Future Energy Landscapes Workshop

East Meon Parish: Wednesday 5th March 2025

This note summarises what happened and what East Meon residents said during the Future Energy Landscapes workshop in March 2025. It cannot be assumed to be representative of the full range of opinions in the local community. The workshop should therefore be seen as the start rather than the end of the conversation.

Please read through this report and provide your views via our short survey here.

Workshop Background

The Centre for Sustainable Energy (CSE) developed the Future Energy Landscape workshop to enable communities to have informed conversations about their understanding and feelings about renewable energy technologies. It is a community consultation process that ensures communities are being listened to and enables them to shape ambitious plans as we transition away from fossil fuels.

Energise South Downs were invited by East Meon Parish Council and funded by East Hampshire District Council to run this workshop in order to understand how local people felt and what they thought about renewable energy technologies in their local context.

The workshop draws on local data and research to explore what might be feasible and create space for an informed conversation for communities to see what is possible. See **Appendix 1** for details of the data, research and assumptions that have been used to build this workshop.

This is one of a series of workshops that we are running in and around the South Downs National Park. The objective is to demonstrate that it is possible to develop a local vision for sustainable energy that is acceptable to the local community, and to use this as a springboard for project and policy development.

Why the Future Energy Landscape workshop?

- Transforming the way that we generate and use energy is key to tackling the climate emergency.
- Generating more energy from renewable sources, so we produce less carbon is key to a transition away from fossil fuels.
- Communities need to be better informed about low carbon renewable energy technologies.
- Local people need to be consulted about the energy transition towards renewable technologies and supported to have informed discussions about the different solutions.
- Community energy should be recognised as a key part of this energy transition so local communities benefit from renewable energy generation.

Workshop summary

Attendance: 23 people attended the workshop including representatives from the Parish Council.

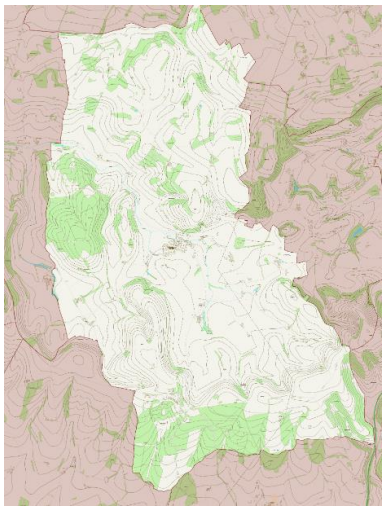
Workshop purpose: To explore the question *'How might East Meon power its community using locally generated renewable energy?'*

Workshop boundary: These workshops use the civic Parish boundary to pinpoint the discussion around an area that is familiar and frequented by the participants. It is an arbitrary boundary, but it is useful to focus the conversation on how acceptable people would find renewable technology in their local landscape.

East Meon Parish is made up of around 1,174 residents living in approx. 510 homes across 11,370 acres lying in a well defined valley between chalk downs, with the River Meon rising just south of East Meon Village.

Workshop process:

1. **Connect to the landscape**, considering areas that are important.
2. **Learn together** about different types of renewable energy
3. Have an **informed discussion** about how we feel about the technologies.
4. Discuss if and **where different technologies might be acceptable** in the local landscape.
5. Use graphs and data, to understand how much electricity and heat the different combinations of technologies would **generate**, the impact on current local energy needs and related carbon emissions.



What was said?

After marking up maps and spending time sharing local stories about the local landscape and people's connection to it, the group watched short videos about the different renewable technologies that were locally feasible. In groups each table then opened detailed discussion about one of the following four technologies:

a) Wind Power
b) Solar Farm (12 Acres)
c) Anaerobic Digestion
c) Domestic solar
d) Domestic heat pumps

Each group discussed each technology asking:

- How do they feel about the technology overall?
- How much of the technology would they be happy to see in their landscape? (i.e. quantity of rooftops with solar or the no. of a particular sized wind turbine)
- Where might this technology be located?
- How does it impact the landscape? Who would this affect most?
- Is this a realistic suggestion and what might the barriers be to implementation?

