

## CONSULTATION ON THE PROPOSED CHANGES TO THE TREATMENT OF ENERGY STORAGE UNDER THE PLANNING SYSTEM

Response By The National Infrastructure Planning Association

25 March 2019

### Background

1. This is a response to the consultation launched on 14 January 2019 by the Department for Business, Energy and Industrial Strategy ('BEIS') on proposed changes to the treatment of energy storage under the planning system.
2. The National Infrastructure Planning Association ('NIPA') is an organisation of over 500 members created to bring together all those involved in the planning and authorisation of Nationally Significant Infrastructure Projects (NSIPs) in the UK and to promote best practice. NIPA's members are drawn from a wide variety of organisations including project promoters, local authorities, lawyers, environmental and engineering consultants, planning consultants and surveyors.
3. NIPA formed a Working Group comprising a cross-section of its members to consider BEIS consultation document and formulate a response. The Working Group met on Monday 11 March 2019 to discuss the consultation and the key points members wished to convey to BEIS. Those attending the workshop provided their written comments, which have been summarised in this response. We understand that our members may also be writing to BEIS directly.

**Consultation question (a): The analytical assessment in Annex A that supports this consultation explores the costs and benefits of the preferred policy option. Do you agree with the analytical assessment and the assumptions that underpin it? Please provide evidence and analysis to support your answer where appropriate.**

4. We generally agreed with the analytical assessment at Annex A, and agreed that storage should correctly be treated as a subset of generation. We understood BEIS' objective to retain consistency across generation assets. However, we also identified a number of issues with the assessment and question the depth of industry testing of an appropriate scale and therefore robustness of the economic assumptions that underpin it.

### Market distortion

5. We disagree with the assessment that the 50MW capacity threshold which triggers the need for a proposal to be brought into the NSIP regime does not distort the market. NIPA believes that the threshold is distorting the market, and that the distortive effects are likely to increase as storage technology advances. The threshold risks adversely affecting the energy market in the UK in the future. Although storage is currently a relatively small

class of generation, it is expected to grow significantly, as noted in the government's Clean Growth Strategy. The planning rules should be set with the expectation of growth and technological innovation in mind, and should incentivise energy storage projects.

6. We question the relevance of the finding in the analytical assessment that 'only around 15% of prospective storage projects that bid into the latest Capacity Market T-4 auction cluster around the 50 MW threshold, and most are sized well below this level [page 16].' The circumstances of that auction are relevant to the size of candidate energy storage projects submitted. Size would have been driven by a number of factors, including cost and anticipated price. The projects submitted to the auction reflect the promotor/sponsor's expected outcome of it, not their general desire to promote a particular size of energy storage project.
7. More recent energy storage proposals have been designed with capacity just below the 50MW threshold. Of 103 proposed energy storage projects (excluding pumped storage) over 30MW in England, Scotland and Wales, 69 are rated at 49-50MW, for example:
  - Roosecote - Centrica (49MW);
  - Pelham – Statera Energy (49.9MW);
  - Nursling – Pivot Power (to be completed July 2019) (49.9MW); and
  - West Burton B – EDF (49MW).

Those energy storage projects over 50MW form part of larger projects:

- Drax Repower
  - Cleve Hill Solar Park
  - CARES' PCI Compressed Air Renewable Energy Storage Stage 2
8. NIPA believes that this indicates that very recent projects are not going above the 49.9MW threshold because they do not want to enter the NSIP regime and incur the costs and longer timescale of doing so. This is supported by the experience of Welsh Government, which has seen an unprecedented increase in energy storage project proposals over 50MW in the last 6 months, as promoters anticipate the regulatory change in Wales this Spring, i.e. projects below 350MW falling out side the NSIP regime and to Welsh Ministers to determine. The absence of any large scale standalone energy storage projects deployed to date in England indicates that the 50 MW threshold is a disincentive for developers to bring forward larger scale (in particular standalone) storage schemes. If the planning regime had no impact on storage project size, we would expect to see some projects at 60MW, 70MW or 80MW capacity. The data shows that there are no current projects between 50MW and 200MW.
  9. NIPA notes that the 50MW threshold dates back several decades, and notably it was felt appropriate to change it to 100MW for offshore wind in the Planning Act 2008 ('PA 2008') and as already referred to 350MW in Wales. Whilst 50MW can be appropriate for fossil fuel plants as it corresponds with the relevant EIA schedule 2 threshold (of 0.5ha site area – approximately the minimum area needed for a 50MW fossil fuel plant), the same assumptions that underpin this threshold do not apply for energy storage.
  10. NIPA questions the assertion on page 24 of the consultation that the chosen Option 5 avoids conferring 'a potentially unfair advantage on storage relative to other forms of generation'. The reality is that the thresholds set in the PA 2008 for renewable/clean energy generation projects are an area that would benefit from review in the light of technological change and a maturing and changing energy market, taking a more purposive approach to determining whether such a project is of national significance. For example, why should a solar project of 51MW be of national significance, but the same project at 49MW not be? In planning terms, the capacity of a renewable/clean energy project is less relevant, rather it is the physical scale and environmental effects of such

