

Dorset Council Response to Ofgem's RIIO-ED2 Draft Determinations Consultation

Produced jointly by:

- Spatial Planning
- Growth & Economic Regeneration
- Climate and Ecological Sustainability
- Transport Planning

Dorset Council Response to Ofgem's RIIO-ED2 Draft Determinations Consultation

Dorset Council is a unitary local authority covering the main rural area of Dorset outside of the conurbation of Bournemouth, Christchurch, and Poole (BCP), which is served by its own unitary authority - BCP Council. The Dorset Council area is largely rural, but with a range of market and coastal towns and larger villages that act as service areas and employment centres and will be the focus for housing and economic growth in the future. In terms of electricity operators, the Dorset Council area is served mainly by SSEN, and to a smaller extent (towards the west of the area), WPD.

The main economies in the Dorset Council area include advanced engineering and manufacturing (including aerospace, defence, and marine technologies) and tourism, alongside significant public sector health and defence demand.

Dorset Council has declared a Climate and Ecological Emergency and has published its Climate and Ecological Emergency Strategy, which sets out the aim for the Council area to be Net Zero for carbon by 2050. This will involve significant changes to energy infrastructure, including increased levels of renewable energy generation both on a larger scale, and more domestically, as well as significant expansion of EV charging across the Council area, through public charging sites and increased provision at homes and employment locations. Additionally, Dorset Council expects to see wide undertaking of retrofit of homes to increase energy performance, which is likely to involve electrification of heating as people move away from the use of gas.

In addition, Dorset Council is currently planning to meet the housing and employment needs of current and future residents over the next 17 years through a new Council wide local plan. A recent consultation on a draft of the plan included provision of a minimum of 30,481 new homes across the area (equating to an average annual rate of 1,793 homes per annum), and a minimum of 131 hectares of employment land. The Council may also look to provide growth in the longer term through the development of a new or significantly expanded settlement.

In the context of the above, the capacity of the electricity grid to accommodate future changes and growth in the Dorset Council area is of significant concern. Therefore, the Council would like to respond to the consultation, and provide emphasis on the issues facing the Council area, as follows.

Dorset's energy infrastructure

The following map shows the main energy infrastructure in Dorset (including the Bournemouth, Christchurch, and Poole Local Authority Area) including the gas, electricity, and oil networks. Much of the electrical infrastructure in the area is constrained, this means that new connections, generation, or demand can incur high costs and can be time costly.

