

SUMMARIES of TWO DORSET CPRE REPORTS on UK and LOCAL AUTHORITY 2050 ELECTRICITY TARGETS

1. Installations of National Significance and the Setting of Local Renewable Electricity Targets

1. This report concludes that it would be appropriate for Dorset Council to reintroduce the 2011 policy whereby each UK local authority was able to reduce its 2020 renewable energy target from 15% (the UK target) to 7.5%. This was decided when it was realised that if the target were to be realised the damage done to Dorset's rural assets, particularly its landscape, would be unacceptable.
2. The means by which reduction was to be carried out was for a local authority not to claim the output from an installation of National Significance for its area but to allow the aggregate output from all such installations to be distributed to every local administration as 50% of its 2050 target. It can be noted that the 2020 target was 15% of total energy consumption in 2020, not the 100% of electricity consumption in the target of current concern.
3. At the time the decision was made, 23 Installations of National Significance were responsible for 31% of UK renewable electricity output. By 31 December 2020 these figures had risen to 90 and 54%. This evidence and an analysis of future trends, importantly the Government focus on offshore wind and nuclear, suggest that a figure of 70% is possible in the medium to long term..
4. The significance for England, Dorset and Bournemouth, Christchurch & Poole if a 70% reduction in their targets was to be applied in 2050 is described.
5. As an example, Dorset Council's target of 3.84 TWh would be reduced to 1.15 TWh. Allowing for current generation of 0.5 TWh, the remaining 0.65 TWh could be supplied potentially by installation of solar photovoltaic panels on 50.3% (92,384 in number) of currently unutilised domestic and business buildings.
6. An alternative acceptable to Dorset CPRE would be for roof-mounted and ground-mounted community installations to share the shortfall, on a fifty-fifty basis for example. This would require installation of solar photovoltaic panels on 25.2% (46,192 in number) of currently unutilised domestic and business buildings and the output from sixty-six 5 MW ground-mounted community installations, each generating an annual 4.94 GWh.

2. The Role of Roof-Mounted Solar Photovoltaic Installations in 2050 Electricity Generation

1. This report explores the extent to which roof-mounted installations might be able to contribute to the achievement of 2050 targets for the deployment of solar photovoltaics. The Dynamic Dispatch Team at the Department for Business, Energy & Industrial Strategy suggests that, for the UK as a whole, the maximum contribution expected from solar photovoltaics is a capacity of 120 GW generating an annual 117.6 TWh, 17.4% of 676.8 TWh, the upper bound of expected total electricity demand.
2. Taking into account current UK generation of 13.5 TWh from operational solar photovoltaic installations (as at 31 December 2021), it is shown that the shortfall of 104.1 TWh could be provided by 66.9% (16.8 million in number) of currently unutilised buildings, in England alone, on the assumption that the roofs are utilised to the same extent (expressed as kW per roof) as those that have already been utilised.
3. Deployment of 21,269 5 MW ground-mounted community-owned installations would provide an alternative (acceptable to Dorset CPRE) to meet the shortfall. This would require, on average, 56 installations per local authority, the UK's constituent number of local authorities being 379. However, it is likely that most sites in predominantly urban areas would have to be substantially smaller, since a 5 MW site requires about 11 hectares, equivalent to 17 soccer pitches.
4. Another acceptable alternative would be for roof-mounted and ground-mounted community installations to share the shortfall, on a fifty-fifty basis for example. This would allow roof-mounted deployment to be reduced to 32.1% (8.7 million in number) of currently unutilised buildings and ground-mounted community deployment to be reduced to 28 installations per local authority.
5. Deployment of 2,127 50 MW ground-mounted privately-owned installations would be a third alternative (unacceptable to Dorset CPRE). These are likely to be predominantly located on green field sites, each requiring about 111 hectares, equivalent to 173 soccer pitches. The total area required is 236,000 hectares, equivalent to 369,000 soccer pitches.
6. Compared with the alternatives described in paras. 2-4, large (>5 MW) stand alone ground-mounted solar photovoltaic installations:

- 6.1 Give rise to higher transmission losses.
- 6.2 Take-up more of the diminishing available capacity on local and distribution networks.
- 6.3 Do not allow or are not conducive to wilding, tree growing or agricultural practices.
- 6.4 Are more damaging to Dorset's highly valued landscape, heritage and amenity assets.
- 6.5 Are less financially beneficial to local residents, businesses and communities that invest in their own installations.

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