



AGM

6pm, Tuesday 6 October 2020

Virtual meeting via Zoom

Chair: Liam McArthur MSP

1. Attendees and Presentations

A provisional list of attendees is attached to the end of this note. If you attended and are not shown on the list, please email Elaine Waterson (Elaine.waterson@est.org.uk).

2. Introduction by Chair and approval of minutes from the last meeting

Liam McArthur MSP welcomed everyone to the meeting.

The minutes of the previous meeting, held on 23 January 2020, had been sent round group members in advance and the secretariat received no requests for additions or corrections. The group agreed that these provided an accurate account of the meeting.

3. AGM Business

3.1 Election of Office Bearers

The nominations for the positions of Convener (x2) and Deputy Convener (x2) were circulated to the membership on 27th September in advance of the meeting. No one else was nominated.

The nominations for the 2 secretary posts were also circulated in advance of the meeting. No one else was nominated.

- Liam McArthur MSP was moved for convener by Sarah Boyack MSP and seconded by David Cowdrey.
- Mark Ruskell MSP was moved for convener by Sarah Boyack MSP and seconded by David Cowdrey.
- Claudia Beamish MSP was moved for deputy convener by Sarah Boyack MSP and seconded by David Cowdrey.
- Alexander Burnett MSP was moved for deputy convener by Sarah Boyack MSP and seconded by David Cowdrey.
- Ben Walker of Scottish Renewables and Elaine Waterson of Energy Saving Trust were moved for the secretariat positions by Claudia Beamish MSP and seconded by Sarah Boyack MSP.

The group's office bearers are therefore:

Conveners:

- Liam McArthur MSP
- Mark Ruskell MSP

Deputy Conveners:

- Claudia Beamish MSP
- Alexander Burnett MSP

The group's secretaries are therefore:

- Ben Walker, Scottish Renewables - Secretary (Renewable Energy) and Treasurer
- Elaine Waterson, Energy Saving Trust – Secretary (Energy Efficiency)

Liam McArthur thanked the secretaries for all their efforts over the last year.

3.2 Approval of Annual Return

Liam McArthur MSP asked if there were any corrections to the Annual Return which was emailed to group members in advance of the meeting and sets out the group's activities over the previous year and the financial benefits received by the group from Energy Saving Trust and Scottish Renewables. There were no suggestions or corrections. The group therefore agreed that the Annual Return could be submitted.

4. Discussion of future work programme (for 2020/21)

Liam McArthur MSP noted there would likely be two further meetings of the cross-party group between now and May 2021. He then ran through a number of suggestions for meeting topics that had been received from members of the group in advance of the AGM. These were as follows:

- Zero carbon localities/the role of local authorities/how can net zero be made a reality for Scotland's local authorities
- Marine energy research, and how this can contribute towards the goal of net zero by 2045?
- Offshore wind-hydrogen – Scaling up green Hydrogen.
- Low Carbon Heat – tackling hard to treat housing.
- Responsible Energy Islands – Orkney.
- Accelerating the Clean Energy Transition

Liam McArthur MSP highlighted that there was some cross over between the topics and went on to note his support for the Orkney suggestion. Sarah Boyack MSP suggested that it would be a good idea to link the suggested zero carbon localities topic with one on low carbon housing. She went on to note that in 3 years' time no homes will be built in Scotland with a gas boiler and that she would be interested in learning more about how that gap will be filled. Mark Ruskell MSP highlighted that he would support a discussion around hydrogen (grey, blue and green) and its role in the decarbonisation of heat. He also noted that the ECCLR Committee have been looking at this. Claudia Beamish MSP noted she would be interested in exploring low carbon supply chains in relation to marine energy and in particular exploring how supply chains can be kept in Scotland. Paul Moseley from the Scottish Futures Trust noted his support for exploring hydrogen and CCS. Lewis Macdonald also noted his support for a future meeting on CCS along with hydrogen and the associated supply chain. Mark Ruskell MSP suggested that it might be interesting for a future meeting to focus on onshore wind but noted that this was less pressing in terms of the timeframe we are operating to. Sarah Boyack MSP suggested sessions on the Heat Networks Bill the National Planning Framework (NPF4), and supply chains would be helpful.

