

RESPONSE TO STATUTORY CONSULTATION ON THE SECRETARY OF STATE'S DRAFT REASONS FOR DESIGNATION OF NNB GENERATION COMPANY (SZC) LIMITED



Annex 1: SZC's comments on the Secretary of State's decision to designate and the draft reasons for the designation

Paragraph number / section of the Draft of the Secretary of State's reasons for designation	SZC's comments
Paragraph 4	SZC proposes this paragraph is updated to reflect the actual submission date of its full application for designation on 27 April 2022
Paragraph 15	<p>SZC proposes the following amendments to reflect the details in the company manual referenced in its application for designation:</p> <p>The project is being brought forward by NNBG SZC. The company was incorporated on the 28th October 2014 as a private limited company-. The purpose of the company is to have responsibility for all activity related to the Sizewell C project. The business of the company is to undertake the Sizewell C project, including the generation and sale of electricity. <u>NNBG SZC's business is to own, design, develop, finance, construct, test, commission, operate, maintain and in due course decommission a new build nuclear power plant consisting of two EPR units at Sizewell in Suffolk.</u></p>
Paragraph 16	<p>SZC proposes the following amendments:</p> <p>The company is wholly owned by NNB Holding Company (SZC) Limited, which in turn has two direct shareholders: EDF <u>Energy Holdings (UK) Limited</u> owns ██████████%, and General Nuclear International Limited (GNI) hold the remaining ██████████%. EDF SA owns <u>(via its subsidiaries EDF International SAS and EDF Energy (UK) Ltd)</u> 100% of the share capital in EDF <u>Energy Holdings (UK) Limited</u>. GNI is owned by China Nuclear Power EPC Limited.</p>
Paragraph 17	<p>SZC proposes the following amendments:</p> <p>In January 2022, the Secretary of State purchased an option <u>entered into an option agreement which gave the Government certain rights</u> over EDF's the shares in <u>the project</u> NNBG SZC and land on the Sizewell C site for the sum of £100m (the "Option Fee"). Should the Project go ahead, the Secretary of State has an option to convert the Option Fee, together with a financing return, into an equity stake in the nuclear company.</p>
Paragraph 18	<p>SZC proposes the following amendments:</p> <p>The Option Fee has been invested by EDF <u>Energy Holdings UK Limited</u> <u>has committed to invest the Option Fee</u> in NNBG SZC to <u>support the continued development of the</u> further mature the Sizewell C project. If the project does not reach a Final Investment Decision <u>Should the project not go ahead,</u> the Secretary of State may either exercise the land or share option, or extend the longstop date with EDF's agreement. As part of the decision to take an option over the shares and land, and to support commercial negotiations beyond this</p>

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	point, the Secretary of State has been carrying out extensive due diligence on the Sizewell C Project, including with reference its levels of maturity.
Paragraph 25	<p>SZC proposes the following amendment:</p> <p>NNBG SZC submitted its DCO application in respect of the Sizewell C Project in May 2020. Since this point, the project has proceeded through the majority <u>all</u> of the stages in the DCO process, including a number of rounds of consultations with the local community, a full Environmental Impact Assessment and the submission of detailed plans for the implementation of the Project. In addition to this, the Planning Inspectorate has undertaken a six-month examination process between April and October 2021. Following this, the Planning Inspectorate passed its report and recommendation to BEIS for a decision.</p>
Paragraph 26	<p>SZC proposes the following amendments:</p> <p>The Secretary of State is aware that there could be a perception of a conflict of interest between his <u>their</u> role in determining the DCO application for the Sizewell C project and his <u>their</u> role in determining whether or not to designate the nuclear company. To avoid any perceived conflict of interest, the Secretary of State will <u>has</u> delegated <u>delegated</u> the final decision on the DCO, which must be taken by <u>is expected by</u> the 8th July 2022, to another BEIS Minister.</p>
Paragraph 33	<p>SZC proposes the following amendments:</p> <p>The Nuclear Site Licence (NSL) is the means by which the ONR grants permission to a person to undertake specific nuclear activities. To obtain a licence in respect of a new nuclear project <u>facility</u>, a company must <u>demonstrate that it has adequate arrangements to</u> meet a set of <u>36</u> standard conditions to demonstrate the safety in the design, construction, operation and decommissioning of the project <u>facility</u>.</p>
Paragraph 35	SZC proposes that this paragraph is deleted as it is now a duplicate of the information in SZC's amended paragraph 33.
Paragraph 37	<p>SZC proposes the following amendments:</p> <p>The ONR subsequently provided an update on the progress made by NNBG SZC towards obtaining an NSL in September 2021. This update described the progress made under a number of key workstreams <u>areas</u>, including compliance with relevant safety and nuclear security legislation, the development of the project company's organisation and the work to ensure the site is suitable for the project to proceed.</p>

