Ovingdean Decarbonisation Programme Executive Summary

This decarbonisation plan was commissioned by Ovingdean Community Energy group (OCE) on behalf of the people of Ovingdean. The goal of the plan is to identify and recommend the steps and actions to be taken by village residents to reduce carbon dioxide (CO_2) emissions and meet the Brighton & Hove's Net Zero emissions target. This report is designed to be included as the 'Energy and Climate Change' section of Ovingdean's Local Plan.

BHESCo's analysis found that the two main sources of CO_2 emissions in Ovingdean are transport and mains gas heating, both of which need to be electrified over time, primarily through a transition to electric vehicles (EVs) and air source heat pumps (ASHP), respectively. These two actions alone will address 73% of the carbon emissions in the village when carried out alongside the continued shift of electricity generation over to renewables.

The transition from gas and petrol to electric heating and transport will decrease emissions but increase the electricity demand of the village:

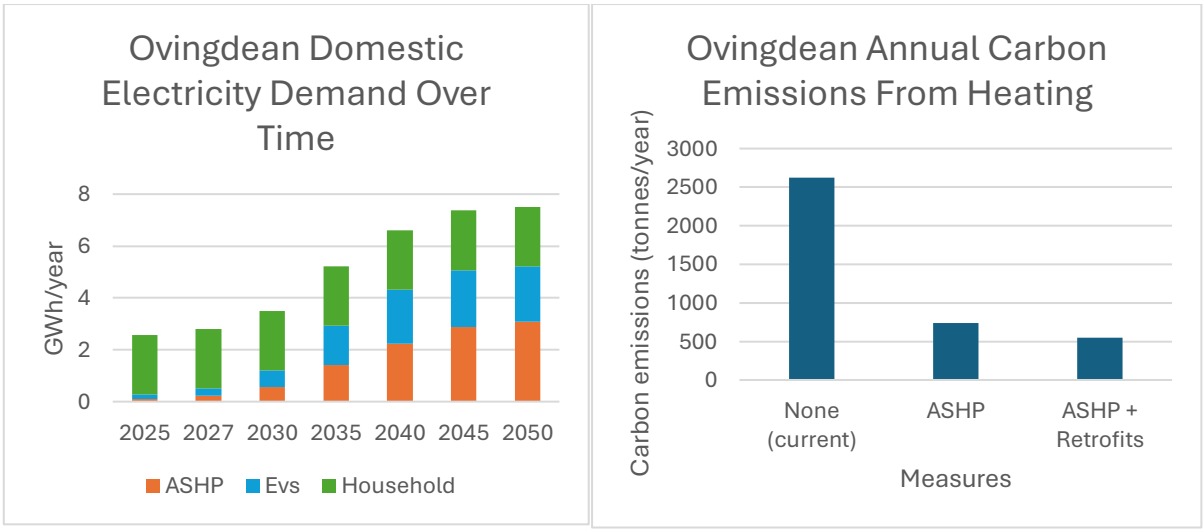

Figure 1: Graphs showing the increase in predicted domestic electricity demand in Ovingdean between now and 2050 (left) and graph showing the reduction in carbon emissions from switching grom gas heating to ASHP and insulating homes (right)

To address this need we recommend generating community owned power locally. BHESCo are recommending this be generated predominantly by domestic solar panels on roofs, solar panels on commercial buildings, and the construction of a 2.5MW wind turbine. This would cover the energy needs of the village, improve energy security, and avoid energy price hikes, as well as generating surplus energy that could be sold for community benefit and to support locals who struggle with energy costs.

To develop this plan, we have taken what the NG ESO, who control the national grid and flow of UK electricity, predict will be necessary as a **minimum** to achieve net zero by 2050 and applied it on a smaller scale to Ovingdean specifically.

Table 1 shows a summary of the uptake of different measures required on a residential level to meet these climate targets, in units (number of cars, solar systems, etc). This is

the bulk of change that individuals and policymakers can most easily begin to implement.

Transition (cumulative number)	2025	2027	2030	2035	2040	2045	2050
EVs	50	144	300	489	620	672	677
ASHP	18	35	92	226	374	465	500
EPC C+	163	192	228	285	342	396	457
Public EV Chargers	3	6	8	9	11	12	12
Home Ev Chargers	40	115	290	502	545	600	600
Solar PV (homes)	38	87	136	218	300	327	345
5kW home batteries	19	43	68	109	150	163	172

The table illustrates that by 2050 at least 60% of homes should have solar PV systems, and half of these should have a 5kWh battery installed. Drivers must also switch to electric vehicles and install the necessary chargers in their homes.

Furthermore, homeowners and landlords must transition from gas boilers to air source heat pumps, which are efficient and can run on renewable energy. Properties must be upgraded to an EPC of C or above via insulation and retrofitting. Residents can apply for public EV chargers on their streets for free through their Council, if they have an EV. The Boiler Upgrade Scheme provides £7,500 to each home for an air source heat pump, and energy surveys are available to determine exactly what energy saving improvements your home needs and how much it will cost/ save you on bills.

Oxford International College has very significant energy usage which must be addressed through the installation of electric heating systems and solar panels.

If these recommendations are followed, we estimate that Ovingdean residents will enjoy a 20% savings on electricity bills and an estimated £2 million of community benefit over the lifetime of the investments in renewable energy and efficiency, while also improving air quality and wellbeing for village residents.

The total investment required to decarbonise the village is £14.5 million, excluding the cost of introducing carbon sinks such as planting trees, which would counteract any remaining emissions from the public sector etc.

The table below shows the areas of investment required:

Cost per year (£000s)										
Install Type	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2040**	**2050**	**Total**
onshore wind	£40	£60	£100	£150	£150	£4,031				£4,531
Solar PV - domestic	£134	£274	£214	£219	£225	£230	£236	£2,265	£980	£4,778
Solar PV non-domestic	£0	£299	£152	£19	£0	£0	£0			£470
Solar PV Ground mounted	£0	£258	£134	£16	£0	£0	£0			£408
Total	£174	£892	£600	£404	£375	£4,262	£236	£2,265	£980	£10,187
Retrofit investment	£0	£82	£85	£87	£111	£148	£152	£1,588	£2,042	£4,297
Total	**£174**	**£974**	**£685**	**£491**	**£486**	**£4,410**	**£388**	**£3,853**	**£3,022**	**£14,483**