a project that are relevant. The thresholds also ignore the potential for “repowering” by deployment of technological improvement. Taking the example of a solar project again, if the capacity of an existing 49.9MW project can be increased by updating the technology installed, without materially changing its physical appearance, dimensions or environmental effects, why should it be treated as an NSIP and incur the costs and significant timescale of engaging in that regime? In reality, the promoter of such a project wouldn’t do so, and so the opportunity to quickly deploy increased renewable generation to meet the national need, is lost. The NSIP thresholds for all energy projects would benefit from a wholesale review, but in the meantime energy storage projects (particularly benign forms of storage like lithium ion batteries) should not be held back and made to adhere to the same threshold as fossil fuel generating stations.

### Planning timescales and costs

11. We question the statement that ‘based on the evidence gathered to date, planning costs make up a small proportion of the upfront costs of a storage project (around 1-2%) regardless of whether it requires consent from the Secretary of State or the Local Planning Authority [page 25]’. The experience of our members, and the industry, is that the greater costs and timeframes associated with DCO applications act as a disincentive for developers to consider undertaking projects larger than 50MW. Taking the planning applications fees alone, DCO examinations are invariably six months in length regardless of complexity, so the minimum fee payable to the Planning Inspectorate is around £260,000 (there are other fees too, but this serves the example). This compares with a typical application fee under the local regime of around £4,620 for a 1ha site area project (as would be the case for a 50-100MWe approx. battery storage plant). Typically the total costs associated with the local planning regime can be measured in the low tens of thousand of pounds, whereas those associated with NSIP regime can be several millions of pounds. Given that energy storage projects do not currently have bankable revenue streams, most are promoted speculatively. Therefore, no prudent developer would incur millions of pounds to achieve consent in those circumstances.
12. The industry commentator, Solar Media, recently undertook market research and commented that “Due to planning requirements in the UK, stand-alone battery projects are unlikely to go above 50MW as they would be classed a Nationally Significant Infrastructure Project (NSIP) and would find it more difficult or too expensive to secure planning. The larger battery applications we are now seeing in the UK are being submitted as part of large-scale generation projects which already have NSIP status. The inclusion of battery storage in these allows the generation sites to provide balancing services such as frequency response, allowing generation that would normally be considered baseload to access revenues that are available for flexible technologies”.
13. The facts relating to the Centrica Rosecote 49MWe battery project, which proceeded outside of the NSIP regime, provides a good example of associated planning timescales:
  - The project comprised a small warehouse type building with comparable heating/cooling requirements on a former gas power station site.
  - No EIA was required. Various supporting environmental studies were prepared. The built area was about 0.5ha. The total site area including access extended to 0.87ha.
  - The project was consented in 6 months from March-August 2016 (including around 16 weeks’ determination under local planning processes).
  - Had it been over 50MWe capacity the project would have required a DCO (notwithstanding the uncertainty in the absence of formal changes to the EA 1989) taking around 28 months (11-12 months’ pre application, including statutory pre application consultation, and 16-17 months’ examination and determination), i.e. roughly 4½ times longer than achieved under the local planning regime.
  - As it was, the project obtained planning permission in August 2016 (10 May to 16 Aug

determination), prequalified and was successful in the Capacity Mechanism auction in late 2016, was built out, and is now operating. Under the NSIP regime the project wouldn't have achieved consent until Summer 2018.

- The project is on the Barrow in Furness application register; reference number B12/2016/0372.

14. Annex A states 'this analysis has not factored in the possibility that the existing system may be incentivising project developers to submit separate rather than joint planning applications to avoid triggering the NSIP threshold' [page 25]. That is an accurate observation and an important omission. Our members are aware of projects that have identified sites capable of accommodating energy storage projects in excess of 50MW and have secured grid connections for greater than that too. However, the timescales and costs associated with the NSIP regime would render those projects unviable and so they have been phased so as to fall within the local planning regime. Our members are aware of cases where 100MW projects have been split into two 50MW projects for planning purposes with the agreement of the local planning authority.

