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HI TRANS
THE HIGHLANDS AND ISLANDS TRANSPORT PARTNERSHIP

Report to Partnership Meeting 6 February 2026

RESEARCH AND STRATEGY DELIVERY

Renewable Energy Transport Opportunities Study Progress

HITRANSformers

Purpose of Report

To update members on the project to raise awareness of potential transport impacts arising from the increased activity in the renewables sector across the Highlands and Islands,

Objective

A one-stop shop for data on transport and renewables to assist infrastructure controllers and planners.

Regional Transformational Opportunities

The HIE report Regional Transformational Opportunities in the Highlands and Islands forecasts a £100bn spend on energy projects in the area. We must ensure that transport is not forgotten. The oil boom of the 1970s brought about substantial investment in infrastructure: A9 upgrading, rail double-tracking, new ports. These have had a long-term benefit to the region.

HIREP

- The Highlands and Islands Regional Economic Partnership's recent report Regional Transformational Opportunities in the Highlands and Islands has outlined a scenario of £100bn of expenditure in the renewable energy sector in the area as we move towards Net Zero 2045. This could bring in 17930 direct operational FTE jobs and 114000 FTE job years. This will comprise:
- Offshore wind
- Onshore wind
- Hydro pumped storage
- Green hydrogen
- Marine energy

- Space
- Marine biotechnology and processing
- Life sciences, digital health and social care
- Natural capital
- Critical infrastructure developments

The proposed investment is more in real terms than the oil boom of the 1970s which brought us enhancements in road, rail and marine.

The evidence that this is starting with real direct investment is moving at pace:

- £300m on the Sumitomo cable factory at Nigg
- £300m committed by Haventus at Ardersier to facilitate Ming Yang's proposed £1.5bn wind turbine factory
- SSEN is preparing to carry out grid upgrades Skye-Fort Augustus Beauly, Peterhead-Beauly, Spittal-Loch Buidhe-Beauly
- Pumped storage hydro is planned by Loch Ness, and many offshore and onshore windfarms are under development and construction.

NZ2045

The renewables investment to take us to Net Zero 2045 offers new opportunities for enhancement. Unchanged, the transport network will struggle to enable the ambitious Scottish Government target of 162 TWh of renewable electricity generation in 2045, of which 101 TWh is for export. As well as enabling the windrush, impacts on local communities may be mitigated through transport interventions, and the great Community Councils Revolt of summer 2025 demonstrated that this is an urgent requirement.

Renewables schemes are resource hungry in terms of steel, cable, turbines, and aggregates, much of which is imported into the region. The scale of development is not fully appreciated. SSEN's £22bn transmission network upgrade (Lewis-Dundonnell-Beauly, Skye-Fort Augustus, Beauly-Peterhead) is clearly defined and state-backed, but private sector renewables developers, largely commercial or state-backed foreign entities, are competitive rather than collaborative, jostling for a place in the queue for grid connections and planning consents, and thereafter for transport to enable these schemes.

Planning

Scheme developers demand quick turnarounds in planning decisions as failed schemes are costly; schemes have no income from inception to powering up. Schemes over 50MW (the majority) are determined by SG's Energy Consents Unit and turnaround times for consultees are short. All applicants submit information on transport routes with additional HGV volumes, but origins, other than for abnormal loads, are less clear.

Impacts

Cumulative impacts are also less clear, as is phasing of development. Theoretical road capacity may not be breached but, for example, increase of HGV movements up 400% on A9 at Golspie as a result of pylon traffic will have a major impact on the village, particularly non-motorised users. Traffic is held at the Mound while slow moving AILs negotiate the A9 Cambusavie bends. Heavy generators traverse ancient bridges. HGV deck space on the Stornoway ferry becomes scarce. And while 250m looks to become the standard tip height for turbines onshore, offshore 360m high structures will require vast laydown areas. The quantum of earth movers, cranes, tipper trucks, heavy haulage, and vessels required - and personnel - is enormous. Spittal-Loch Buidhe will require 2.1Mt of aggregates. There will also be an increase in workers on the move, not least around the workers' camps proposed for Ashaig, East Sutherland, Spittal and elsewhere.