Impact of different renewable energy technologies

Each table fed back their reflections about their specific technology, and where they felt, and on what scale, the technology might be located, if at all, in the boundary of both parishes.

The group's suggestions on the amount of each technology were inputted into the CESAR tool [1], which showed how much energy, or heat would be generated. The data showed the impact each technology might have on East Meon's energy needs and the difference each technology has on the area's carbon emissions. The ideas of the different groups were then offered for further comment to the wider group.

[1] The Community Energy Saving and Renewables (CESAR) tool was developed by the Centre for Sustainable Energy and is designed to help workshop participants think about how they would provide some or all their energy needs from renewable energy and to see the different amounts of heat or power generated by the different renewable technologies in their local context.

Solar Power

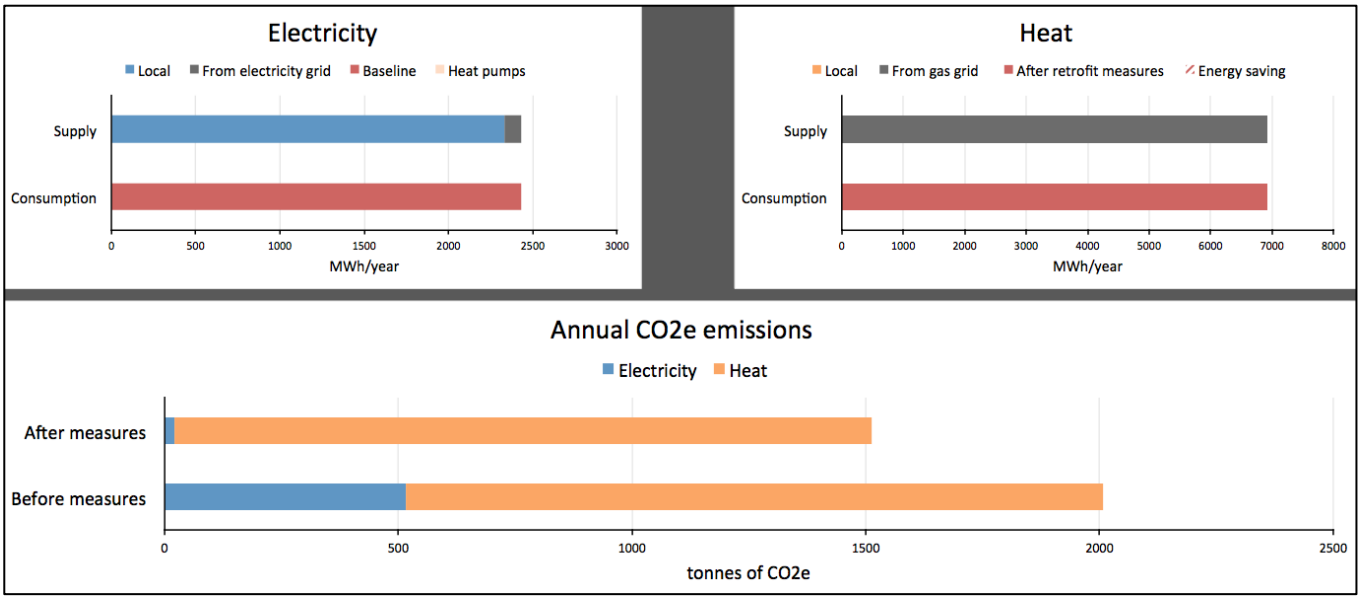
Though the table discussing the idea of a ground mounted solar farm agreed with the viability of the technology they had very strong concerns regarding the visual impact of solar farms particularly as East Meon is in the National Park and therefore a protected landscape. The group spoke about their concerns with the large solar installations near Winchester and Alresford. It was pointed out that these examples are approx. ten times the size of the 12 acre (2.5MW) solar farm plots that the workshop asks communities to discuss. However the group struggled to imagine anywhere in the parish being appropriate for one 12 acre area of solar even if this was broken into smaller areas. East Meon is in a valley so they felt that it was impossible to find a location where they could be hidden from view.