Liam McArthur MSP drew the discussion to a close by suggesting the group's secretaries and conveners formulate some broad titles for future meetings based on the suggestions discussed. He also invited everyone to forward suggestions for speakers to Elaine Waterson and Ben Walker.

5. Presentation – Green Recovery, Energy Efficiency and Heat, Fabrice Leveque, Climate Emergency Response Group (CERG)

Fabrice began his presentation with a brief description of CERG noting that WWF (who Fabrice works for) is a member of CERG. He went on to provide an overview of the wider context within which CERG works noting the potential impacts of climate change and highlighting likely impacts of different levels of warming. He went on to note that if the climate change pledges made by governments across the world were all delivered warming of 3°C would be likely. He emphasised that Scotland's target is aligned with a 1.5°C warming goal and that delivering this would require transformational change with emissions needing to get close to zero in many sectors. He went on to explain that CERG has published 3 reports to date, the most recent of which was published in August this year and focussed on green recovery. He highlighted that "retrofit buildings for a net-zero Scotland" was one of 4 priority areas identified in the report and noted that CERG was not alone in suggesting this – many others including the Committee on Climate Change (CCC) have highlighted this as a priority area for a green recovery. He went on to note that CERG's recommendations focussed on three areas – energy efficiency, heat networks and heat pumps emphasising that these are the technologies that the CCC recommend for short term decarbonisation.

There was then a pause for questions.

A range of questions were directed at Fabrice; please note that the intention of this meeting note is not to record a verbatim account of the meeting. Questions posed and answers received included:

- **Tom Mason MSP** asked how far way the heat pump supply chain was from being able to deliver. Fabrice noted that the industry in Scotland was relatively small but highlighted that there were two heat pump manufacturers in Scotland and that there is a large heating industry base.
- **Russell Gibb (Planet heat)** suggested that the biggest problem was that the cost and quality of installation of heat pumps were not where they should be and expressed concern about scaling up if there was not confidence around the quality of installations. Fabrice responded by highlighted that CERG have focussed their initial recommendations on installations through the Scottish Government's fuel poverty schemes noting that there were good supply chains tied to these schemes. He also noted that in France the replacement of oil boilers in rural areas has recently been banned.
- **Mark Winskel (University of Edinburgh)** noted that recommendations around energy efficiency are not controversial and went on to ask about how recovery spend reorders priorities for net zero ambitions. He then raised concerns that hydrogen was being missed out of the discussion noting that in the search for short term solutions longer term solutions may be forgotten. He went on to suggest that more attention should be given to hydrogen innovation. Fabrice responded that CERG follow the CCC's advice that hydrogen needs to be primarily used for heavy goods etc. and that that getting low carbon hydrogen for those sectors was already challenging. He also noted that the CCC's recommendations around hybrid heat pumps leaves the option of hydrogen open. He went on to highlight that CERG's recommendations are focussed on meeting targets – Scotland has stretching 2030 targets that won't be met if we wait another decade for the 'perfect' solution.

- **John Birchmore (SHREWS Ltd)** asked about Fabrice's comments on district heating and incineration. Fabrice agreed that there is a need to make sure heat networks use existing resource.
- **Alexander Burnett MSP** noted that he had spoken to heat pump manufacturers in Scotland and while they had the capacity to ramp up, they had no visibility of the expectations on them/their industry. Fabrice highlighted that scaling up will be a huge job but that we have seen big ramp ups in other technologies. He went on to note that net zero requires significant acceleration and that there were still some unanswered questions around how to pay and ensuring a just transition.