15. There appears to be relevant case study in Wiltshire. Four planning applications, each for 49.9MW of energy storage, have been submitted in respect of four sites that are in close proximity. There may of course be additional factors that influenced the consenting strategy for these projects, but it does appear that a sensible approach has been taken to deliver circa 200MW of energy storage quickly, without the delay and costs associated with the NSIP regime. The application reference numbers are set out below and by using the map function on Wiltshire Council's planning portal one can see how close each of the projects is to the others.

- Site 1: 17/05526/FUL (and 18/04654/VAR)
- Site 2: 18/04718/FUL
- Site 3: 17/03936/FUL
- Site 4: 17/03941/FUL

#### Advancing technologies

16. The consultation states that "the Government wants to ensure that there is a level playing field for all storage technologies" [page 8]; however, the analytical assessment does not go into any detail on rapidly advancing technologies in the energy storage sector. BEIS should consider whether more evidence would be needed on newer technologies (rather than just on lithium storage and pumped hydro) to inform any decisions to amend PA 2008 in order to fully consider the different costs and benefits associated with different forms of storage.

**Consultation question (b): Do you agree with our conclusion that it would be disproportionate to amend the threshold for triggering the NSIP regime? If not please provide evidence to support your argument, including to support what an alternative threshold should be in terms of level and/or unit.**

17. Our members do not agree with the conclusion that it would be disproportionate to amend the threshold for triggering the NSIP regime. Assuming the metric remains the same (see comments below), our members feel strongly that it would be appropriate to increase the threshold to at least 100MW. There is precedent for this in PA 2008 in relation to offshore wind. Furthermore, the threshold of 100MW approximates to the current largest battery project in the world – Tesla's Hornsdale Power Reserve battery in Southern Australia. This provides 129MWh storage capacity and occupies 1ha of land. Considering this project allows a ready understanding of the modest scale and impacts, and level of benefits, of projects of this size.

18. Our members also do not consider storage projects of 50MW to be nationally significant. However, once batteries get to 100MW they may start to take on national significance as they will be able to connect to the high voltage Transmission System. Furthermore, as technology advances, the impact of storage will reduce, e.g. storage can be double stacked or added into existing containers, and 49.4MW batteries are currently being stored on sites of less than 0.5ha size. A 100MW battery can occupy less than 1ha and would not have a substantial impact.
19. Whilst many developers have commented that they simply wouldn't speculatively promote large scale energy storage under the NSIP regime owing to the associated costs and timescales, some have commented that if there was a known offtaker (purchaser) of the energy storage, then one would need to promote an energy storage project of at least 200MW to make the numbers work. In other words, to make that project viable under the NSIP regime, it would need to be at least 200MW. Not all our members share that view, but this does lend support to the threshold being set higher than 100MW. It should also be noted that if the threshold was raised significantly, say, to 200MW or mirroring the Welsh threshold of 350MW, in respect of a smaller project it would remain open to a promoter to apply to the Secretary of State under section 35 PA 2008 for a direction that the project be treated as an NSIP.
20. As indicated in the response to question (a) above, the suggestion in the consultation that the current threshold of 50 MW does "not in itself distort storage developers' sizing and investment decisions to a significant degree" [page 6] appears to be based on anecdotal and inaccurate evidence BEIS obtained during 2018. We do not mean to criticize that research, but wonder whether those who responded to BEIS had experience of consenting projects under both regimes. Our members who have find it hard to rationalise that finding. The fact that to date, no standalone storage projects above 50MW have come forward, and that on the contrary a number have been consented under the local planning regime at 49.9 MW, i.e. the highest capacity possible under that regime, is not a coincidence and suggests that the market is being distorted.
21. We believe that the 50MW threshold for standalone storage is considered to be too low if the intention of the proposed amendments to PA 2008 is to support the deployment of more large scale storage schemes. The planning regime has an important role to play in encouraging the growth of the market. Storage is a critical contributor to decarbonisation of the energy system, and there could be a significant reduction in benefits flowing to the consumer, as well as a relative slow-down in progression towards climate change targets if storage facilities are not enabled to come forwards with both pace and scale. The threshold means that developing storage is not yet as commercially attractive as it should be. NIPA would urge BEIS to establish planning policy in relation to where the class of infrastructure is likely to end up, rather than in relation to where it has come from. This class of infrastructure – according to National Grid, Baringa Consulting, Aurora Energy Research and DNV– is set to grow.
22. The changing planning regime in Wales (referred to above) demonstrates how altering the threshold could have an immediate positive impact on the market. On 1 April 2019, section 39 of the Wales Act 2017 will amend the PA 2008 by removing Welsh onshore non-wind generating stations, and generating stations in Welsh waters, with a capacity of up to 350 MW from the NSIP regime. Representatives of Welsh Government who attended BEIS consultation workshop on 26 February 2019 said that in the last six months (and in anticipation of the change in law) a number of promoters in Wales were now seeking pre-application advice for large scale storage development well above 50 MW, whereas there had been none in the past.
23. Furthermore, the potential unintended consequence of not introducing a significant uplift in the threshold for standalone storage projects could be that more storage projects are promoted outside of England, for example in Wales, Ireland or continental Europe. Energy