Further points discussed:

- Large commercial roofs in the area could come some way to adding up to the equivalent of 12 acres.
- There might be some flat areas less populated towards the northern part of the parish where there might be some pockets where solar could be tucked away out of view.
- Any solar installation would need to be near to some existing grid infrastructure (pylons , substation) and would usually be wired underground.
- For reference one 12 acres solar farm would meet the current needs of East Meon. As people electrify their transport and heating, demand for power is likely to go up by 2-3 times current usage.
- A 12 acre, 2.5MW solar farm as was discussed by the group is not commercially viable for commercial developers but for community energy scheme it could be viable. Financial payback for a scheme would depend on its location and size and therefore yield.

Wind Power

This group rated wind everything from 0 up to 5 for acceptability so there was a range of views that they navigated and agreed consensus was impossible. Similarly to the solar table they cited the fact that the village is in a beautiful valley so a wind turbine would be spotted from every direction. That said the group discussed an area to the west side of the parish that a medium turbine (70 m hub height) might be tucked away but agreed that it would be contentious. There was a discussion about Butser Hill along with the existing telecoms masts that sit outside of the parish.



Impact of 1 x medium wind turbine on local demand

Though contentious we looked at the impact of one medium sized wind turbine on the local energy need. The CESAR tool shows that this single wind turbine would almost meet the current electricity needs of East Meon's community and therefore reduce carbon emissions by a quarter. A single medium turbine, the height of a pylon would meet the needs of all 510 homes in East Meon as well as the non-domestic buildings.

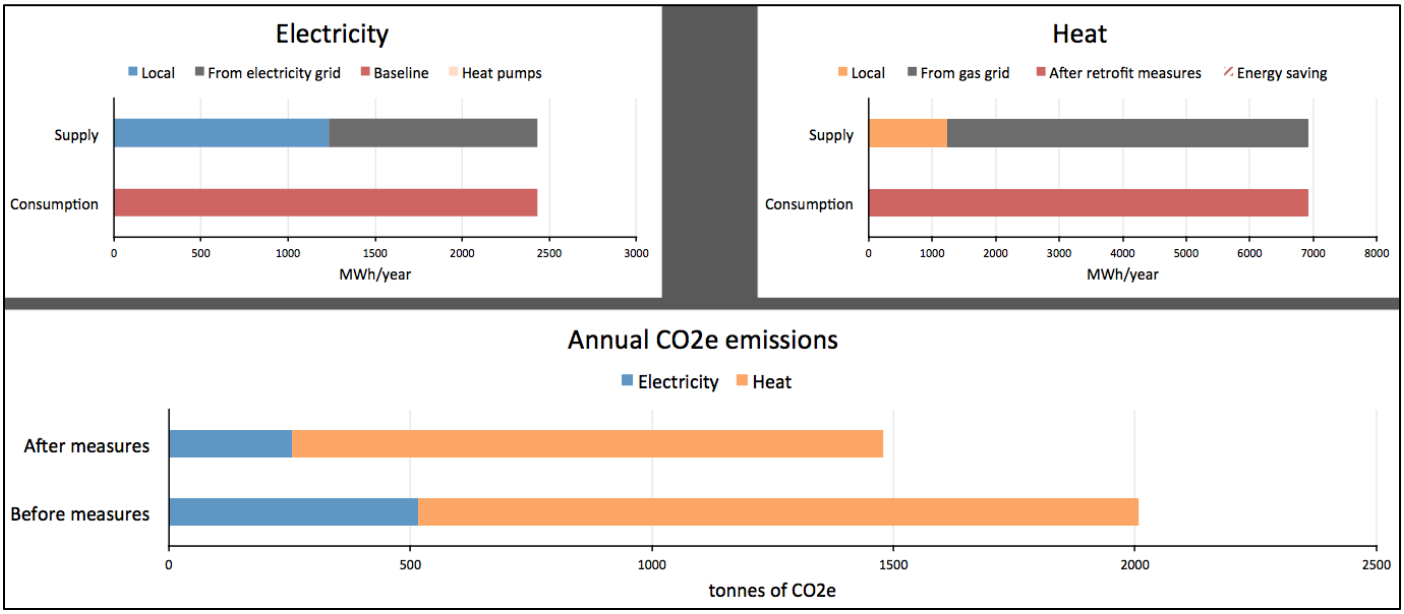
Further points discussed:

- Other concerns about turbines included noise particularly in a valley as well as the possible strobe effect when the sun shines directly through the blades.
- Energy produced as part of a community owned turbine wouldn't be the electricity used by the local homes but would go back to the national grid and support making the overall supply, renewable.
- There were questions about how they are managed and maintained and the grid infrastructure needed to cope with the power produced.
- Communities can benefit through local ownership and lower energy rates, opportunity to invest and get a return on their investment as the electricity is sold back to the grid. There are also wider community benefits as a result of any profits from the scheme going into a community benefits fund to fund local activity.
- Nature of solar and wind is that it isn't 'ON' the whole time, there is not a continuous supply so you need the national grid to provide that power.
- Question raised about SMRs (small modular nuclear reactors) – likely to be part of the mix but not at a community level as SMRs are still a third the size of regualar reactors and might employ about a thousand people.
- Storage is an important part of the conversation and operators are looking at different storage solutions using hydrogen and ammonia, gravity batteries, demand flexibility.

Anaerobic Digestion:

This was a new renewable technology for the table to understand and they started very or mildly enthusiastic about it. As the technology was understood more (taking land to grow crops to rot down to produce methane gas, that is then burnt to produce electricity) concerns were raised about simply growing crops to produce energy. It was commented that there are very few farms locally that might provide slurry apart from a local dairy farm but the farmer uses that themselves. The group discussed an example of a digester north of Winchester where they were even pitching to farmers in East Meon to give their slurry assuming that they were unable to get enough locally. This then adds carbon to the atmosphere because of transporting the waste from 20-30 miles away.

The group agreed at the end that it was a great technology but when you look at what it takes to get it working it might not be great after all. We did use the CESAR tool to see what contribution a single anaerobic digester, taking crops from 125 acres of land, would make against the electricity and heat demands of East Meon.



Impact of 1 x anaerobic digester on local demand for heat and power

It would supply half of the electricity needed currently by East Meon and about 15% of the heat needed by the Parish reducing half the amount of carbon emissions but it would use a significant amount of land.

Further points discussed:

- Interesting use of waste but challenges around where you get a consistent supply of that waste and where does it come from.