The presentation then continued. Fabrice highlighted the important role that minimum standards for energy efficiency in homes had to play in leveraging in investment but also noted the importance of publicly fuel poverty schemes for those unable to pay for improvements. He also highlighted that a more focussed and targeted approach was required for heat networks noting that it was not sufficient to rely on a few sets of disparate policies. He went on to provide a brief summary of Scottish Government commitments to date and compared these with key CERG asks.

A second set of questions were then directed at Fabrice. As above please note that the intention of this meeting note is not to record a verbatim account of the meeting. Questions posed and answers received included:

- **Nigel Holmes (Scottish Hydrogen and Fuel Cell Association)** mentioned the SGN fuel poor connection scheme that connects households to the and said that this is the cheapest way for them to heat their properties. He went on to ask about alternatives that would be as cost effective and that could deliver similar results.
- **Sarah Boyack MSP** asked what on-gas heat pumps were.
- **Russell Gibb (Planet heat)** highlighted the importance of putting energy efficiency at the forefront of fuel poverty efforts and said it would be hard to make heat pumps cheaper to run than mains gas.
- **Chris Cook (UCL)** asked what could be done to mobilise energy as a service and highlighted a project in Linlithgow called "Heat from the Street".
- In response to the above questions **Fabrice** said that heat pumps were expensive to buy but cheap to run, whereas gas boiler were cheap to buy but expensive to run. He went on to highlight that lots of companies are looking to move into the heat as a service space but noted that we need government interventions to drive the market.
- **David Cowdrey (MCS Charitable Foundation)** thanked Fabrice for an excellent presentation, noted his support for Chris Cook's comments and said that a radical transformation of the market is required. He also noted that leaving the EU presents an opportunity to reduce VAT rates on renewables.
- **Liam McArthur MSP** concluded the discussion by emphasising the importance of taking a fabric first approach, the need for a relentless focus on scaling up, and the need to focus on what can be done now whilst also leaving future options open. He also noted that Elizabeth Leighton had put a link to the CERG report in the chat box and asked if a copy of the chat could be saved and shared with the group.

A copy of the chat from the meeting can be found at the end of this meeting note.

6. Dates of future meetings

Elaine Waterson said that there will be two further meetings of the group this year, one before Christmas and one at the beginning of the new (calendar) year. She highlighted that the group will continue with meetings on Tuesday evenings for the time being. This is because PMQs are taking longer than usual at the moment which makes it harder for MSPs to attend meetings at 1pm on Thursdays.

7. AOB

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8. Attendees

Aisling Doyle
Alan Beal
Alex Burnett MSP
B Finnegen
Ben Walker
Brian Davison
Charlotte Stamp
Claudia Beamish MSP
Colin Pritchard
Daphne Vlastari
David Cowdrey
Elaine Benzies
Elaine Waterson
Elizabeth Leighton
Ewen Donaldson
Fergus Boden
Gillian Capmbell
Jamie Farquhar
Jenny Langskog
John Barclay
John Birchmore
Jonathan Bowes
Lewis Macdonald MSP
Liam McArthur MSP
Marcelina Hamilton
Marissa Liippiatt
Mark Ruskell MSP
Mark Winksell
Nigel Holmes
Paul Gill
Paul Moseley
Peter Roche
Rebecca Bell
Russell Gibb
Sarah Boyack MSP
Simon Peltenburg
T Brian Donaldson
Tom Mason MSP

9. Copy of text from Zoom chat box

Note: any chat relating to the election of office bearers and relating to when people left the meeting has been removed in order to keep the text as easy to follow as possible.