generation, including storage, is a truly global market, with investment decisions being influenced by regulatory certainty and cost efficiency. Those investors are not loyal to any particular jurisdiction. If the time and costs associated with obtaining consent in England are high, then investors will choose to develop projects in more stable and cheaper jurisdictions. Currently, the largest proposed storage facility in Europe is in Northern Ireland. The Kilroot Advancion Energy Storage Array is a 100 MW energy storage array adjacent to an existing power station. Under the current regime, it is unlikely that we will see standalone energy storage of that scale in England, but after April 2019, we may see such a project come forward in Wales.

24. BEIS' preferred option does not propose to change the metric from MW to MWh and therefore arguably does not recognise the distinctive characteristics of storage. A 49.9MW storage facility could actually discharge more electricity than 49.9MWh. As the MW metric does not accurately reflect how storage works, MWh would be a more appropriate metric. For example, a 60MW, 60MWh storage facility would fall under the NSIP regime, whereas a 30MW, 60MWh storage facility would fall under the local planning regime even though the planning impact of the two developments would be the same. Therefore, if the threshold is intended to reflect the contribution made to the national need for energy, then MWh would be a more appropriate metric to adopt for energy storage.
25. In view of the above, our members do not think it would be disproportionate to change the NSIP threshold for energy storage or to change the unit of measure to MWh. Changing both metrics would be sensible and could be reasonably expected to stimulate energy storage proposals as seen in Wales. In conclusion in respect of this question, our members consider the threshold should be raised to at least 100MWh, or if retaining MWe, then 200MWe (on the basis of the points set out above, noting that projects of this scale tend to be sized to give at least 30 minutes' discharge at their maximum rate, hence a 200MWe project would equate to at least 100MWh storage capacity).

**Consultation question (c): Do you agree with our approach to amending the Planning Act 2008 to allow a more appropriate approach to the NSIP threshold for composite projects involving electricity storage and another form of onshore non-wind generation? Please provide evidence and analysis to support your answer where appropriate.**

26. We welcomed the idea of a more appropriate approach to composite projects that recognises their utility and efficiency. Greater use of existing generating locations, and grid connections, should be encouraged for all technologies, including energy storage. As an integration technology, the deployment of storage alongside existing generation assets should always increase the benefits of that asset to consumers as well as to the asset owner. We can see that under the proposed approach an energy storage facility could be installed alongside an existing generating station without effectively becoming an extension to that generating station and falling into the NSIP regime (provided the relevant thresholds are not exceeded). That should make it easier to consent the energy storage facility in those circumstances, which is to be encouraged.
27. However, whilst the proposed amendments would provide some clarity over the treatment of storage under the NSIP regime, there is an illogical consequence. For example:
- (a) a composite project comprising, say, 51 MW of non-storage electricity generation and 5 MW of storage would be an NSIP, but a composite project comprising 49.9 MW of non-storage electricity generation and 49.9 MW of storage would not;
  - (b) a composite project comprising 49.9 MW of non-storage electricity generation and 49.9 MW of storage would not be an NSIP, but a composite project comprising 60 MW of non-storage electricity generation and 39.8 MW of storage would.

28. If a project is classified as a composite project, by way of planning judgement which is a “matter of fact and degree” as stated at page 12 the consultation document, then it “should be treated as forming part of a single generating station” [page 12]. The project should therefore be looked at as a whole when determining whether it is an NSIP or not, rather than looking at its component outputs individually. Perhaps a distinction could be made between planning applications for new composite projects, and those for energy storage facilities built next to, and intended to be integrated with, existing generating stations. Guidance could make it clear that in the later scenario the new energy storage facility should not constitute an extension to the original project and so should not constitute an NSIP (provided the storage facility doesn’t exceed the relevant threshold).