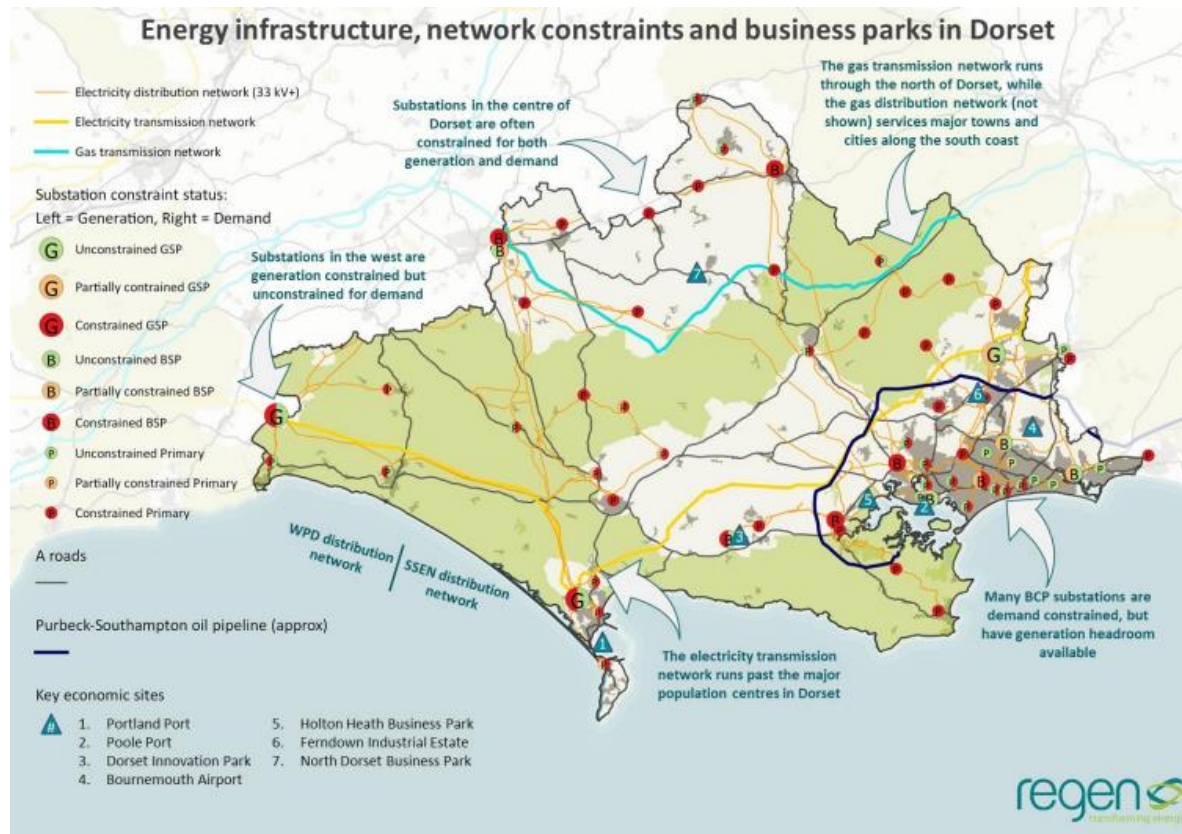


Figure 1 - Summary map of Dorset's energy infrastructure, highlighting the level of constraint on the electricity network.

Decarbonisation of transport

Like the rest of UK, the vast majority of road vehicles in Dorset currently run on petrol or diesel, totalling 99.1% of all road vehicles. Hybrid vehicles make up a further 0.4%, and electric vehicles, mainly cars and LGVs, the remaining 0.5%. Electric cars replace petroleum cars in all scenarios, following national trends, prompted by the UK government ban on sales of new petrol and diesel vehicles from 2030. Even under the non-compliant scenario, by 2050 the vast majority of road transport is electrified. By 2040, between 83% and 95% of road vehicles are electric in the net zero scenarios, compared to 58% in the non-compliant scenario¹.

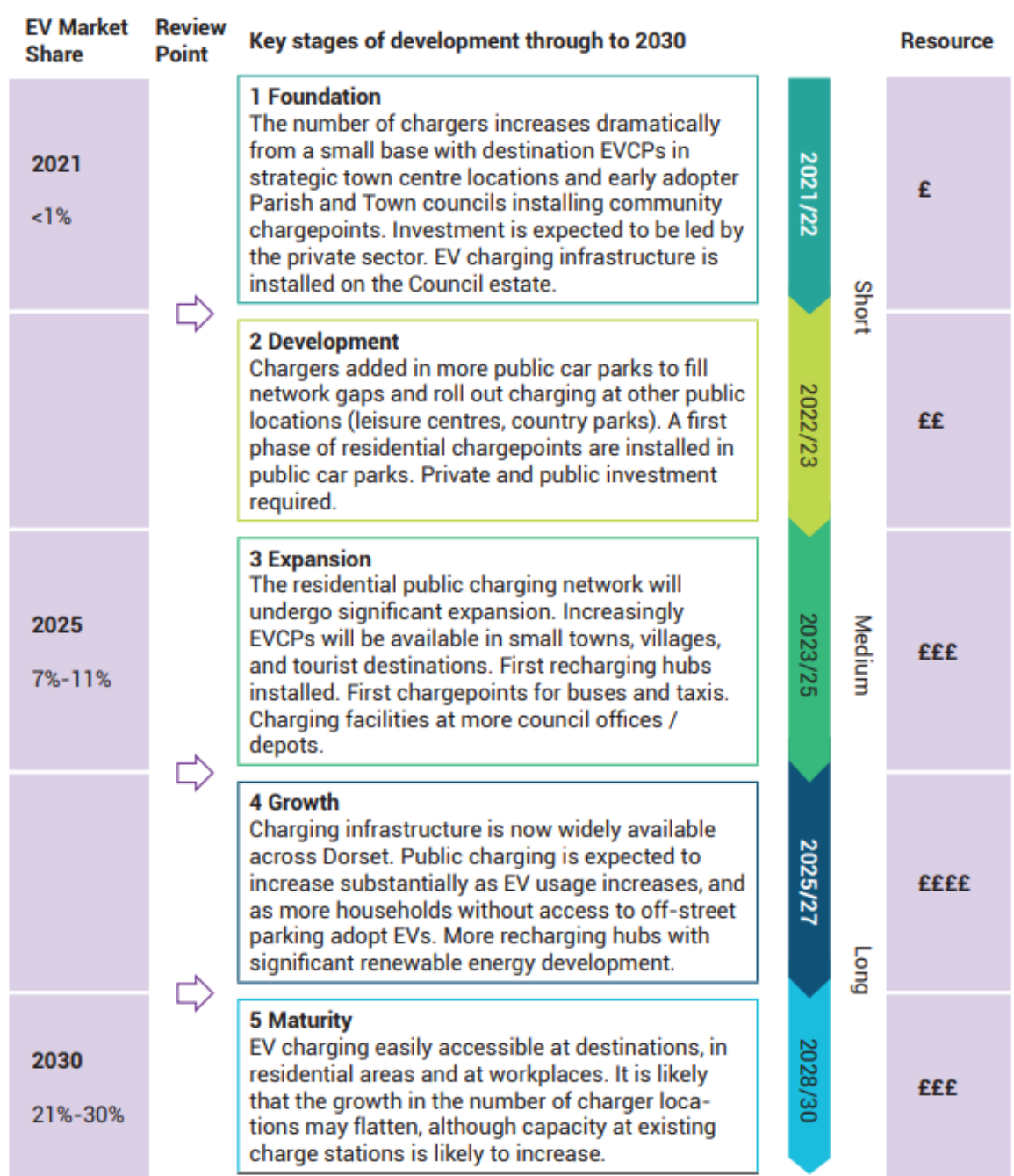
Dorset Council recognises that Electric Vehicle (EV) charging infrastructure is essential to encourage a shift to electric vehicles. The council has developed a draft Electric Vehicle Charging Strategy and is committed to creating a reliable and accessible charging infrastructure for residents, businesses and visitors that helps Dorset become carbon neutral by 2050. The strategy will be reviewed regularly to provide opportunity to reflect upon rapid technological and socio-economic change.

