

Net Zero Community Governance Board

MINUTES OF MEETING

| | | | | | |
|---------------------|--|--------------|----------------------|------------------|-------------------------|
| Record of: | Net Zero Community Governance Board #1 | | | | |
| Prepared by: | Stuart Walker | | | | |
| Date: | 08.03.22 | Time: | 11:00 – 14:00 | Location: | MS Teams Meeting |

Strategic Alignment and Stakeholder Engagement Phase:

Strategic Goals - ED1 & 2 - Improve Customer Service / EV & Heat / Net Zero Carbon

10 Point Green Recovery - Prep for Low Carbon Buildings / Net Zero Carbon / EV

Stakeholder Engagement - Phase 4 - 9 / Hi - Hi / ICE

CEC Strategic Master Plan Tier 1 – Heat and Energy Partnership Board

(This information for SP Energy Networks internal use only)

PRESENT / * APOLOGIES**

| | |
|---|--|
| Watson Peat – SPEN... WP | High Muschamp – Fife Council... HM |
| Denver Romney – EON – DR | Paul Thy – Strathclyde University... PT |
| Lorna Clark – East Ayrshire Council (EAC)... LC | Stephen Kelso – Cala Homes / Homes for Scotland – SK |
| Fiona Paterson – EAC... FP | Moya Crawford – St Andrews Uni / Darcy Thompson – MC |
| Tricia Hill – CEC (City of Edinburgh Council – TH | Gordon Reid – Scottish Water – GR |
| Euan Norris – Scottish Power Smart Solutions – EN | Barbara Whiting – SGN – BW |
| Kenny Bowie – SPEN – KB | Stuart Walker - SPEN... SW (Chair) |
| Michael Kellett – CEC – MK | |
| Linda Spence – SGN – LS | |
| Ranald Boydell – EcoHus – RB | |
| Colin Thompson – SGN – CT | |
| | New Invitees |
| | David Cooper – CEC – DC (Vice Chair) |

Purpose / Expectation

- To develop a whole-system strategic approach to meeting the city's and regions current and future energy needs, in ways which reduce emissions from energy to net zero by 2030.
- To support place-based approaches to local energy generation which help build community wealth.
- To explore an integrated city and regional energy mapping (heat, power, transport, existing infra, land uses, SIMD) approach for opportunity identification.
- To test, develop and scale innovative approaches to funding which help unlock private sector investment; and support inclusive growth, workforce development, educational synergies and employment opportunities for the just transition to a low carbon economy.
- Support Local Authorities to deliver a Heat and Energy Masterplan (including an EV demand and heat map for cities and regions); and e.g. city, villages or mini-district scale masterplans.
- To develop potential Energy project pipeline of projects and mapping that shows current and planned investments for CEC sharing lessons learned with regions and other key stakeholders
- To conduct an options appraisal assessment on new delivery models.
- Provide Technical support on Electric vehicles, Heat pumps, Photovoltaic, Battery / Electric storage, Thermal storage, smart controls and hydrogen for existing and future net zero projects
- Ensure all key projects support the drive to reduce fuel poverty using all innovations available

Proposed Agenda: -

1. Safety and environmental awareness contact – 5 min – SW
2. Introductions – 10 min - All
3. Outline & Agree terms of reference for this group – 5 min - SW
4. Over view of the Challenge - 10 min – SW / TH
5. Fabric First approach to building – 10 min – RB
6. Modelling of viable options and how this determines choice – 10 min - SK / MC
7. Cost benefit of energy storage products and tariffs – 10 min – EN
8. Dynamic Load balancing Micro grids to optimize savings – 10 min DR
9. The importance of accurate data sharing and optimizing housing stock choice – 10 min – HM / WP
10. Green hydrogen – 10 Min - PT / CT
11. Sewage sourced heat pumps – 10 Min - GR
12. Comfort Break – 15 min
13. Open discussion and agreement on top three viable options as candidates to resolve the Decarb vs Fuel poverty question – 30 min – All
14. Test top three options with live examples of council housing stock – 20 min - TH, HM, SK / All
15. Agree the next steps – 10 min – All
16. Capture actions and Owners – 5 Min – SW
17. Thanks and close