**Consultation question (d): Do you agree that the current carve out from the NSIP regime for onshore wind generating stations is sufficiently clear to cover composite projects involving storage and onshore wind? Please provide reasons to support your answer including, where relevant, details of any particular projects which are expected to come forward in future.**

29. We agree that the proposed approach was clear. However, the reasoning behind the proposal to carve out composite wind and large scale storage projects from the NSIP regime is not clear. The consultation document states that “in line with wider Government policy, it remains appropriate for this type of project to continue to be consented under the TCPA regime” [page 20] but does not go into any detail and provides no further justification for the carve out.

30. We note that solar and storage form a strong alliance for providing valuable energy to the GB electricity system. The low variability of solar generation on a half-hour-to-half-hour tenor allows for reliable and deliberate storage operation, shifting potentially excess energy to periods where it is needed more. We therefore consider that a cost-benefit analysis should be undertaken by BEIS to investigate the potential benefits to developers and consumers of carving out co-located solar and storage under certain policy conditions, from the NSIP regime.

**Consultation question (e): Are there any other areas of the planning system that you consider treat storage inappropriately relative to other forms of generation and therefore impact on its deployment? Please provide evidence to support your answer where appropriate.**

31. There are a number of areas that we identified in the planning system where energy storage may be treated inappropriately relative to other forms of generation that may have an impact on its deployment.

#### NPS for storage

32. Most NSIP projects are supported by a National Policy Statement (‘NPS’) document which sets out the statement of need produced by the government for that type of project. These statements have the effect of clarifying and simplifying the DCO submission, examination and determination process, therefore adding clarity and a level of certainty for developers. There is currently no NPS for energy storage. Therefore, if energy storage is required to be considered under the NSIP regime above the 50MW, an NPS for energy storage should be drafted to support the consenting process for this important technology. Instead, the projects are considered using local planning policy, which increases the level of risk for developers and therefore makes the projects less attractive.

33. More generally our members note that the existing suite of energy related NPS documents were published in June 2011 and the evidence base underpinning those policies is a few years older. EN-3 (relating to renewable energy) does not cover solar technology because at the time of its adoption it was not expected that solar generating stations over 50MW would come forward. That position has changed, with a number of large

scale solar projects at the pre-planning stage, and the 350MW Cleve Hill Solar Park about to start the examination of its DCO application. It has been necessary to submit a Statement of Need for that application because of the limitations of EN-3.

34. Therefore, it is necessary for BEIS to update the energy related NPS documents and extend EN-3 to cover a broader suite of technologies, including solar and energy storage.

#### 'Own-use' v export to grid

35. The consultation paper considers the addition of energy storage to premises where the primary function is not generation, and concludes that the applicable planning regime may differ, depending on whether the "majority of electricity is used on the premises" or not. It is considered potentially challenging to introduce "use" restrictions / classifications in the storage planning process.
36. From an energy market perspective, there is little differentiation between the generation of additional energy, and the reduction in demand for energy at the same time. Flexibility is important, and technology is finding new ways of allowing non-traditional energy users (or generators) to contribute to the energy market; for example: aggregators; Demand Side Response; Private Wire; or consumer "Time of Use" Tariffs. Technical interoperability of non-generation and generation assets may be either physical or virtual.
37. Crucially the "use" of energy, or the way an energy asset will participate in the market, is no longer fixed through all time. "Use" is increasingly dependent on how the market, related benefits and other technical and technological factors change. Restricting, within the planning approval process, how an energy asset may be used, curtails the benefit that asset may potentially bring to the energy system; reduces the commercial value of the asset, limiting appetite to build out in the first place; and introduces complexity due to the future requirement to monitor and enforce planning conditions.

#### Uncertainty of use class

38. Where energy storage projects are to be determined under the local planning regime (i.e. under the 50 MW threshold), there is uncertainty and inconsistency as to the correct use class. Some local planning authorities have decided that energy storage is sui generis use, whilst others have determined it is B2 or B8. In addition to the delays and uncertainty this causes at the planning stage, it can give rise to issues when projects are financed, with lenders and funders being concerned as to whether or not the correct consent has been obtained.
39. Therefore, our members consider that guidance should be published confirming how energy storage schemes should be treated under the local planning regime, clearly stating the Secretary of State's view on the correct use class, and distinguishing between where the primary function is generation and those proposals for installing energy storage within existing premises, where the primary function is not generation.

### **Next Steps**

40. We understand that BEIS will publish a response to this consultation in due course and, subject to any decisions taken in respect of that, may wish to consult again on this topic. If so, NIPA would wish to participate in that further consultation please ([info@nipa-uk.org](mailto:info@nipa-uk.org)). NIPA appreciates the opportunity to engage in this consultation and hopes that its comments are helpful to BEIS.

### **National Infrastructure Planning Association**