The strategy recognises the importance of longer term planning required to meet growing charging infrastructure needs and meet decarbonisation goals. Modelling data estimates that by 2030 Dorset

¹ Dorset Low Carbon Energy Route Map and Evidence Base Energy opportunities for decarbonising Dorset, REGEN

could need between 1,200 to 2,900 public chargepoints to meet demand from residents, businesses and visitors². Through the strategy the council has identified the key stages of development through to 2030.

Dorset Council is progressing with a programme to improve the chargepoint network across Dorset. A phased approach is being taken to chargepoint rollout:



² Distribution Future Energy Scenarios (DFES) 2020 data supplied by SSEN and WPD for the Dorset Council area. Public chargepoint definition includes car park, destination, en-route local, en-route national, and residential on-street charger types only.

Phase one - This first phase focussed on destination off-street charging in public car parks. Works were completed in 2021, installing 46 chargepoints (sockets) in 21 locations around the County, including six rapid (50kW) chargers.

Phase two – The second phase is in construction, expected to be live by the end of 2022. This will deliver 44 fast (22kW) chargepoints (sockets) and seven rapid chargers (up to 150 kW) across 24 locations around the county. Most sites will once more be in Dorset Council run public car parks, but the council is working with local communities to get chargepoints installed in villages, with the first on-street chargepoints being delivered in Cranborne as part of this phase. This will go some way to addressing the challenge of providing affordable charging for households without access to suitable off-street parking. Dorset Council is using funding secured through the on-street residential charging scheme (ORCS) to fund a number of the new sites.

Our phases 1 and 2 placed charging capability in the main towns in the county. It is expected that charging capability in these commercially viable destinations will continue to expand through private sector investment as EV numbers increase.

Phase Three 2023/25 – Dorset has been selected as a national Local Electric Vehicle Infrastructure (LEVI) pilot, one of nine areas in England. The total pilot is estimated to cost £2.7 million to place chargepoints in up to 150 locations around the county for the convenience of residents and to encourage the take up of electric vehicles. The funding will enable the council to address the need for convenient and affordable public chargepoint infrastructure and increase provision in rural areas which is key to a wider rollout across all areas of Dorset. This will involve the council working with local community landowners to install charging infrastructure in accessible locations which might include car parks, community halls, pubs, cafés and shops, as well as possible on-street locations where suitable. This pilot will also include a small number rapid or ultra-rapid (50 kW to 150 kW DC) chargers on or near main roads to support enroute charging. Some chargepoints will be located at popular tourist locations where both residents and visitors can access them. This levelling up scheme will look to address potential inequality of access between urban and rural settings and encourage the take up of electric vehicles in households without access to off-street parking.