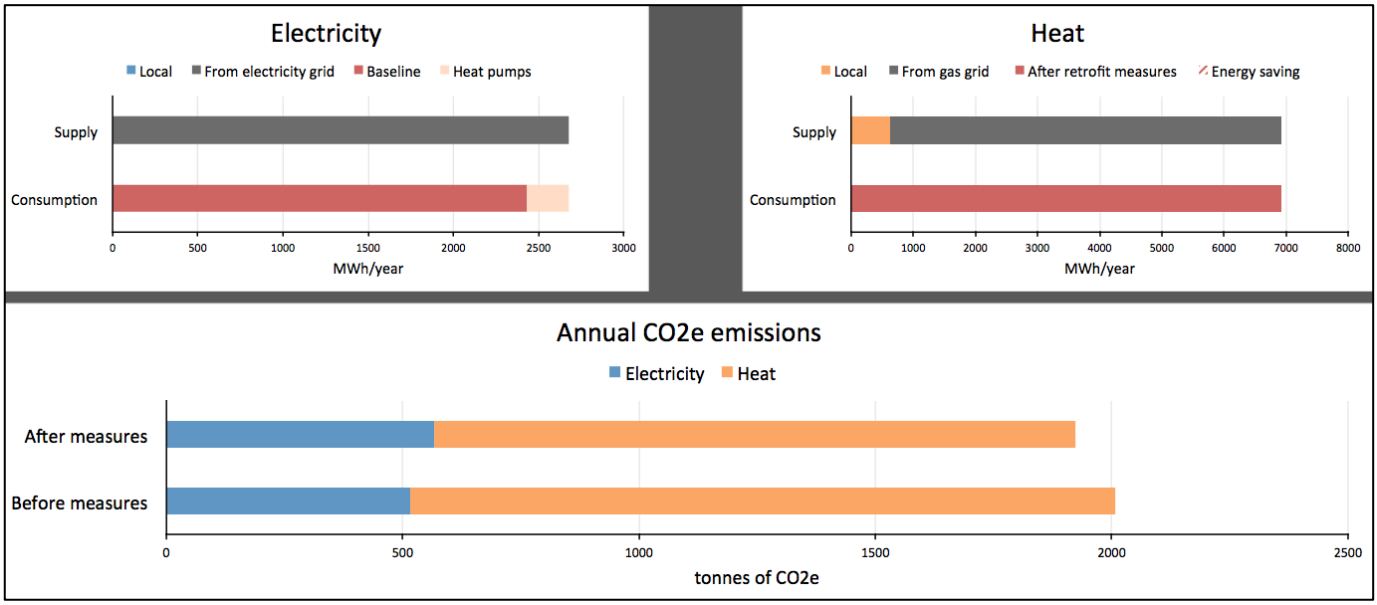
- Beyond the challenges with the feed for the digester there was a concern about how you then use the heat as need to then pipe the heat into homes which involved digging up roads with new pipe work for each house.
- Interesting technology as it has a low visual impact on the landscape but uses a significant amount of land.
- It would not be simply 125 acres as to avoid land exhaustion you would have to rotate the crop.
- With distributed houses in a rural setting AD feeding into a district heating network would be a challenge but very useful near a care home or hospital who would have a consistent and high demand for the supply of heat and power.
- Referenced Swaffham Prior District Heating Scheme as a UK example but it was noted that Denmark had been developing widespread district heating schemes for the last 40 years.

Heat Pumps

The table agreed that heat pump technology was not particularly controversial but there is the issue that individual homeowners have to fund their own heat pump. The group discussed the issue about housing stock being suitable for heat pumps and the cost of making the homes insulated enough so that the economics make sense. If the houses were appropriate for the technology then there would be much more interest in having a heat pump installed. They agreed that heat pumps do not have much impact on the landscape but you might want the air source heat pump tucked away and felt strongly that heat pumps should be required for all newly constructed homes. There is also the local situation of houses in the conservation area.

Stuart, the workshop facilitator, provided a counter point to the one about insulation that it is widely accepted that homes do not have to be very well insulated to have a heat pump and he provided an example of a stone built, 200 year old home with double glazing and roof insulation with a heat pump and a warm house.

There were mixed views about how wide the uptake of heat pumps was already, and could be, but the group proposed 10% of homes might have air source heat pumps.



