Dacorum Environmental Forum
Full Meeting via Zoom Thursday 18/11/2021

MINUTES

Attendance

Name	Organisation
Gruff Edwards	Chair DEF
Steve Wilson	Vice Chair DEF
Vicki Nash	Home Energy Conservation Officer DBC
Jason Grace	Group Manager, Property and Place DBC
William Rossiter	Mitsubishi
Cllr Adrian England	DBC
Cllr Ron Tindall	DBC and HCC
Cllr Nigel Taylor	DBC and HCC
Mike Ridley	DEF and Friends of Halsey Field
Chris Ridley	DEF and Friends of Halsey Field
William Wyatt-Lowe	former DBC and HCC
Cllr Colette Wyatt-Lowe	DBC, on Strategic Planning and Environment Scrutiny Committee, HCC
Garrick Stevens	Berkhamsted T.C.
Tony Williams	Dacorum Community Trust
Chris Brown	Berkhamsted T.C. Energy Group
Robin Bromham	Hemel Resident
Sherief Hassan	Hemel Resident
Brian Worrell	Dacorum Resident
Kevin Cassidy	Chipperfield P.C.
Martin Hicks	Hertfordshire Ecology
Brian Patterson	Tring Town Council
Steve Lings	Consultant Naturalist
Mary Arnott-Gee	DEF

Meeting started at 7:30pm

1. Apologies etc.

Paul de Hoest Berkhamsted Town Council
Katie Tyssen DEF
Nikki Bugden for Nash Mills Parish Council

Minutes of the Last Meeting and Matters arising

These minutes, together with updates on Halsey Field, LA3 Master Plan and Hemel Garden Communities/New Local Plan had been sent out with the (first and second) agenda E-mails. No further comments on or matters arising from the minutes had been received.

2. Heat Pumps

By way of introducing the topic, **GE** showed extracts from HM Government's "Heat and Buildings Strategy" of October 2021, while surmising that policies and targets may have evolved as a result of COP26. According to the Strategy, domestic, commercial and public heating were responsible for 23 percent of the UK's CO2 emissions in 2019. There was a "long-term ambition to phase out installation of new natural gas boilers from 2035" and the Government were "consulting on the case for gas boilers to be hydrogen-ready by 2026".

SW chaired the topic from this point on.

WR gave a short presentation using shared screens, covering the basics of Heat Pumps, and illustrating how a typical house could be adapted to use them. *The presentation screens will be put on the DEF website alongside these minutes.* **WR**'s job is based in Hatfield with Mitsubishi, specifying installation programmes for social housing including retrofitting. Basically a heat pump works like a refrigerator in reverse, but instead of extracting heat from inside and pumping it out at the back of the fridge, a heat pump extracts heat from the air ("air source") or ground ("ground source") outside a building and releases it inside. For an air source heat pump there needs to be an external fan positioned so that air flows freely through it. Heat is released indoors via under floor ducts or radiators. If via radiators, they will normally need upgrading to "double convectors", as the heat pump will typically produce water heated to only 45^{o}C rather than the typical 65^{o}C of a gas boiler. Heat pumps cannot be powered directly from solar panels. The Coefficient of Performance (CoP) of a heat pump is the ratio of heat output (in kilowatts) over the electrical input (in kilowatts) at any one time. If electricity is used directly for heating the CoP is 1, but heat pumps exceed this. For air source heat pumps a CoP over 3 is considered good. The installation cost for a three bedroomed detached house would be in the region of £10,000, including updating radiators and pipe work.

Questions were then invited.

MR asked about seasonal variation affecting CoP. A quoted CoP for a device might over-optimistically assume reasonable external temperatures, whereas in winter when heating was most needed the CoP would be lower. People would be more interested in a "worst scenario" CoP.
WR agreed that the CoP will fall if the input temperature available to the heat pump falls, as it normally does in winter. Another guide figure, the Seasonal Performance Factor (SPF) is the average CoP over the full heating season.
RB said that in his experience heat pumps could freeze and stop working in winter.
WR said that that was in general no longer a problem, as heat pumps defrosted themselves as required.
AE asked about the feasibility of ensuring "resilience" in the form of an alternative method of heating if for instance heat pumps were to become the default for social housing.
WR said that there should not be a problem (with heat pumps) provided they were properly sized.
BW asked what research was being done on the refrigerants used in heat pumps to enable them to work to lower external temperatures. ("boiling points")
WR said that current research into refrigerants was more to do with achieving greater efficiencies *(see "CoP" above.)*
CB asked what needed to be done in order to bring the price of a heat pump down.
WR said that more installation engineers needed to be trained, as the current shortage of qualified installers led to higher prices.