The council believes that it is vital that key stakeholder groups work together to plan and deliver chargepoints. In the council's view this is best achieved through partnership working between the authority, distribution network operators, and chargepoint network operators. The council is well placed to consider the location, type, and number of chargepoints in the context of current and future development plans, and engage with DNOs, neighbouring local authorities, landowners, other local chargepoint stakeholders, and commercial network operators to ensure coordination of chargepoint delivery. This approach will ensure that resources are maximised and the public networks that develop are complementary to one another.

An online tool for requesting chargepoints via Dorset Council's website shows growing demand for both rural and urban charging. Grid capacity is increasingly becoming an issue and a barrier to installation of high powered chargepoints in some areas. The council is concerned that without appropriate investment to upgrade the network infrastructure and provide extra grid capacity, the EV chargepoint network in Dorset will not develop at a pace and scale to meet future demand. The council is already encountering this issue in parts of Dorset where our aspirations include installing charging hubs and the current grid infrastructure cannot support this. In some locations the DNOs have indicated it may take several years before these grid capacity issues can be resolved. The council therefore would like to see an investment programme that addresses grid capacity issues in a

timely fashion so as to enable EV charging infrastructure to be delivered across Dorset and our net-zero targets to be met.

As an additional point Dorset is a very popular tourism destination, and whilst visitors arriving from London and the Southeast of England would likely have sufficient charge to get here by electric car, they would need to recharge for return journeys. Therefore, Dorset is likely to experience much more spiky demand arising from EV charging than the country as a whole. This will place additional stress on the network, particularly in tourist hotspots, and as such “one size fits all” demand models based on residential charging may not tell the whole story.

Increased domestic EV connections

As Dorset moves towards its targets for achieving zero carbon emissions by 2050, it is anticipated that there will be a significant additional demand on the grid to account for the needs of widespread take up of domestic electric vehicle charging, which will in turn put additional pressure on the electricity grid.

Decarbonisation of heat

There will be a significant additional demand on the grid to account for electrification of heat, at domestic properties as well as commercial & industrial, through domestic heat pump technology. Around 80% of Dorset buildings are currently heated by natural gas; by 2050, all these properties will need to switch to an alternative heat source to deliver the net zero scenarios. Furthermore, any off-gas homes heated by fossil fuels, such as oil, LPG or coal, will have to switch to a low carbon alternative. The UK government has set some high targets for heat pump rollout in the coming decade, aiming for 600,000 installations per year by 2028. If achieved, this should result in the majority of off-gas properties being electrically heated by the early 2030s, and a significant number of on-gas properties converting to a heat pump. 5% of homes in Dorset are heated by oil, LPG or solid fuel, and switching to a heat pump would likely provide long-term benefits to both carbon emissions and heating bills in these properties.

In addition, new build homes will no longer be able to install natural gas boilers from 2025 onwards in all scenarios. New homes are likely to be fuelled by heat pumps, either individually in each home, or connected to a wider heat pump-driven heat network. Based on local plans and historic build rates, the scenarios assume over 20,000 new homes in the area by 2030, and almost 30,000 by 2040, the vast majority of which are projected to be electrically heated in all scenarios. In the Net Zero – Electrification scenario, the heat pump installation rate in Dorset reaches over 10,000 per year from 2030 onwards, in order to achieve no fossil fuelled domestic heating by 2050.³

The DNOs recognise within their Distribution Future Energy Scenario data⁴, that constraints on the grid in parts of Dorset will be an issue in certain areas the near future, and more widespread across Dorset in the medium to longer term. Therefore, Dorset Council considers it to be imperative that the grid is upgraded appropriately to accommodate these additional demands, and that clear oversight is provided from DNOs as to how and when electricity infrastructure will be improved.

³ Dorset Low Carbon Energy Route Map and Evidence Base Energy opportunities for decarbonising Dorset, REGEN

⁴ Distribution Future Energy Scenarios (DFES) 2020 data supplied by SSEN and WPD for the Dorset Council area

Renewable energy generation

Similarly, the Dorset Council area will need to see significant electricity generation development over the next 28 years if it is to meet targets of Council-wide zero carbon emissions by 2050. The Council's Climate and Ecological Emergency Strategy (2021) sets out that in order to generate 100% of its own energy, there will be a need for around 4GW of solar or 2GW of wind energy development, or a combination of the two.