Impact of 10% of homes having an air source heat pump

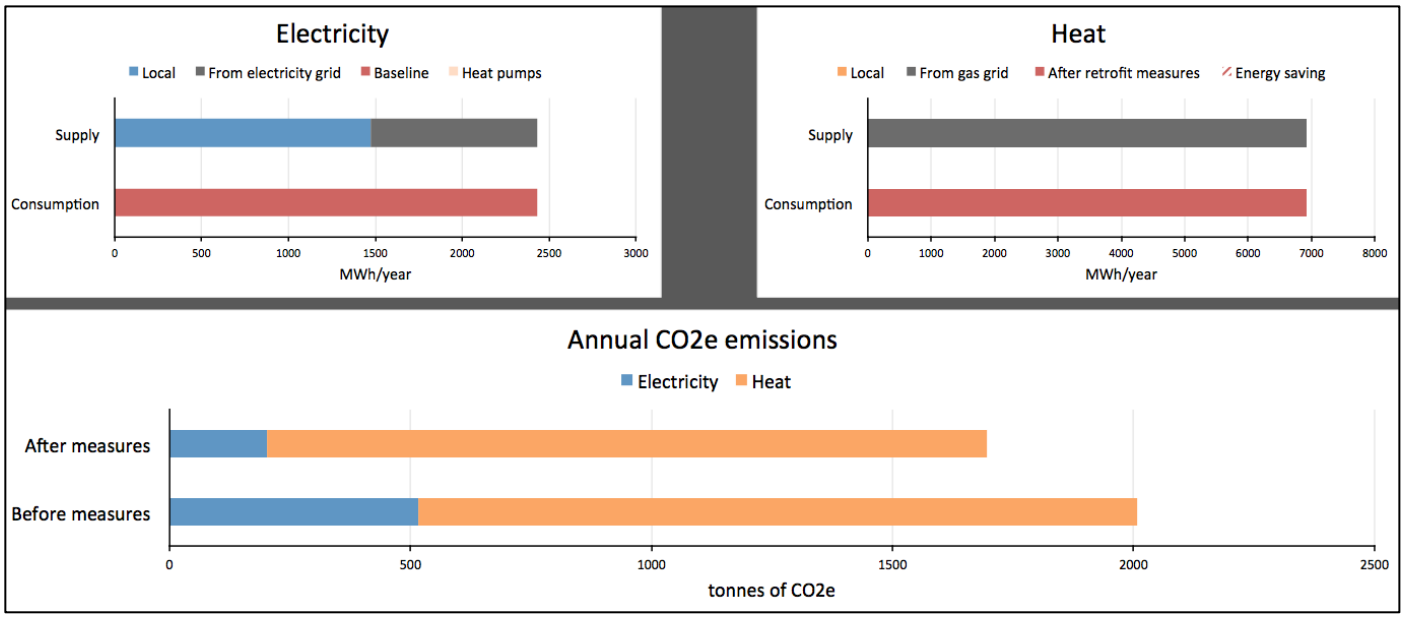
With a small update of heat pumps they would provide a small proportion of the heat demand of the parish, electricity consumption would go up a little as heat pumps need electricity to run but it would reduce the carbon emissions overall.

Further points discussed:

- Future Homes Standard being introduced next year will mean that all new build homes will have to be heated with a heat pump and well insulated
- Heat pumps use electricity to work but they are three to four times more efficient than boilers that use fossil fuels to create heat but the challenge is the relative pricing between gas and electricity that can mean heat pumps don't necessary save you money but they do decarbonise your heating.
- In a conservation area heat pumps are not allowed to be roadside.
- Suggestion of a community ground source heat pump using parish owned land.
- Concerns over the noise but discussed how the technology has developed to be quieter.
- Anyone looking into heat pumps should look at Visitaheatpump.com and arrange to go and see a heat pump and ask about noise etc.
- Patience and persistence required to go through planning process – reform is needed.

Domestic solar

The group was very much in favour of the domestic use of solar but had to see it working with battery storage otherwise people will not get the most out of it. Low tariffs need to be available and the group wanted to see solar on public buildings everywhere. They also wondered about a peer to peer scheme where the village hall could provide power to local homes or listed cottages. Carports, garages and farm buildings could be utilised locally. They hoped for wider use of solar tiles like on the continent. They felt 75% of homes having solar on their roof was a realistic target but recognised the upfront investment would be a barrier to households but stressed the opportunity on large roofs.