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Paragraph 38	<p>SZC proposes the following amendment:</p> <p>The conclusion of this update was that ONR was satisfied that the progress being made would support the completion of the licensing assessment by mid-2022¹⁸ and licence grant once SZC can demonstrate security of tenure of the SZC land.</p>
Paragraph 40	<p>SZC notes that the SoS has concluded that the project is sufficiently advanced in this area to warrant designation as, in summary, “NNBG SZC submitted an application in June 2020, and the ONR has judged that the licensing assessment is on track to be completed by mid-2022”.</p> <p>SZC understands that the SoS will consult with the ONR to confirm the status of the Nuclear Site Licence application and ONR’s assessment. The SoS may consider that following that consultation, it would be beneficial to provide further details of SZC’s safety case and to provide a link to the ONR’s assessment and findings.</p>
Regulatory Design Assessment (Paragraphs 42 to 45)	<p>SZC notes that the SoS has set out that in relation to the Regulatory Design Assessment the development of the project is, in their view, sufficiently advanced.</p> <p>SZC’s view is that it would also be useful for the SoS to set out their view in relation to Regulatory Justification.</p>
Paragraph 48	<p>a. SZC proposes the following amendment to the first sentence of this paragraph:</p> <p>NNBG SZC is developing the documents necessary for the completion of the FDP and their submission to the Secretary of State.</p> <p>b. SZC notes that the list of documents in this paragraph is incomplete but does not propose any amendments to the list on the basis that is introduced by the wording “[t]his includes”. The SoS may however consider including a description of the Standstill Agreement in line with the other documents listed.</p>
Paragraph 54	<p>SZC proposes the following amendments:</p> <p>The Secretary of State is minded to make it a condition of designation that NNBG SZC obtains, as a minimum, conditional approval of its FDP for the Sizewell C project under the Energy Act 2008, prior to the Secretary of State issuing any the direction to the revenue collection counterparty to offer to enter into a revenue collection contract with NNBG SZC, which would itself be subject to the decision of the Secretary of State at that time. The decision of whether to approve the FDP will be an entirely separate decision from the designation,</p>

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	<p>based on the processes and evidence involved in the FDP application. In making the decision, the Secretary of State will be able to take into account a range of advice, including the advice of the Nuclear Liabilities Financing Assurance Board. The purpose of this Board, as highlighted above, is to provide impartial scrutiny and advice on the suitability of the FDP for the Sizewell C Project.</p>
Paragraph 56	<p>SZC proposes the following amendments:</p> <p>Alongside nuclear site licence and other specific nuclear regulatory permissions to start nuclear safety related activity on the site, there are a range of operational environmental and construction permits. The construction permits are needed prior to undertaking specific constructionadditional regulatory environmental permits which are required to enable construction to begin. These permits have a range of goals linked to protection of the habitat, the safe construction and safe operation of the plant, as well as the disposal of waste.</p>
Paragraph 59	<p>SZC proposes the following amendments to the beginning of this paragraph:</p> <p>A number of additionalThe operational environmental permits have already been applied for by NNBG SZC. To support progress on these applications, the EA has been engaging with NNBG SZC. This has taken place through a series of Joint Interventions with ONR to gain the required evidence that NNBG SZC is a competent organisation, able to receive and comply with the permits should they be granted. The Environment Agency has stated that it is 'minded to grant' the operational permits pending the outcome of its public engagement which started on 4th July 2022. These operational permits are:The key permits currently awaiting a decision are:</p>
Paragraph 60	<p>SZC proposes the following amendments:</p> <p>Approximately ninety permits are expected to be required during the construction phase of the project and will need to be applied for in line with the wider construction schedule. NNBG SZC have presented a credible plan for embedding theapplying for and obtaining of these permits within the wider construction schedule. They have also provided evidence that eight construction permits have been applied for, in addition to one already granted.</p>
Paragraph 61	<p>SZC proposes the following amendment:</p> <p>Construction of the Sizewell C Project would not commence until after a DCO had been granted and after the main-required environmental permits had been received.</p>