W-W-L asked how long it would be before heat pumps could cope with low external temperatures, e.g. minus 16^{o}C in Scotland, or a record minus 27^{o}C in Staffordshire.
WR said that there were more heat pumps (*per capita, presumably)* in Scotland than in the rest of the UK, and that installations there were "oversized" in order to compensate for the colder climate. Even gas boilers are less efficient at minus 20^{o}C outside.
CR said that she had heard that under floor heating was necessary with heat pumps. What if that was unacceptable?
WR said that under floor heating was not essential. There was a subtle difference in efficiency between it and radiators.
RB asked about the contribution of MVHR (Mechanical Ventilation Heat Recovery) to heating efficiency. *(MVHR = a continuous source of ventilation that extracts stale, moisture-laden air from a building and resupplies fresh, filtered air back in.)*
WR said that it had a role to play, principally in new builds.
(Someone) asked what was the life time of a heat pump.
WR 10-12 years.

SW then invited **VN** and **JG** to address the session

JG said that his team were responsible for the refurbishment of DBC's housing stock of 10,500 lettable units. Their policy in regard to heat/energy savings was one of "fabric first", i.e. insulate and plug gaps before applying new technology. The Council were still installing gas boilers, but will move away from that in future. They are currently assessing the various options for reducing energy consumption.
SW asked what the policy for new council housing was.
JG said that it was a "blank canvas", but that new builds would have renewable forms of heating, and no gas.
CB asked whether the Council were considering Thermal Heat Storage. (*A technology that stocks thermal energy by heating or cooling a storage medium, so that the stored energy can be used later, either for heating and cooling applications or for power generation.)*
JG said that this was "on the cards" but still in its infancy. It was of potential benefit for people on low incomes and in fuel poverty. It would require Government support.
CR said she had watched a documentary saying that Solar energy was getting cheaper. It was now possible to "cloak" a roof in floppy solar panel sheets. Was Dacorum taking this up?
JG said that DBC were not doing solar installations, as they were doing "Fabric First" (*see above*). All prices might become cheaper in the future, but at the moment prices are increasing in a very unstable market.
AE asked, in respect of "Fabric First" how the Council decided which buildings to insulate first.
JG said that it depended on a property's Energy Performance Certificate. Currently a new stock survey was being undertaken.
AE asked what percentage of properties in Dacorum had heat pumps.
JG said that he would need to come back on that one.
***VN** has subsquently confirmed that 72 DBC homes have air source heat pumps fitted and another 58 are planned to be installed by the end of the financial year.*
MR countered claims from some that solar panels were inefficient. One should take into account the costs, times of day and feed-in prices. Also one should be able to buy back energy at the rate it was fed back into the grid, which was not currently the case. While pursuing "Fabric First" on a property it would make sense to install solar panels (or sheets) at the same time.
JG said that financial motives determined the market for electricity supply and feed-in tariffs.
MR said that Ecotricity (*a British energy company)* were against Heat Pumps, because one was paying four times as much in order to get four times the heat.
VN said that grant funding was available via the Renewable Heat Incentive Scheme in order to reduce costs.
SL said that the Incentive Scheme is set to close on 31st March 2022 to be replaced by a £5,000 grant towards the cost of an Air Source Heat Pump.

VN said that anyone who thought they might qualify should contact her.
GS said that Heat Pumps should be judged by whether they lowered emissions of CO2, not by cost. He cited the Energy Saving Trust (EST), *a British organization devoted to promoting energy efficiency, energy conservation, and the sustainable use*. The cost should be almost immaterial, and people who could afford it should go for it. There was a need to educate people on the subject. The Energy Saving Trust were a good source of information such as their graphic showing the breakdown of the 2745 kg of CO2 generated annually by the average UK household.
See https://infogram.com/1py10p2x9jddqdb3l1ewvvpne2tyxmeepy3