- From Rebecca Bell to Everyone: 06:11 PM -Can I suggest an additional topic: carbon capture & storage for whole-economy decarbonisation
- From Claudia Beamish to Everyone: 06:11 PM - keen on low carbon supply chains and marine energy - do they fit together/

- From Colin Pritchard to Everyone: 06:12 PM - It would be good to have something on Storage
- From John to Everyone: 06:12 PM - Small scale combined heat and power from waste
- From Daphne Vlastari to Everyone: 06:13 PM - I agree Colin re your point on storage!
- From Paul Moseley to Everyone: 06:13 PM - I would support Hydrogen and CCS.
- From Fergus Boden Friends of the Earth Scotland to Everyone: 06:15 PM - I'd worry about doing something on storage; interested to see the groups remit but I wouldn't deem CCS as part of "renewable" energy, though obviously part of the broader energy system
- From David Cowdrey to Everyone: 06:15 PM - Look at home grown renewables built in to new homes like Ground Source and Air Source Heat pumps, Solar PV and Solar Thermal, rather than just hydrogen, we need a mixed solution depending on the home, so a whole house approach rather than a single solution.
- From Elizabeth Leighton to Everyone: 06:15 PM - Recommend something on heat networks - local and large - given Heat Networks Bill now in parliament
- From Mark Ruskell to Everyone: 06:16 PM - I'd also make a pitch for Onshore Wind - Scotland's next chapter.
- From Elizabeth Leighton to Everyone: 06:17 PM - to follow Mark - look at this alongside planning
- From Rebecca Bell to Everyone: 06:18 PM - I agree with Elizabeth that planning is important - a whole system spatial energy / decarbonisation plan would be great
- From Nigel Holmes (SHFCA) to Everyone: 06:19 PM - +1 for strategic planning and NPF4
- From John to Everyone: 06:19 PM - Issue of power purchase agreements for community wind farms need to be looked at
- From David Cowdrey to Everyone: 06:19 PM - I agree as well
- From Tom Mason MSP to Everyone: 06:19 PM - that sounds good
- From Nigel Holmes (SHFCA) to Everyone: 06:19 PM - Also fully support including hydrogen...
- From Mark Ruskell to Everyone: 06:20 PM
- Sarah's suggestion a very neat way to capture planning on a range of fronts incl. onshore wind
- From Mark Ruskell to Everyone: 06:35 PM - How ambitious should we be with heat pumps?
- From David Cowdrey to Everyone: 06:36 PM - MCS has lists of suppliers and certified installers in Scotland
- From Paul Moseley to Everyone: 06:36 PM - Re HP numbers: we are currently installing c.2k / yr, compared with c.120k gas boiler installations, so a significant scaling required.
- From bfinnegan to Everyone: 06:37 PM - Under Warmer Homes Scotland - that Warmworks delivers - we have installed around 400 under the scheme - and our supply chain of 22 local installers have either already retrained to install ASHPs or are in the process of doing so
- From David Cowdrey to Everyone: 06:37 PM - We need to make Heat Pumps and domestic renewables the norm as soon as possible.
- From Nigel Holmes (SHFCA) to Everyone: 06:37 PM - 3000 new build properties per year is a start, but there are about 2.3 million households in Scotland?
- From David Cowdrey to Everyone: 06:40 PM - Under the Green Homes Grant only MCS Certified fitter can put in Heat Pumps, 99.9% of the global hydrogen is made from coal and natural gas.
- From Colin Pritchard to Everyone: 06:40 PM - disagree with Mark: we need *every* heating solution!!
- From Nigel Holmes (SHFCA) to Everyone: 06:41 PM - Agree with Mark's comment that we need to consider how to fully address the requirement for Net Zero domestic heat across all types of properties and locations in Scotland