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Paragraph 63	<p>SZC notes that the SoS <i>“is minded to make it a condition of designation that NNBG SZC obtains the key environmental permits named in paragraph 61, as well as any permits necessary to begin construction, prior to the Secretary of State issuing any direction to the revenue collection counterparty.”</i> Paragraph 61 however does not name the key environmental permits.</p> <p>SZC requests the SoS to provide clarity on this by listing the key environmental permits and the permits necessary to begin construction that they require SZC to obtain prior to issuing any direction to the revenue collection counterparty. SZC proposes that the list of permits is as follows:</p> <ul style="list-style-type: none"> • Development Consent Order • Nuclear Site Licence • Water Discharge Activity Permit • Radioactive Substances Regulation Permit • Combustion Activity Permit
Paragraph 67	<p>A Supply Chain Strategy document was not submitted to BEIS as part of the designation application [REDACTED]</p> <p>[REDACTED] SZC therefore requests that both references to a Supply Chain Strategy in this paragraph are removed.</p>
Paragraph 80	<p>SZC proposes the following amendments:</p> <p>NNBG SZC has taken steps in creating a capable Delivery Team, the Project Delivery Organisation (PDO), taking into account feedback from officials at BEIS, HMT and the IPA. The PDO is the delivery arm of the Sizewell C project company and will be accountable for the full delivery of the project between from design and to handover to the Operations Team.</p>
Paragraph 87	<p>SZC notes that subsequent to it receiving the draft reasons for designation this paragraph was updated to clarify which cost estimate due to be published at the end of May was taken into account by the SoS.</p> <p>SZC believes that this paragraph now reads as per the changes shown below, with amendments proposed by SZC highlighted in yellow:</p> <p>For both cost and schedule estimates, Sizewell C benefits from being a Second-Of-A-Kind project, meaning estimates are able to be based on the experience of Hinkley Point C’s development and construction. This allows for a more mature estimate than other projects at a similar stage of development. The cost and schedule estimates will further benefit from continued updates <u>until financial close</u> in light of the data emerging from the Hinkley Point C project. BEIS have seen the continued development of the estimates from regular submissions provided by NNBG SZC, over the course of the discussions which have been in train since 2021. In particular, the Secretary</p>

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	<p>of State has been provided with advice from his officials and those in HMT and the IPA, as well as independent consultants who have scrutinised the build-up of costs and schedule and provided detailed feedback. Hinkley Point C published an updated cost and schedule estimates on 19th May 2022. The relevant elements of this for the Sizewell C project have been taken into account by the Secretary of State, in relation to the Value for Money assessment included below. This includes the most recent cost update, due to be published at the end of May, which has been shared with HMG. This has been taken into account by the Secretary of State, in relation to the Value for Money assessment included below.</p>
Paragraph 95	<p>SZC proposes the following amendments:</p> <p>NNBG SZC has commenced the procurement of the main elements of the supply chain, [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] All critical equipment contracts and alliance agreements are being negotiated with a view to completing those negotiations by December 2023 2022. NNBG SZC regularly updates officials at BEIS, HMT, IPA and Ofgem as to the progress on completing the negotiations for the main contracts. The remaining equipment programme is progressing in line with the project's development schedule.</p>
Value for Money (VfM) Assessment	<p>a. SZC considers that it may be useful to set out the wider context of the current energy system in which the VfM analysis is performed and reviewed, particularly in respect of current season ahead prices ([REDACTED]), the levels of constraint payments, costs of investment in network infrastructure and the current need for energy security within the UK. It is understood that the impacts of these factors may change in the future but it would be helpful to set the scene in which the VfM analysis is completed. [REDACTED]. In addition, SZC continues to monitor its cost estimate and is working with HMG on transforming infrastructure performance to identify potential areas of optimisation within the construction scope.</p> <p>b. SZC notes that this section sets out the monetised benefits, non-monetised risks and non-monetised benefits of the project which SZC has commented on later in this response. In addition to these items, the SoS may also consider including details of SZC's commitments to inclusion and diversity in line with the Public Sector Equality Duty.</p>

