



PARC LLANGEWYDD

LAND AT WEST BRIDGEND RENEWABLE ENERGY STRATEGY

RENEWABLE ENERGY STRATEGY

PARC LLANGEWYDD – LALESTON, BRIDGEND

Llanmoor Development Co Ltd are promoting the development of 36.85Ha at Parc Llangewydd for residential development in the Bridgend County Borough Council (BCBC) LDP Review and have prepared this note to help inform the future energy strategy that could align with the aspirations of Welsh Government and BCBC

BACKGROUND - BRIDGEND RENEWABLE ENERGY POLICY

Bridgend County Borough Council has strong aspirations for decarbonisation of the region, for a number of years BCBC has worked with the Energy Systems Catapult to help inform its energy strategy.

The Preferred Strategy for the replacement Bridgend LDP identifies the potential for a new renewable energy policy which covers Low Carbon Heating Technologies for New Development. Whilst the Council are continuing to work through the detail of this policy and some of the evidence base to support it, it is expected that the this Policy will aim to facilitate proposals for District Heating Networks or Ground / Air Source Heat Pumps (in accordance with REA / SMP) within the County, providing a highly sustainable means of heating developments.

It is acknowledged by the Council that the precise alignment of the Network will only be finalised following detailed ground investigations and feasibility assessments.

Furthermore, *“The Policy will ensure that development is designed in such a way so as to not prejudice the future development of a potentially County wide District Heating Network, and enable development to connect to it at a later date once it becomes operational.”*

The text identifies that future allocations will be required to explore the potential to incorporate on-site zero and low carbon technologies and establish connections to existing sources of renewable energy.

Other policies within the Preferred Strategy make reference to renewable energy and low carbon housing. Policies SP3: Mitigating the Impact of Climate Change, and SP10: Infrastructure, both refer to the need to address carbon emissions through the new developments.

LLANMOOR DEVELOPMENT CO LTD – PROPOSALS AT PARC LLANGEWYDD.

The homes that Llanmoor currently build throughout South Wales are designed and built to be highly efficient, minimise waste and be kinder to the environment. High Fabric standards for the cavity walls, floor, roof and modern double-glazing are used alongside the highest quality and sustainable building materials. Energy efficient heating, lighting and appliances are installed as standard. This ensures that they already produce a smaller carbon footprint and lower running costs.

New Build homes are constructed to high standards and with ever rising energy costs, energy efficiency is an important aspect to consider when buying a new home. Overall, new build homes are far cheaper

to run and will dramatically lower your households carbon footprint. According to the Zero Carbon Hub, “Living in a new home could create annual savings of up to 55% compared with an older property”

Llanmoor houses currently meet these efficiencies with the use of state-of-the-art products;

- All homes are fitted with Central Heating boilers with an ‘A’ Energy rating. The boiler is at least 90% energy efficient. Heating systems are also time and temperature controlled so that it can regulate the heat in different parts of your home at different times of the day.
- Floors, cavity walls and roof spaces are installed with high levels of insulation to ensure the property stays warm.
- A large amount of heat is lost in an old home through small un-noticed holes, poorly fitted doors and windows, which create cold drafts. High build standards are achieved and maintained to ensure these drafts do not exist. Llanmoor homes are air tested to ensure that they are airtight ensuring precious heat is not lost.
- 100% of lighting in the home is energy efficient.
- All windows and external doors are glazed with Ultra Low ‘E’ energy efficient glass giving a U-Value of only 1.2W/m²K.
- All kitchens are fitted with appliances that are at least ‘A’ rated energy efficient.
- Toilets, Bathrooms and en-suites are fitted with water efficient taps and WC’s. These fittings are designed to help save water without compromising performance.

Every new home is given an Energy Performance Certificate (EPC) to help owners understand how efficient their home has been built. Llanmoor homes are generally ‘B’ rated energy efficient. It is important that not only is the building efficient but also the user understands how best to run their home. Therefore, all owners are given an information pack and introduction into how their properties work efficiently. Properties are also fitted with smart metering to help the owner understand how much energy their home is using, allowing them to make informed decisions about how they can save more energy and reduce their bills.

Llanmoor are continually striving to increase and improve their environmental responsibilities whilst building their homes so as to exceed current requirements. A Climate Emergency has been declared in Wales, which builds on the ambitious actions set out in the Environment (Wales) Act 2016, which requires Welsh Government to reduce emissions of greenhouse gases by at least 80% for the year 2050. Homes, both new and old, account for 20% of all greenhouse gas emissions in the UK. We recognise that new homes constructed today will exist in 2050, and therefore standards set today will determine the path we go on to meet and achieve that target. We are therefore working very closely with Welsh Government through Developer Working Groups and the Building Regulation Advisory Committee Wales (BRACW of whom our Technical Director is a member) in advising and reviewing new and future Part L Building Regulations to help meet Wales target of near zero emission homes. This, in turn, will actively deliver on four of the well-being of future generation goals; a prosperous, a healthier, a more equal and a globally responsible Wales.