- From Elizabeth Leighton to Everyone: 06:41 PM - We need to remember the 'need for speed' given our 2030 target of 75% emissions reduction and UN advice regarding urgency of action in next 10 years to avoid worst impacts of climate change.
- From Simon Peltenburg to Everyone: 06:42 PM - Is it practical to have heat pumps installed in areas of high density housing? Noise and vibration have potential to create consumer backlash if not managed well from the outset possibly?
- From Alan Beal to Everyone: 06:42 PM - Much as I like heat pumps, they aren't the only solution— where do you put an air source heat pump in a flat and also, short term, do we have enough electricity capacity?
- From Mark Ruskell to Everyone: 06:42 PM - Where does the plastic come from that feeds incinerators?
- From David Cowdrey to Everyone: 06:43 PM - I agree with Elizabeth speed is the answer if we are to succeed and waiting for new technologies to come through is wasted time.
- From Russell Gibb to Everyone: 06:43 PM - Another problem we have in the UK is the cost of electricity - a heat pump run off a "normal" tariff ends up costing about 7p/kWh. Only when combining with thermal storage and agile tariffs can we achieve sub-mains-gas pricing (I've done it, so I know it works).
- From mark winskel to Everyone: 06:43 PM - It's important that achieving the 75% by 2030 target doesn't make achieving 100% more difficult.
- From Paul Moseley to Everyone: 06:43 PM - Key point is that asolutions
- From Claudia Beamish to Everyone: 06:43 PM - could those speaking kindly say if they represent an organisation?
- From Elizabeth Leighton to Everyone: 06:43 PM - There are examples of heat pumps for multi-storey buildings, and also linking heat pumps to energy storage will help with cost and grid concerns
- From Paul Moseley to Everyone: 06:45 PM - Key point - whilst some solutions are not yet fully mature, there are several that can be deployed over the next 5-10 years, namely energy efficiency retrofitting, hest networks in heat dense areas, and heat pumps in off-grid areas, which are all no / low regret.
- From Nigel Holmes (SHFCA) to Everyone: 06:46 PM - SHFCA = Scottish hydrogen & Fuel Cell Association, for avoidance of any doubt.
- From John to Everyone: 06:47 PM - John Birchmore Director SHREWS Ltd. Developers and advisors on small scale combined heat and power from biomass and residual waste projects using advanced thermal treatment technologies
- From Russell Gibb to Everyone: 06:49 PM - Russell Gibb - representing myself (heat pump nerd) and Planet Heat Ltd - heat pump consultants, installer, service & repair & specifiers.
- From David Cowdrey to Everyone: 06:49 PM - Fabrice - Great point about a whole house approach and getting heat pumps installed now and leaving hydrogen to fuel transport and heavy industry.
- From Nigel Holmes (SHFCA) to Everyone: 06:50 PM - The opportunity for scaling up hydrogen in Scotland is linked to the scale up of onshore and particularly offshore wind. There is an estimated 735GW of offshore wind potential in Scottish waters (ORE Catapult, May 2020). Plenty for Scotland and much more besides.
- From Elizabeth Leighton to Everyone: 06:54 PM - If people are interested in reading CERG's reports, you can find them here: <https://www.changeworks.org.uk/cerg> (Elizabeth, secretariat for CERG)
- From Chris Cook to Everyone: 06:54 PM - Action research on complementary financing & funding methods beyond conventional grants, debt & equity
- From David Cowdrey to Everyone: 06:54 PM - There are 29 million dwellings in the UK and with current rates of retrofitting it will take nearly 400 years, so we need to step change that

Fabrice is advocating. We need to be retrofitting 1.2 to 1.5 million homes a year from now to hit 2050 targets in the UK.