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	<p>c. SZC considers that it would be useful to understand:</p> <ul style="list-style-type: none"> i. How differences in tax payments between technologies are treated in the NPV calculations: SZC’s view is that tax payments by generators clearly have a social value (because they are revenues for HMRC which can fund public spend etc). Nuclear energy projects pay higher business rates than renewable energy projects (data published by Altus Group showed that in 2019/20, Sizewell B Power Station was number 4 in the highest UK business rates payers list, with business rates of £24m)¹ and the social benefit of this and other differences in tax payments should be considered in both the NPV analysis and comparison with other generation technologies. If only costs to consumers are considered in the calculation, then this social benefit will not be captured in the analysis ii. Whether the network cost impacts of alternative pathways have been fully costed in the VfM modelling: High renewables pathways need significant investment in network infrastructure to transport power from remote locations (e.g. wind in Scotland) to demand centres. Today’s soaring constraint costs illustrate that network investment has so far lagged behind renewables deployment and there are further risks of under-delivery adding to future consumer bills as wind deployment accelerates.
Paragraph 104	<p>This paragraph states “[t]he analysis supporting these judgements is laid out below.”</p> <p>SZC asks the SoS to clarify whether the analysis laid out below is the full analysis undertaken or a summary of the key analysis undertaken.</p>
Non-monetised risks Paragraphs 118 - 123	<p>SZC’s view is that there are significant upside risks for the SZC VfM case which are not mentioned in the draft reasons for designation document (as well as the downside risks that are mentioned) which BEIS should highlight and proposes that the following items are included:</p> <ul style="list-style-type: none"> a. Risks associated with alternative technologies: CCUS has an important influence on the modelling but it is not a commercially proven technology at scale today. If CCUS costs turn out to be higher / technology performance is not as good as expected, and/or gas prices remain high, SZC’s value will be higher. In addition to techno-economic risks, there are also increased upstream emissions risks associated with importing gas for CCUS. b. Costs of other technologies: SZC understands that in the VfM calculations optimism bias is applied to SZC but not to other technologies such as renewables. SZC considers there may also be a scenario where in the future renewables cost more than

¹ [Biggest business rate payers in England and Wales revealed - Dunlop Heywood](#)

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	<p>currently assumed. For example, the costs of commercial scale floating offshore wind remain uncertain; for all technologies, the more competitive sites will tend to be used first.</p> <p>c. Resource limits: SZC considers that there may be a risk that wind and solar resources (e.g. for technical or public acceptability reasons) are not as high as assumed by BEIS in its modelling. If there are practical limits and / or limits are lower than currently assumed then the option value of other technologies increases – as a proven technology the option value of nuclear is improved.</p> <p>d. Fuel supply security: CCUS relies on gas as an input fuel. SZC considers that as well as the risk of gas costs increasing, there is also a risk in the security of the fuel supply required (for nuclear this risk is minimal).</p> <p>e. External markets’ impacts: SZC presumes that the DDM includes modelling of interconnector imports / exports and these become more important the more intermittent generation there is. SZC considers that in turn, the exposure to outcomes in external markets is greater in the scenario with more renewables (and reduced in the scenario with more nuclear).</p>
Paragraph 123	<p>This paragraph states “[t]he DDM analysis assumes appropriate incentives are in place to motivate the project developer to build Sizewell C in a low cost and timely manner. However, if too much risk is taken away from investors, the developer may lack the right incentives to deliver the project in a timely manner and as cheaply as possible. For example, without the right incentives, there is a risk the developer would invest less time and money in the development phase which could have consequences for the overall cost.”</p> <p>SZC does not agree that the risk of insufficient incentives or insufficient ability to deliver the project in a low cost and timely manner set out in this paragraph will apply to the SZC project. This reason for this view is that the RAB model provides a clear and proven mechanism to apply incentives on investors for those risks which investors are able to influence. Proof of this is evident in the RAB models that are already widely applied in UK infrastructure today. The structure of the SZC RAB model is being carefully designed by HMG and Ofgem with SZC to ensure that effective and appropriate incentives are in place drawing on experience from other RAB models with appropriate adjustments for the nuclear context. The SZC RAB model and process to design it therefore mitigates this risk.</p>
Non-monetised benefits (Paragraphs 124 to 129)	<p>SZC considers that the non-monetised benefits the project can generate are much wider than those that have been included by the SoS in this section.</p> <p>SZC proposes that the following additional non-monetised benefits should be referenced in this section:</p> <ul style="list-style-type: none"> i. SZC’s impacts on the environment include a net gain in biodiversity of 19% ii. SZC’s commitment to UK business, demonstrated by SZC’s Civil Works Alliance signing the UK Steel Charter and the SZC Consortium signing Memorandums of Understanding with the East of England, North of England, and Wales, demonstrating the supply chain commitment to leaving a lasting legacy in the regions and levelling up