Red = agenda item not discussed, Green = agenda item discussed

General Discussion at Meetings

- i. Key to keep an open and innovative mind and not to close off to any technologies, in particular ensuring Water, Hydrogen Gas and Electricity are all part of the solution, remaining energy and solution agnostic throughout the partnership. Considering Sewage water heat pumps, Green Hydrogen, Micro wind, energy storage (not just battery), micro grid balancing mechanisms, as well as the electric solutions.
- ii. Ensuring outputs are practical and meet the operational here and now as well and the aspirational long term goals, allowing equal focus on Academic, Strategic, Financial, Societal and Operational outputs, without losing sight of the overall goals ... *climate emergency*
- iii. Optimise resources and ensure there is a pragmatic approach to solutions with a fabric first approach to ensure both new and retro fitted homes are starting from a ESPC rating of C to align with Scottish Government regulations from 2024 and ESPC B from 2030... this will minimise the heating requirements.
- iv. To cover new build and retro fitting, considering domestic, non-domestic and district level solution and the societal impact of any outcomes considering seasonality and the occupant behaviour on their comfort and wellbeing.
- v. Look to align utility and council investments to optimise benefits
- vi. Feed into the Scottish Government LHEES and seek benchmarking opportunities with other Local Authorities and agencies.
- vii. Be open to 3D digital modelling and data sharing between all relevant parties to demonstrate benefits of outcomes

Actions update Board #1-

1. St Andrews to look at building models to demonstrate optimised solutions for sewage and Green Hydrogen fuelled heat pumps... **MC 10.06.22 – CT Gas and GR Water to provide information on existing projects 10.05.22**
2. EON to review the use of large-scale load and generation balancing to provide up to 20 – 30% extra capacity without the need to upgrade the electric network, with options to be provided within Edinburgh City and Fife ... **DR 05.05.22**
3. Data sharing down to house level without breaching GDPR rules to be driven by SPEN with their LHEES partners to ensure more accurate modelling and costing can be provided for decision making... **WP 20.06.22** (benchmarking with Fife’s Kirkaldy LHEES project **HM to support**)
4. Relevant details of the £12B 100% green hydrogen project for 2032 to and the H100 pilot schemes for 2023 in Leven to be provided for review and information cascade, highlighting the Buckhaven off shore hydrolyser and the way safety will remain as a key priority for SGN. Showcasing the regional route map and accelerated pathway to 100% Hydrogen... **CT 10.05.22**
5. It was outlined that the existing sewage network could provide 100% of heating for all Scottish homes and that Sewage source district heating networks were very much underutilised. With the cost benefits and uptake already in place and proven in Europe with very little uptake in Scotland and the UK. Galashiels College pilot project from 2016 details to be provided for review. ... **GR 20.05.22... NB this solution is best for District heating, Mini-districts / Blocks or Non-domestic buildings**
6. **Strathclyde Uni** have a couple of demonstrators running at Findhorn where social housing is serviced from a single energy centre serving 6 or 8 flats - economy of scale and reduced maintenance etc are advantages plus cost effectiveness of smart controls, storage, pv, hp etc. 1 scheme is air source and the other is waste water source, details of these projects to be shared – **PT 20.05.22**
7. Where possible we should consider the current UK Government “Fuel Poor Connection Scheme” to augment any additional costs as this is still an option for support, information on the scheme to be provided... **LS 20.05.22**
8. Infrared radiators are reported to be cheap to run, have little installation disruption, are welcomed by tenants and can resolve some damp conditions, the benefits and costs of this to be reviewed especially the balance of infrared heating and Electric / Hydrogen heat pumps for hot water... Cala Homes and Fife Council to provide their evidence and calculations on the research and installations they have carried out in particular how they compare with heat pumps cost and efficiencies... **SK & HM 20.05.22... NB infrared radiators are not allowed for in the SAP software or have been fire tested at present.**
9. When considering heat pumps smart hybrid, hydrogen ready heat pumps could potentially be considered to allow switch to and from Hydrogen and electric depending on price and being hydrogen ready to ensure minimum future cost when hydrogen comes online over the next 12 years. Information on these heat pumps to be provided and clarification on the confidence of the SGN 2032 100% Hydrogen plans... **DR & CT 10.05.22 NB Further analysis required to determine when these would be advisable i.e. if electric network is constrained**
10. Benchmarking with the maritime industries established solutions for large vessels where they have to be self-sufficient, cost effective and easy to maintain should be considered and lessons from them explored for use in land-based setting. Information on this to be provided... **MC 10.05.22**