- From Nigel Holmes (SHFCA) to Everyone: 06:55 PM - Question for Fabrice about addressing households in Fuel Poverty. I believe that SGN have a successful initiative with Fuel Poor household connections, with about 5000 households connected to the gas network in the past few years. How might schemes like this be continued with low carbon heat solutions?
- From Chris Cook to Everyone: 06:55 PM - In particular supply of heat as a service...as distinct from conventional sale of heat
- From Sarah Boyack to Everyone: 06:56 PM - What do you mean by on-gas heat pump programme?
- From Chris Cook to Everyone: 06:57 PM - ie the sharing of gas & electricity savings made at the RETAIL price is a great model, Also aligns interests of kit suppliers...heat pumping as a service
- From mark winskel to Everyone: 06:57 PM - The issue about low carbon heat supply is the current cost versus gas. By saying we need to get on and do it, before we have the affordable solutions at the scale needed, we run risks of more expensive heat services for all, with more fuel poverty for some. Short term focus on buildings fabric is key [Mark Winskel, University of Edinburgh]
- From Chris Cook to Everyone: 06:58 PM - Mark, there are ways of addressing that, see above
- From Colin Pritchard to Everyone: 06:58 PM - Heat networks? require major investment support - couldn't even install in Grangemouth where the heat would have been effectively free!
- From Nigel Holmes (SHFCA) to Everyone: 06:59 PM - Same issue with Slateford Green, NBD offered the heat for free, developer did not take this up. Shameful
- From David Cowdrey (MCS Charitable Foundation) to Everyone: 07:02 PM - Supply chains will scale up if there is a long term plan and the right support and training programmes.
- From Colin Pritchard to Everyone: 07:02 PM - looks as if key words are "joined-up" . . .
- From David Cowdrey (MCS Charitable Foundation) to Everyone: 07:06 PM - Heat pump is zero carbon unlike gas
- From Colin Pritchard to Everyone: 07:07 PM - "Mains gas" doesn't pay the cost of CO2 emissions . . . !
- From Pete Roche for Nuclear Free Local Authorities to Everyone: 07:08 PM - Russell - what if heat pump is used in conjunction with heat battery and time of use tariffs - making most of negative cost electricity at times of high renewables.
- From Alan Beal to Everyone: 07:09 PM - There are mains gas heat pumps – they use heat from the gas. Imagine the savings compared to gas boilers!
- From Chris Cook to Everyone: 07:11 PM - <https://www.slideshare.net/mobile/ChrisJCook/energy-fintech-21st-c-funding-for-energy-storage> Presentation in Brussels may be of interest
- From Pete Roche for Nuclear Free Local Authorities to Everyone: 07:12 PM - I am hoping to get a free heat pump through Warmworks early next year. They are doing 250 installations in SE Scotland
- From Russell Gibb to Everyone: 07:13 PM - Sorry Fabrice, but only in rare circumstances is a heat pump cheaper to run than mains gas . Normal installations where radiators are installed and when factoring in the rebound effect of increased comfort levels, heat pumps are more expensive to run than mains gas. I monitor lots of installations and generally they operate with a Seasonal Coefficient of Performance of between 2.5 and 3, therefore divide the price of electricity (e.g. 16p/kwh) by 2.5 to 3 and it's still more expensive than mains gas. Time to tax the burning of primary fuels.

- From bfinnegan to Everyone: 07:14 PM - Yes, Pete, Bronagh here from Warmworks. We're running a pilot project to see how a large scale rollout of heat pumps might work in Scotland. Happy to share our findings when ready.
- From David Cowdrey (MCS Charitable Foundation) to Everyone: 07:14 PM - We need to set up a Green Investment Bank, so installations are free and we develop an energy tariff for each home no larger than your current energy bill, but we also need support for those in fuel poverty, so there is no repayment.
- From Colin Pritchard to Everyone: 07:15 PM - In Vancouver the product of a carbon tax is used to redistribute wealth - . . . could this be a model for Scotland???
- From Chris Cook to Everyone: 07:15 PM - Dont sell heat as a commodity. Supply it as a service and share savings of fuel & electricity at retail price
- From Russell Gibb to Everyone: 07:18 PM - Request to David C - any chance of quality auditing more installations. I have serviced a fair few heat pump installations that definitely would not comply with the MCS standards (I used to be MCS accredited, before I moved over to consultancy and servicing/repair).
- From Chris Cook to Everyone: 07:20 PM - One of the policy options we provided was sharing surplus through an 'Energy Dividend' of energy credits returnable vs kWh or equivalent ie not a £ dividend but a dividend denominated in energy

For suggestions of corrections for this note please contact the secretariat, Elaine Waterson (Elaine.waterson@est.org.uk).