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	<p>iii. SZC and its supply chain working in partnership with Further and Higher Education Providers, Industry Training bodies, Local Enterprise Partnerships and industry networks to raise the bar of UK skills through the development of entirely new UK standards and apprenticeships. SZC has signed Education Memorandums of Understanding with Further Education providers in Suffolk</p> <p>iv. [REDACTED]</p>
Paragraph 124	<p>SZC proposes the following amendments:</p> <p>Recent global events have highlighted that energy imports can lead to an unwanted reliance on foreign nations. Nuclear power can help reduce this reliance on other nations by generating power within the UK. Nuclear power is also non-weather dependent and therefore is an important mitigant of the UK’s indirect exposure to imported energy (fossil fuels and electricity). Allowing nuclear to continue to play a key role in our energy mix will help improve energy security and to reduce the impact of exposure to volatile global fossil fuel prices.</p>
Paragraph 125	<p>SZC proposes the following amendments:</p> <p>As outlined above, the DDM analysis examines the cost-effectiveness of adding Sizewell C to the electricity mix but assumes no further new GW-scale nuclear plant are built in GB after Sizewell C. However, building Sizewell C is likely to have an option value. Building Sizewell C would help maintain and enhance the nuclear supply chain in the UK. This would likely reduce the costs of future nuclear plants and improve the UK’s ability to deliver of building a further large (GW) and small (SMR) GW-scale nuclear plants after Sizewell C. Without Sizewell C the timeline to the next nuclear project after Hinkley Point C is longer and more uncertain, which would risk decay in supply chain capacity and skills.</p>

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<p>Jobs benefits (Paragraphs 126 and 127)</p>	<p>a. SZC requests that this section provides more detail on the very high level of UK content for nuclear as opposed to other generation technologies, for example, NNBG SZC has a commitment to have 70% of the construction value of the project awarded to UK-based suppliers and lifetime UK content is around 90%.</p> <p>b. SZC proposes the following amendment to paragraph 127:</p> <p>In the counterfactual, those workers would either be unemployed or would be employed in a different job, possibly in other generating capacity (solar, wind, or gas CCUS). These job benefits relate to one of the objectives of Sizewell C and so are strategically important. UK content in the counterfactual is much lower for other generation technologies (including CCUS) so a greater proportion of the economic activity associated with the construction and/or operation of alternative technologies would happen outside the UK.</p>
<p>Paragraph 129</p>	<p>SZC proposes the following amendments:</p> <p>In addition to the load-following option, the Sizewell C project could also have the potential to use 400 MWth the excess heat from the steam extracted from the plant (without changing the safety case or having any significant impact on electrical output). This heat could, for example, be used to support the process for producing hydrogen or capturing carbon from the atmosphere. This would have potential benefits encouraging further innovation, alongside the immediate production hydrogen or carbon capture and the Sizewell C approach could be an efficient way to do this (and potentially be at lower costs than other methods). There is not currently enough evidence to ascertain whether Sizewell C could provide a low-cost option for low-carbon hydrogen production or direct air capture of carbon.</p>
<p>Environmental impacts (Paragraphs 130 to 135)</p>	<p>SZC requests that this section also includes a paragraph referencing the low land footprint of nuclear relative to other technologies. The land required by nuclear is much lower than the land required by solar or onshore wind (and space required for offshore wind) to generate the same output. SZC estimates that producing the same amount of power from solar would require around 1,000 times more land and from onshore wind around 3,000 times more land. It would require around 4-5 large offshore wind farms to produce the same amount of power as SZC.</p> <p>Paragraph 133 notes that SZC would cause noise disruption during construction and it would be more disruptive than other generation technologies because of its longer construction time. However, a consequence of the energy density of nuclear (described above) is that in order to produce the same amount of energy as SZC with other generation technologies, multiple projects would have to be built (for example it would require around five big offshore wind projects or tens of large solar projects – each with a large amount of associated construction activity). While nuclear does have a longer construction time than other generation technologies, the appropriate</p>