RB commented on **MR**'s observation that feed-in prices per kWh were much lower than consumption prices. He said that tariffs available with Octopus smart meters offer the potential of reducing the gap in prices by taking hourly price variations into account.
SL said that BEIS (the Department for Business, Energy & Industrial Strategy) were actively looking into all aspects of emissions reduction. The grants for heat pumps were originally intended for "off-grid" (i.e. no gas mains) users. The heat source for heat pumps could be air or ground, and delivery to a building could be by air or water. The Government's hydrogen strategy includes the launch of its hydrogen production subsidy scheme in 2023. Already 1500 homes in Leeds have hydrogen boilers. "Green" rather than "Blue" Hydrogen was the preferred way to go. *"Green" = produced by splitting water by electrolysis. "Blue" = by converting methane to hydrogen, but with CO2 as a by-product.* Biomass had been proposed as a sustainable fuel, but had deforestation as a side effect. One should not pin too many hopes on Carbon Capture, many of the proposals for which were "Greenwash". He was currently writing a book on emissions reduction, for reference by local councils.
MR said that hydrogen boilers would not be 100% efficient, as some heat escapes, as it currently does from gas boilers.
GS said that hydrogen would be an appropriate fuel for heavy good vehicles, for which batteries would not be efficient.
CR said that the electricity consumed by a heat pump might not come from renewable sources. Also, if one was considering upgrading from a gas boiler to a heat pump the potential wasting of energy of manufacture of the gas boiler *("embedded energy")* should be taken into account. There was no reason to leap from a natural gas boiler to a heat pump.
WW-R asked whether the Government was still factoring in Nuclear Power into its emissions reduction strategy.
SL said yes it was. Three nuclear stations were currently not operating, and this was causing power shortages. The Government's overriding objective was security of energy supply. The target of limiting Global warming to 1.5deg. C was now dead and gone, and mitigation was the most that could be hoped for.
GE asked for advice on whether to buy a "hydrogen-ready" boiler when his gas boiler became unrepairable.
SL said yes. There were four such on the market. Germany was ahead of the UK in the field.
AE disagreed with **SL**'s assertion that 1.5deg. C was dead and gone. It was important to keep striving for it, given what was at stake.
SL agreed that it was still desirable, but that it would take an "earth shift" to achieve.
AE said that hydrogen energy was a distraction. It was a dangerous gas that could cause explosions.
(a discussion, including reference to the Hindenburg disaster ensued.)
WR said that hydrogen did have a role to play in the long term (say 10-15 years). It did not currently supply sufficient energy. He would recommend the installation of a heat pump on the expiration of a gas boiler, if there was room for a water tank.
SW asked about the resilience of the external fan for an air source heat pump. Were they safe enough when children were around?
WR said that standards applied, and that the fans were pretty robust.
MR asked whether the fans for air source heat pumps had to be on the ground floor, and if on upper floors, were there any planning restrictions.

WR said that it ought to be possible to have them on upper floors. Any planning requirement that they should be recessed would have to be balanced against the requirement for free flow of air.
MA-G asked about the provision of heat pumps for homes in new developments.
SW recalled the unsuccessful attempts (*as suggested by DBC planners*) by DEF to persuade Barratt Homes to provide solar panels as the default for homes in the the LA3 (West Hemel) development. Barratt's stock response was that they were "not a selling point" *and crucially, not a legal requirement.*
GS said that Dacorum had a policy of promoting Combined Heat and Power systems in major new estates such as Three Cherry Trees Lane, but that developers were resistant to the idea. Homes England *the Government's housing delivery agency* were to provide finance and support to house builders to help develop more energy-efficient homes including heat pumps, but builders have generally been resistant so far.
MR asked why DBC cannot make compliance with energy efficiency standards a condition when granting planning permissions.
SL said that the forthcoming Future Homes Standard will complement Building Regulations to ensure new homes built from 2025 are energy efficient. This move has cross-Party support, and will also apply to extensions.
CW-L agreed with **SL**'s analysis. Political consensus would help give Councils greater powers in this area.
BW referred to DBC's declaration of a Climate Emergency (*July 2019*). Having to wait till 2025 was not an appropriate response to an emergency. We should "get the planners onside" and stop pandering to the developers.
SL invited E-mails with any queries about BEIS (*see above*) be addressed to him, advising the inclusion of the word "urgent" in the subject.

3. Any Other Business

MR referred to the September DEF meeting on Biodiversity Net Gain. Some landowners were vandalising their own land in order to devalue the "before" assessments, and therefore to make the estimated "gain" from a development easier to achieve.
MH said that evidence of such vandalism could be taken into account, referring back as far as January 2020.
MH expressed concern that Dacorum's draft Climate and Ecological Emergency Strategy and High Level Action Plan *discussed by the Strategic Planning & Environment Overview & Scrutiny committee on Nov 2nd* under-represented the work DBC itself was already doing and had done for many years, in supporting processes that conserved biodiversity in the District. The Strategy should ensure that the local plan process fully considers biodiversity issues and that planning applications continue to consider biodiversity with advice from Hertfordshire Ecology and others. It should ensure continued support for the Hertfordshire Environmental Records Centre as the primary source of information on biodiversity within the district and acknowledge the need to contribute to local and wider emerging strategies to support the natural environment, such as Green Infrastructure, Sustainability and Local Nature Recovery. The part on Biodiversity Net Gain should be updated to refer to the Environment Act, rather than to the "forthcoming Bill", and should confirm that the requirement for 10% BNG is a minimum.
GS said that it was only an interim report. He suggested that **MH** raise the matter with John Birnie who chaired the O&S meeting as well as with CW-L. *(**GE** has sent their E-mail addresses to **MH**.)*
SH said that he could source a speaker for a subsequent DEF meeting to present on the subject of EV charging points.

Dates for 2022:
Steering Group: 11th Jan, 22nd March, 28th June, 4th Oct.
Main: 10th Feb., 12th May, 15th Sept., 17th Nov.
Dates for the main meetings have been booked at the fire station in case their Meeting Room should again become available.