Impact of 1 x anaerobic digester on local demand for heat and power

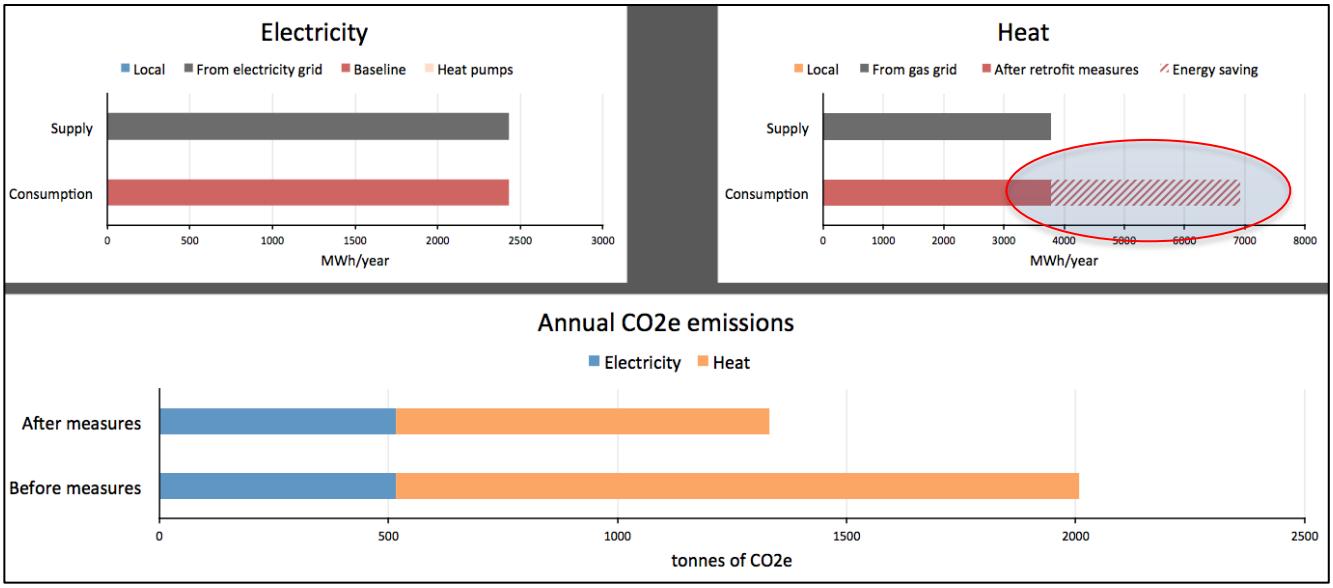
If 75% of the roofs had domestic solar panels they would supply about two thirds of the electricity in East Meon. This would be a significant impact from a domestic renewable technology with low visual impact that would also half the carbon emissions from burning fossil fuels for electricity.

Further points discussed:

- There could be opportunities for a number of homes to have panels on the roofs but only have one inverter and one battery that are the more expensive elements of an installation so it could be more affordable for households.
- The economics around storage are complicated and differ for every household depending on usage.
- Payback period for 10-12 panels on a domestic roof is about 7-9 years but varies according to orientation.

Retrofitting

As with any community discussion about energy it starts with seeing what house owners can do to reduce their energy demand. The CESAR tool allowed us to look at how making homes more thermally efficient could reduce the heat demand, and therefore the energy required by East Meon, based on some broad assumptions made about the local housing. We suggested that 40% of local homes were built pre-1930, 45% were built between 1930-1990 and the remaining 15% of homes were built after 1990.



Impact on the heat demand following a local retrofit programme

This graph demonstrates that energy efficiency measures like draught proofing, insulation and double or triple glazed windows to improve the energy efficiency of the lowest performing houses could dramatically reduce the local heating demand by almost 50%. This reasonable retrofitting would reduce the amount of energy needed to heat local homes and therefore we see a significant reduction in the carbon emissions from heating before even looking at changing to a renewable heating system or generation.

Conclusion and recommendations:

It was great to have such a good number of people to support this important conversation in East Meon. The workshop enabled people to raise their concerns about different renewable energy technologies and also discuss together what people felt was acceptable in their local landscape.