In respect of the more local context in Bridgend, given the developing nature of the renewable energy policy, and the objections made to the policies as part of the Preferred Strategy consultation, Llanmoor are extremely keen to work with the Council to explore potential ways of incorporating such measures into the project at Parc Llangewydd, and to ensure the project is future proofed..

However, as many of the proposed methods are currently only now being investigated through pilot studies commissioned and undertaken by Welsh Government through grant funded housing developments, the present uncertainty and lack of detail on how such measures could work, together with the unknown costs, particularly on a site of this scale, we feel it would be prudent to continually evaluate all methods of low carbon heating through the planning process rather than making any firm commitments to any one particular option at this moment.

In order to meet the 2050 Target, Welsh Government is currently reviewing Part L Building Regulations for 2020 and 2025 with stepped changes to improve energy efficiencies and in particular towards future-proofing homes for low carbon heating. 2020/21 will see Part L changes to meet a 37% improvement in CO² emissions over and above current regulations, moving to an 80% improvement by 2025. This will be achieved through improving the already high Fabric Standards such as increased use of insulation and triple glazed windows.

As we all recognise there is currently a huge bias towards gas heating of homes. The use of gas heating can still be used to meet the new Part L standards 2020 of very efficient buildings with the inclusion of Solar PV. However, to meet 2025 requirements, and in line with the move to a zero emission energy source, there will be a move away from gas heating to lower carbon heating sources such as air source heat pumps, ground source heat pumps, heat networks and alternative energies such as Hydrogen. All these systems need to be evaluated for large scale developments taking into consideration viability and cost both to implement and run. Homes using gas heating to meet 2020 standards will however be future proofed by increasing radiator sizes and pipes to enable Low Carbon heat sources such as heat pumps to be retrofitted in the future. This will be supplemented with the use of Solar PV to roofs and waste water heat recovery systems. Photovoltaics (PV) presently, has the greatest impact on Energy performance rating, however we anticipate that this may change in future as low Carbon energy sources not connected to the home are realised (i.e. using electricity when the grid is "green"). A detailed study will be undertaken throughout the planning process to help optimise the design of the site and housetypes to improve the overall efficiency and cost of Building Integrated PV. We have already engaged with Sero Energy, with whom we understand BCBC are currently working, to look into the most suitable, effective and viable options for the future.

With further improvements on smart metering, Solar PV and smart configuration the homes should be able to intelligently switch between "on-grid" and "off-grid" operating modes to suit the network conditions. Put simply, the homes should have the ability to maximise consumption of renewable electricity on the grid (i.e. windy & sunny days) and minimise the periods of consumption where renewable energy is low this will reduce the carbon footprint of the home for the consumer.

Llanmoor are actively innovating and incorporating designing changes to our range of housetypes to ensure they meet the new regulations of 2020, are futureproof and are ready to meet the needs of the 2025 Building regulation requirements.

SUMMARY

Both National and local planning policies are continually evolving in respect of low/zero carbon technologies. It is acknowledged that such technologies are starting to be incorporated into developments across Wales, however, these are currently being heavily subsidised by Welsh Government grants e.g. Innovative Housing Programme. Without such grant funding these technologies are expensive, and until such technologies become increasingly used and therefore become more affordable, their use in mainstream housing is likely to be a challenge to viability.

Notwithstanding the above, Llanmoor Development Co Ltd continue to improve the energy efficiency of their homes and are very much open to working with Bridgend Council to develop their policies in respect of low/zero carbon technologies in new developments. Furthermore, Llanmoor are open to exploring various technologies and how any development sites within Bridgend could connect to wider district heating networks in the area.

Initial discussions have taken place with Sero Energy to look into the important subjects of heat networks, electrification of heat, electricity generation and storage, transport and smart energy, and further discussions will take place which will help inform and plan the Energy Strategy for Parc Llangewydd as the proposal moves forward through the planning process. This will also enable the scheme to adapt and future proof as regulations and solutions are brought forward.

Llanmoor have always had a very good relationship with BCBC Building Control Department and have won many LABC Awards working in partnership with that team. We look forward to continuing to work with BCBC on this project, not only in regard to Building Regulations but also innovative thinking on energy.