Dorset's impressive natural resources means it has significant potential for low carbon energy production through a variety of means. Current low carbon energy generation is predominantly solar PV. Grid capacity for electricity generation is likely to be constrained in the future (as noted within the DNOs DFES data⁵), and therefore it is also important that the grid can sustain the levels of generation needed for Dorset to meet net-zero targets.

Dorset has excellent solar PV resource, for both large-scale ground mounted solar farms and small-scale rooftop solar panels. The baseline already contains 500 MW of solar PV. In both net zero scenarios, the imminent advent of subsidy-free large-scale solar projects results in total solar PV capacity doubling by the mid-2030s and tripling to 1500 MW by 2050. Offshore wind also offers opportunities for the area, albeit Dorset's special coastal environments such as the Jurassic Coast World Heritage Site and Area of Outstanding Natural Beauty designations have previously constrained such development. One offshore wind farm of 1000 MW could generate the energy equivalent to around 50% of Dorset's total energy demand by 2040. There is also potential for onshore wind resource in Dorset, with areas outside protected areas in the south-east and north having high windspeeds, around 100 MW of onshore wind is projected in some scenarios⁶, although again environmental designations restrict opportunities for largescale projects.

Reliability and resilience

Grid capacity constraints have been experienced at a variety of locations across the Council area, mainly in relation to existing key industrial and employment sites, which subsequently limits the ability of Dorset's economic sector to develop and expand. This highlights that grid constraints are current in the area and are not only a concern for the future. It is worth noting that many of Dorset's main industries require higher energy use, such as in terms of manufacturing and food production.

The Council's own experience of decarbonising its estate has also presented significant issues in terms of cost and timescales due to the need for grid improvements to accommodate heat pump technology for its buildings.

Dorset Council is currently planning its future growth for the next 17 years. The draft Dorset Council Local Plan (2021) set out proposed locations for housing and employment development across Dorset. In order to plan correctly the Council needs to be satisfied that development sites are 'deliverable' as required by National Planning Policy. Therefore, current and future grid constraints are a significant concern, as grid capacity issues could cause delays to development coming forward, meaning that the Council's housing and employment targets may not be met within the required timescales. This can have significant impacts on the ability for the Council to ensure development occurs in the most sustainable locations. Employment and industrial developments are a key concern due to their potential higher energy use, unpredictability, and market reliance in terms of

⁵ Distribution Future Energy Scenarios (DFES) 2020 data supplied by [SSEN](#) and [WPD](#) for the Dorset Council area

⁶ Dorset Low Carbon Energy Route Map and Evidence Base Energy opportunities for decarbonising Dorset, REGEN

coming forward. It is therefore even more important that the grid is suitably primed to accommodate these types of development.

Dorset Council therefore would like to emphasise the duty on DNOs to provide energy for new development and existing population, and the importance of upgrading and improving the grid in a timely fashion so as to enable the timely housing and employment growth that the area needs.

Within the next year, the Council will be refining proposed locations for development into allocations whereby site specific issues will be addressed through planning policies. It is currently anticipated that a new Dorset Council Local Plan will be adopted from 2026 onwards, and therefore the Council will be looking to have regular engagement with DNOs so that grid capacity issues and their impact on future development can be fully understood.

In addition to this, the Dorset Council area is largely rural in nature, and therefore power outages due to fallen trees and storm conditions are a common occurrence. Dorset's population relies on fast reaction to such outages by electricity providers, so that residents' lives aren't significantly affected. The Council therefore would emphasise that suppliers must be able to continue to maintain the grid so that it is resilient and to respond to issues in a timely manner.

Customer vulnerability

Dorset Council recognises that the current climate high energy and living costs places significant financial pressure on its residents and businesses. Therefore, the need for DNOs to support vulnerable customers and address fuel poverty is considered to be of high importance. While this is a national problem, there are a range of challenges local to Dorset that need to be taken into consideration:

- Around 60% of Dorset's homes are not energy efficient;
- Approximately 1 in 8 homes are off grid and paying more for their energy;
- In 2019, over 16,000 homes in Dorset were in fuel poverty; this figure is due to increase rapidly;
- Forecasting is predicting that around 30% of households in Dorset will have less than £50 per month discretionary income as a result of the cost-of-living crisis.

Should there be any questions or need for further engagement regarding this response please contact:

Spatial Planning – planningpolicy@dorsetcouncil.gov.uk

Growth & Economic Regeneration – [REDACTED]

Climate and Ecological Sustainability – [REDACTED]

Transport Planning – ElectricVehicles@dorsetcouncil.gov.uk