Offshore

Offshore developments should also be considered as they will dominate some ports, their hinterland and access to materials, and also to ensure supply chain logistics are optimised.

Example- Timber Transport

The timber transport industry has shown the way in working co-operatively on Agreed Routes, and through the Strategic Timber Transport Scheme has combined with SG and local authorities to invest in road improvements and floating piers.

What's needed

A controlling mind with an overview of the totality of these projects is required to inform policy makers and public agencies, propose interventions, encourage collaborative working, and perhaps create an infrastructure levy, payable when generation begins.

HITRANS experience

HITRANS in recent years has studied the transport impacts of timber (Upsticks), aquaculture (Fish'n'Trips), and whisky (Bottlenecks!)
https://hitrans.org.uk/wp-content/uploads/2024/10/Item-8-Appendix-HITRANS-Whisky-Logistics-Study_Final-Issue.pdf

The whisky logistics study detailed the quantum of HGV movements to and from each distillery in the HITRANS area on each part of the road network (and ferries where applicable). What we seek here is the theoretical amount of vehicle movements for each consented scheme and those under scoping/development.

Solution- the Electripaedia

The Highland Council has an interactive energy website:
https://experience.arcgis.com/experience/2928bb39f0dd4ab68f1b3a8988861af5#data_s=id%3AdataSource_3-196351369d3-layer-31-1964394bc03-layer-26%3A4172
The *electripaedia* could develop this further to cover all five HITRANS local authorities, and add in the transport network (road, rail, inland waterway, maritime), origins and destinations and quantum of materials for each development site pulled from scoping/planning documents and including likely timeframes for commencement of construction. The transport network data should include current AADF, theoretical maxima, weight, and height restrictions, weaknesses and pinch-points, If swept path analysis was also included perhaps a more efficient way to manage access and oversailing could be added.

Outcomes

1. An understanding of pinch-points and constraints.
2. Co-operative and collaborative use of the network.
3. Investment in infrastructure ranging from VMS to road, rail, and port investment- the legacy- possibly funded through an infrastructure levy.
4. Identifying business opportunities for local transport and construction SMEs.
5. Quality information for policy makers, planners, infrastructure managers, and Police Scotland.

Counterfactual

If this does not occur, all projects will be delayed as developers compete for resources, the transport network will fail and there will be serious impacts on local communities and businesses.

Other impacts

Public agencies need to be aware of the wider impacts, such as increased transport demand for individuals, the potential of rising costs due to higher wages

resulting in labour shortages in other sectors, and the rise in the cost of construction all round.

Consultancy brief

Following good discussions with Transport Scotland, Highland Council, the Road Haulage Association and some developers, HITRANS proposes to draw up a brief for a piece of work to support the objectives above. This will consider inter alia:

- Targets for renewables generation
- Timescales for developments
- Future OHL capacity
- Road (trunk and local), rail and ports/waterways capacities and constraints
- Aggregates availability
- A mechanism for determining origin and destination of materials required on site
- How an infrastructure levy could be applied
- And- how to pull this together into an end product, the *electripaedia,* to be funded subsequently

Funding for this piece of work
HITRANS £25k
Transport Scotland £25k

Current Funding Discussions
HIE
Road Haulage Association

Discussions to be held
Scottish Renewables
SSE
Local authorities
Scottish Government
Windfarm developers
Department for Transport DfT
Department for Energy Security and Net Zero DESNZ

RISK REGISTER

RTS Delivery

Impact – Mode shift, integration, economy, climate change resilience, transport

investment

Policy

Impact – Energy security, decarbonisation, transport efficiency,

Financial

Impact – HITRANS can fund £25k, TS can potentially match that. Other sources will be investigated.

Recommendation

1. Members are asked to note the report.

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