitioning to net zero sooner, provided that island communities can access adequate support incentives and collaborative partners.

6. The role of local authorities in delivering community and locally owned projects. How can these be integrated into local energy systems?

Local authorities do not all have the same technical capacity or resources to invest, and not all have prepared and adopted SEAPs (Sustainable Energy Action Plans) for their whole area. Ensuring that all Local Authorities are adequately resourced to upgrade to SECAPs (Sustainable Energy and Climate Action Plans) could present ways forward, but many islanders feel that mainland based Council administrations are too remote and otherwise preoccupied to properly understand or integrate island perspectives. Meanwhile, resourcing agencies such as Community Energy Scotland to help shape and deliver plans through community engagement programmes (such as CES's Community Futures) could go a long way towards addressing particularly pressing island needs.

7. What systemic and behavioural changes are needed to increase the use of smart local energy systems? Has public engagement to date been successful and what more could be done?

It may be that the energy literacy of most members of the general public does not extend much beyond home energy efficiency measures to mitigate rising household energy costs. Wider familiarity and general understanding of smart local energy systems might currently be very limited, even on islands.

SIF has been involved with publicising the Clean Energy EU islands Transition Agenda (CETA) on Scottish islands but the programme relies too much on volunteering, with inadequate resources available to secure the committed engagement of Local Authorities, the business community, or academia. Although CETA is a prerequisite for access to Horizon 2020 funding for renewable energy projects, there seems disappointingly limited motivation, awareness, knowledge, understanding or vision to make more exciting things happen in more island situations.

With SECAPs in place, specifying ambitious targets with clear funding options available to address them, suitably urgent positive change may prove more achievable, in conjunction

with focussed work with communities to implement measures at the most local level in line with the island transition agenda promoted by the Clean Energy EU islands initiative. Resourcing and encouraging local communities to engage, produce and act on their own transition agenda as is happening in the pilot CETA islands would clearly seem a really good return on investment.

It is encouraging that a consortium of interests have been successfully cooperating together in Orkney to pioneer a shift to hydrogen fuel for transport and district heating, in association with local development trusts.

SIF participated in the 30 month transnational SMILEGOV project – following on from the ISLEPACT project headed by Comhairle nan Eilean Siar, which brought islanders together from Baltic, Mediterranean and Atlantic islands to exchange insights, knowledge and experience to expedite development of new bankable renewable energy projects on islands in each of 12 separate European networks. A recurring theme through all the case studies highlighting examples of good practice, technical innovation and obstacles to progress, was the critical importance of effective Multi Level and also Multi Lateral Governance arrangements applicable to island energy projects.

Successful island energy projects typically depend on the supportive engagement and collaboration of representatives of every relevant level of government as well as of all relevant regulatory authorities and all other interested stakeholders. SIF was pleased to describe challenges and impressive achievements of island communities in Scotland to SMILEGOV colleagues. Mainly employed by municipal or regional authorities and regional energy agencies, considerations of community consultation were evidently quite alien to some. Building and supporting local capacity to enable island communities to lead the planning and implementation of energy projects to achieve direct community benefits on islands was an entirely novel concept for some project SMILEGOV partners.

SIF appreciates Scottish Government recognition of particular needs of island communities implicit in the National Islands Plan welcoming further prospects of renewed strategic engagement of enterprising islanders keen to harvest the bounty of elemental environmental energy surrounding us, in preference to unsustainable dependence upon imported fossil fuels.