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	comparison should not be based on time of building an individual project, but the aggregate construction activity and its associated impacts of building multiple projects of other generation technologies that would be required to deliver the equivalent power as SZC.
Paragraph 133	<p>a. SZC considers that the counterfactual position may not include the impacts of the land footprint required for other technologies. Although noise effects would be longer when comparing construction timescales for single projects, as noted above the land footprint of nuclear is much lower relative to other technologies and therefore multiple wind / many multiples of solar projects would have to be constructed to:</p> <ul style="list-style-type: none"> i. generate the same output as Sizewell C (for example, it would require around five² projects of the size of Hornsea One (the world’s largest offshore wind farm located off the Yorkshire coast) with a total capacity of 1.2GW³ . The largest solar farm to receive DCO consent is Cleve Hill⁴ at 350MW (the largest operating today is much smaller, Shotwick Solar Park at c.70MW⁵). It would require more than 70⁶ solar farms of the size of Cleve Hill to generate the same amount electricity per year as SZC ii. generate for as long as Sizewell C (Sizewell C is expected to generate electricity for 60 years whereas wind and solar projects have an expected life of c30 years) <p>b. The construction impacts of these projects would be significant, with construction of wind farms taking on average three years (and construction of four to five large offshore wind farms therefore taking 12 – 15 years of significant construction activity in aggregate). As noted above, the expected life of solar and wind is approximately half that of nuclear, meaning that over SZC’s estimated life eight to ten large offshore wind farms could be required to generate the same output as SZC.</p> <p>SZC asks BEIS to confirm that in the counterfactual, the aggregate impacts of building other technologies to generate the same electricity output over the same time period as Sizewell C have been considered and if in aggregate they would cause less disruption.</p> <p>c. SZC also proposes the following amendment to the existing paragraph 133:</p>

² Calculation based on approximate generation output rather than capacity: Nuclear plants have a typical annual load factor of around 90% while modern offshore wind farms have a typical annual load factor of around 55%

³ <https://hornseaprojectone.co.uk/about-the-project#project-timeline-2020>

⁴ <https://www.clevehillsolar.com/>

⁵ <https://britishrenewables.com/portfolio/shotwick>

⁶ Calculation based on approximate generation output rather than capacity: Nuclear plants have a typical annual load factor of around 90% while solar farms have a typical annual load factor of around 11%

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	<p>The construction of Sizewell C is, however, expected to have some effects on noise and air quality in the vicinity of the site. NNBG SZC estimate that there will be significant noise effects from construction and construction traffic for some local areas, but appropriate mitigations would have been identified through the DCO process. While noise effects during construction would also be expected for counterfactual technologies, those for SZC would be experienced for longer due to the greater construction timescales than for other technologies.</p>
Paragraph 134	<p>SZC proposes the following amendments:</p> <p>The construction of Sizewell C is also expected to have adverse effects on ecology, fisheries and marine water quality, but appropriate mitigations have been identified through the DCO process in the form of mitigation (measures and funds) and compensation (alternative land and funds). However, some effects will be reduced dependent on successful establishment of replacement habitats. For example, Suffolk County Council, NNBG SZC GenCo and East Suffolk Council have agreed a funding package for mitigation and compensation measures in a Deed of Obligation, which includes up to £100m for the environment. Of this, £22m which will go towards investment in projects that will mitigate landscape impacts, increasing biodiversity and the creation of habitat. An additional The remaining £78m has been agreed to establish an independent Environmental Body to enhance the local environment to maximise the benefits of the project area's landscape.</p>
Paragraph 144	<p>SZC suggests that the appropriate cross reference in this paragraph should be to paragraph 63.</p> <p>SZC requests that this paragraph is updated to address its comments made on paragraph 63 earlier in this section in relation to listing (i) the key environmental permits and (ii) the permits necessary to begin construction.</p>