East Meon sits in a picturesque valley in the South Downs National Park and though each of the renewable technologies that were discussed were valued for what they could produce, the group struggled to imagine where any larger infrastructure would go.

The workshop demonstrated clearly the challenges in balancing the need to conserve and enhance the National Park landscape with developing renewable energy for its communities but there were a couple of areas that seemed to present opportunities:

- Wide recognition that roof mounted solar could play a valuable role in generating local energy as has less visual impact and there are large farm barns and public buildings with available roofs.
- Support for domestic roof top solar so the community, with support from the Parish Council, could promote that more via a local buying scheme as well as create a local case study with a house owner who has solar.
- Heat pumps need to be better understood so again an opportunity to develop a local case study so that people understand in which homes heat pumps might be suitable.

The workshop participants spent two hours imagining how renewables might meet their local community's energy needs. They shared what they wanted to protect in their landscape whilst exploring what might be possible if various combinations of renewable technologies were deployed. This was a hypothetical conversation based on data and research and put to one side constraints such as planning, expense and grid capacity. The discussion format aimed to help people learn together about what the different technologies are, how they work and so open local possibilities about possible projects helping us all transition away from fossil fuels.

Appendix 1 - Tools, assumptions and research

Tools

Future Energy Landscapes: toolkit here

CESAR (Community Energy Saving Renwables) workbook: Showing renewable energy generation in relation to how much energy the community uses and the impact of renewables on carbon emission reduction.

Impact Tool: An estimator of a community's carbon footprint that works for parishes, wards, district councils and unitary authorities here.

Assumptions

Onshore wind and solar farms
Assessments of suitability of landscape for different technologies represent an upper bound estimate and do not take full account of the impacts associated with potentially limiting characteristics (proximity of roads, railways land type etc.) (LUC, 2018). Spacing of wind turbines is based on an allowance of five times the rotor diameter (LUC, 2018).

Rooftop PV
Suitable rooftop is defined as one on which a minimum of a 1 kW solar PV system can be installed (8 m2 rooftop area required), with an orientation east through south to west and at an angle between 15° to 70° (Palmer et al., 2018).
Analysis suggests that in the City of Southampton district 67% of rooftops had one area that satisfied the criteria (Ridett and Anderson (2023), p19), while in the wider Winchester City area 78.8% had a rooftop surface that was deemed as suitable for a rooftop PV installation of at least 1 kW (Ridett and Anderson (2023), p20).
These figures are likely to represent an upper bound estimate of solar PV potential. For the purpose of the CESAR tool, an estimated potential of 75% suitability would provide a realistic upper bound estimate.

ASHP/GSHP
Based on assumption that dwellings need to be reasonably airtight and well insulated. Significant proportion of post 1990 houses plus an allowance for others that might have had deep retrofit we assumed 50% of homes could have an ASHP. We then considered that older homes in the centre of the towns / villages would have bigger gardens so assumed 25% would have room for GSHP.

Research

LUC (2018), Renewable and Low Carbon Study for the East Hampshire District, p48

Palmer D., Koumpli E., Cole I., Gottschalg R. and Betts T. (2018). A GIS-based method for identification of wide area rooftop suitability for minimum size PV systems using LiDAR data and photogrammetry. Energies, 11(12): 3506

Ridett, E., and Anderson, B. (2023) An assessment of the wider Hampshire distribution network capacity and potential constraint points for renewable generation (v1.0) Southampton: University of Southampton.

Ridett, E., and Anderson, B. (2023) An updated assessment of the technical and economic potential for renewable electricity generation in the pan-Hampshire area (v2.0). Establishing a Robust Evidence for a Pan-Hampshire 2025-2050 Energy Strategy project report. Southampton: University of Southampton.

UK Government (2023) Figures for English Housing Survey headline report 2022 to 2023.

Petersfield Climate Action Network & Alton Climate Action Network (2023) East Hampshire District – Green House Gas Emissions Based on the DESNeZ 29 June 2023 data release