

Llanarthne and Area Community Pylon Group

16 August 2023

FAO The Rt. Hon. Grant Shapps MP,
Secretary of State for Energy Security and Net Zero,

Dear Secretary of State

Re: New electricity lines:

We refer to the letter June 2023 sent to you by Mr Nick Winser CBE, and the accompanying report of Energy Systems Catapult, both recently published. We acknowledge the good work and some positive recommendations, including the need for a properly formulated long term, holistic, spatial plan, so that each new line proposed can be evaluated in the context of an integrated system. As a community group we welcome recognition of the need for positive public engagement to accelerate the delivery of an upgraded electricity network.

May we urgently highlight three issues:

1. Mr Winser indicates that undergrounding power lines causes more environmental damage than overhead lines. May we draw your attention to the alternative technique of cable ploughing, combined with drilling where expedient, which has more recently been used, and is now being widely used, for laying new electricity lines underground. Our understanding, is that in contrast to the large scale open trench excavation of the past, cable ploughing technology can significantly minimise impact. The process involves the cutting of a furrow, the simultaneous placement of cable, followed by immediate back-filling. For 132kv cables, double circuit, two channels are opened simultaneously by the operating machine, each 1m wide and 1m apart. Therefore, immediate ground disturbance can be limited to just 3m. The line is placed at 1.2m depth. Hedgerows can be lifted whole and then immediately placed back in situ. In areas of particular interest, including Sites of Special Scientific Interest, cable ploughing can be combined with drilling. The technology is available for drilling considerable distance if required. There are various videos and websites available on line, including You Tube, which demonstrate the techniques of cable plough/drilling and the minimised impact in consequence. It helps to watch, rather than just read the descriptor.

In contrast, placing overhead lines supported by steel pylons, can be extensively disruptive and damaging, including the construction of road structures over land required for access to the site of each pylon to facilitate delivery of materials and construction, and the excavation and construction of the platforms required to support pylons. You may also be aware that the extensive and existing overhead 11KV infrastructure, which would be within a corridor of 500m from a new overhead line, should be re-routed or placed underground, in which case further impact would be caused. In contrast, the use of cable plough appears far less impactful. In addition, whilst cable ploughing does not appear to be precluded by terrain, it also offers the possibility of utilising roadside verges and land adjacent to railway lines to further reduce impact. It is feasible for 400kv as well as the more common 132kv lines.

2. Mr Winser states that undergrounding power lines cost between 5 and 10 times more than overhead lines. This assessment could reflect data which is now outdated. The major work published by Parsons Brinckerhoff, in conjunction with the Institution of Engineering and Technology, which collected costing information from various energy companies and contractors, was published in 2012, over 10 years ago and we understand that costings for cable ploughing would not have formed part of that study. The work of obtaining comparative costings based on contemporary data, and reflective of modern technology, is urgently required.

Our understanding, after considerable inquiry and investigation, is that costs for the manufacture, delivery, and construction of overhead lines with pylons, could be broadly similar to the cost of undergrounding using cable ploughing. Indicators and information available to us, which reference the modern technology of cable ploughing, underline that there could be no real or significant differential between costings for undergrounding new cables compared to overhead lines with pylons.

3. Mr Winser has raised the possibility of lump sum payments for individual households close to new lines. The proposal is fraught with difficulties and complexity. The immediate questions include; the value of payments, the differential between the payments awarded and actual devaluation of properties, what price is placed on loss of amenity, the criteria for inclusion within or exclusion from the scheme, such as the nature and extent of proximity or impact, the potential division of communities, the delay and cost of determination of disputes and the likelihood that farmers/land owners adversely affected by the proposals will not be bought off, especially by token payments, and will obstruct and prevent entry onto land resulting in wide scale civil disobedience. The focus is how to accelerate the deployment of strategic electricity infrastructure. Cash for pylons is not the way. It would amount to a strategic mistake if adopted as policy. If net zero is to be achieved in a timely fashion, community engagement and community consensus is vital. Mr Winser correctly identifies that communities will be confronted with infrastructure proposals that will bring detriment to their lives. The best and most effective way to address this, is not to try and compensate significant detriment, especially as it is likely to be under compensated, but to minimise or remove the detriment altogether, by placing new lines underground, using the modern technology which is available to minimise impact. To the credit of the Welsh Government, it has emphasised that the preferred position of Welsh Government is that all new electricity lines should be placed underground. The path to managing and mitigating community objection would involve proceeding with sensitivity and balance by placing new lines underground using cable ploughing.

One general point. Too often efforts are made to dismiss valid and considered concerns by raising the accusation of “nimbyism,” rather than recognising the need to engage constructively and reliably. The delivery of appropriate infrastructure to deliver clean green energy and consideration of how best to achieve this is too important to be side-tracked or diverted in this way. Neither should this issue be a matter for party politics. This is an issue of national importance. It is imperative to recognise that issues which initiate within a particular community or region can have a national implication and importance. The wellbeing of future generations is at stake. Inappropriate

disfigurement of landscapes, countryside, towns and cities, which can be properly and cost-effectively avoided, would be inexcusable, and is not acceptable in all of our back yards. We owe it to all of our citizens, and to future generations, to deliver the new infrastructure which is needed, for an effective transition to a carbon neutral society, with balance and sensitivity, and by way of careful consideration of accurate data.

May we urge you, to use the resources at your disposal, to immediately investigate and examine, the modern technology available for sensitive and less impactful energy infrastructure.

In addition, may we urge you to discover and confirm up to date comparative costs, by exploring not only the engineering and construction/set up costs, but also the costs over the lifetime of a project, including the maintenance costs and energy loss relating to overhead lines and pylons exposed to the elements, which are likely to be more when compared with encased and protected cables.

It is also important to examine the comparative carbon footprints between underground and overhead lines, which may be considerably less for undergrounding using modern technology, and the best means of avoiding adverse environmental impact.

It would be beneficial to evaluate the various projects, recent and ongoing, here in the UK, and also elsewhere, including Germany, the Netherlands, and Denmark, where substantial undergrounding by cable ploughing is the approved method and which must be financially viable. Perhaps, a cross party study group, including suitable experts and academics, could be a way of taking this forward with the speed and efficiency required, and we would urge you to facilitate this.

We would also urge that immediate action is taken, building on the work of Mr Winser, and the recent publication by Welsh Government (Future Energy Grids for Wales), both linked by the participation of Energy Catapult Systems, to ensure co-operation between all relevant parties to deliver the planned holistic network which is urgently required.

This letter is provided as an open letter, for the purpose of sharing the information and suggestions within, in the hope that this may afford a valuable contribution towards the earliest delivery of the appropriate infrastructure required to satisfy community and national demand.

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