Together Against Sizewell C

WRITTEN REPRESENTATION: CARBON FOOTPRINT OF SIZEWELL C (SZC) (IP no. 20026424)

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1) TASC note that the ExA has asked the Applicant for further details relating to the Applicant's carbon footprint calculations. Due to TASC's concerns about the lack of transparency and detail supporting the Applicant's carbon calculations, on 13th April 2021 TASC wrote to the Applicant requesting clarification of certain matters. The Applicant did not provide any answers and suggested we refer the questions to the Planning Inspectorate, so we have cut and pasted our initial questions here and trust these queries will be answered by the Applicant:

"Dear Sizewell C Team,

To assist our review of the Sizewell C DCO application we should be pleased if you could provide answers to the following questions concerning the carbon footprint (CF) from construction and operation:-

Regarding Bk6.3 ES Vol 2 Chapter 26 Climate Change [APP-342], table 26.6 includes various statements which we would be grateful if you could clarify (there are no paragraph numbers to reference):-

1. CF from materials transportation assumes none from further away than London/South East. Is this still the case? If not, please advise the likely distances involved in delivery of materials.
2. Is the CF of nuclear concrete higher or lower than ordinary concrete? (there is currently no differentiation in the CF calculations)
3. The SZB facilities relocation assumes 90% of waste will be recycled - please provide details of where the information supporting this statement can be found in the DCO documentation.
4. The Table mentions that the Combined Heat and Power Plant (to supply the accommodation block) is to be retained. Where is this to be located once construction is complete?
5. The Table says there are "241 fuel assemblies made up from 265 fuel rods and 24 guide thimbles" (a) is this statement correct? (b) What is the CF of a fuel assembly?
6. The table says the Beach Landing Facility deliveries have been scoped out of the CF assessment. Please confirm that the revised carbon debt figure mentioned in the DCO changes documentation submitted in January 2021 now includes the carbon debt of the increased number of sea deliveries.
7. "a proportion of the associated development sites will be returned to agricultural land use the land to be used for the main development site is considered to be of low value with regard to carbon sink." (a) What assessment has been made to back up this statement? (b) What proportion [of the land involved], if any, has a high value carbon sink

Other matters

8. Para 26.4.44 says Embedded carbon as a result of the fabrication and provision of the uranium fuel has been calculated based on 6,800 fuel cells used over a proposed operational period of 60 years. The emissions presented account for the extraction, production and transportation of the fuel to the Sizewell C Project site. Please confirm that 'extraction' covers mining and associated transport activities and 'production' includes all intermediate stages from milling, enrichment etc to fuel fabrication and associated transport activities.
9. Para 26.4.5 lists operations for which GHG emissions are taken into account. Can you please advise whether these take into account: (a) embedded carbon in trees and other vegetation that will be removed, and, (b) GHG released from soil disturbance such as with the borrow pits and construction of the SSSI crossing.
10. TASC note para 26.4.39 claims an overall carbon sink net gain of 12,150 tCO2e from the SZC project. Please supply details of the methodology and the relevant calculations supporting this claim.
11. With regard to the onsite storage of spent fuel, TASC understand that the construction of the Dry Fuel store (DFS) is included in NNB's calculation of the carbon debt, but we wish to clarify the following: (a) Please confirm the number of Dry Fuel cannisters that will be required to store all of SZC's fuel cells, (b) What is the CF of a cannister? (c) Has the CF of all of the cannisters required for the DFS been included in the GHG emissions referred to in para 26.4.45 and table 26.10? (d) Do the GHG emission figures include the construction of the Spent Fuel Inspection and Repackaging Facility (SFIRF) that SZC needs? if not, what is the CF of the SFIRF? (e) Where is the SFIRF to be situated? (f) What are the dimensions of the SFIRF?
12. TASC note that the carbon debt from construction is advised in the proposed changes DCO documents as 6.2m tonnes and in this respect: (a) Please provide an update of Table 26.9 (6.3 Vol 2 Chapter 26 Climate Change) to show an updated breakdown (b) Please provide an analysis of the 6.2m tonnes CO2e between the main development site and each of the associated development sites (c) As the major components of the carbon debt from materials relate to concrete and steel, please provide total tonnages for both of these materials, analysed between the main development site and each of the associated developments, with a note of how much of the concrete will be nuclear concrete.
13. Para 26.4.53 says *"As set out above, nuclear power stations produce minimal GHG emissions while operating. Over the 60 year operational life of the Sizewell C Project, lifecycle GHG emissions are estimated to equate to 4.5g CO2e/kWh."* Please provide a copy of your calculations of this figure, clearly showing (a) your projection of the electricity estimated to be produced by SZC over the 60-year period of operation taking into account planned and unplanned outages (b) the load factors used in your calculations"

2) TASC have reviewed PINS recommendation to the Secretary of State in respect of the Wylfa Newydd nuclear power station in which it states in Volume 2 Chapter 12, paragraph 12.2.4 *"In order to capture and report anticipated GHG emissions the Applicant produced a Carbon and Energy Report [APP-423] The findings of the report indicated a significant offset of the CO2e impact of the construction and GHG consuming operational phases when compared to the net power generated by the Power Station. In simple terms, the construction and operational phases of the proposed development were estimated to result in a total GHG emissions impact of 7.4 MtCO2e, with decommissioning contributing a further 2.7 MtCO2e."*

3) The above document, at paragraph 12.2.3, shows the breakdown of the 7.4 MtCO2e to be 3.5 MtCO2e from construction and 3.9 MTCO2e in respect of operation. The Applicant for SZC has advised that the construction carbon debt is 6.2MTCO2e and, without any assessment to the contrary, TASC assume there is a substantial provision that should be made in respect of decommissioning. If that figure is similar to that of Wylfa Newydd, that

would take the carbon debt to 8.9 MTCO2e excluding contributions from long-term waste management and operations. **TASC find it hard to believe that SZC will ever repay its carbon debt**, particularly considering the Climate Change Committee's recommendation that the electricity grid is largely decarbonised by 2035 i.e. around the earliest time that SZC would become operational if allowed to proceed.