**To the
Department for Business, Energy & Industrial Strategy
of the United Kingdom of Great Britain and Northern Ireland (UK)****beiseip@beis.gov.uk**

19 October 2017

**Subject: Objection to the transboundary public participation procedure for the new construction of a nuclear power station (Hinkley Point C) in Somerset, Great Britain**
**Submitted by Greenpeace Energy eG, Hongkongstr. 10, 20457 Hamburg, Germany by Nils Müller and Sönke Tangermann (Board of Directors)**

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**About Greenpeace Energy**

Greenpeace Energy is an energy cooperative and green energy provider with 24,000 members and 130,000 customers in Germany. We supply our customers with green electricity and an innovative ecological gas product in accordance with Greenpeace principles and quality standards. As a cooperative, Greenpeace energy is transparent, independent of nuclear power companies and, as a matter of principle, not profit driven.

Through our subsidiary Planet energy, we build ecologically sound power plants in Germany and abroad. We encourage citizens to participate in the energy transition, and promote the development of new technologies and supply concepts through studies as well as regular contributions and publications to the public energy policy debate.

Greenpeace Energy’s business purpose, its entrepreneurial orientation and commitment, have their roots in the environmental protection organization Greenpeace. The cooperative, which is legally and economically independent of Greenpeace, therefore feels committed to the values that protect and preserve the Earth’s natural resources. These values are the basis of our activities.

Like almost no other company, Greenpeace Energy is also committed to taking legal action to promote an energy transition in Germany and Europe, and to opposing the competitive disadvantages faced by renewable energies. For instance, the cooperative has for many years been active against the construction of nuclear power plants in Europe as these not only pose a considerable environmental risk, but, due to high subsidies, also distort competition on the European energy market to the detriment of renewable energies.

**Preliminary remarks on the procedure**

The Lower Saxony Ministry for the Environment, Energy and Climate Protection, which is responsible in Germany for carrying out the transboundary public participation procedure for the new construction of the Hinkley Point C (HPC) nuclear power station in Somerset, Great Britain”,[[1]](#footnote-1) has stated:

*“The Department for Business, Energy & Industrial Strategy of the United Kingdom of Great Britain and Northern Ireland (UK) has announced that it will carry out a transboundary public participation procedure for the new construction of the Hinkley Point C nuclear power station.*

*Approval for construction of the facility (Development Consent Order) was already granted in March 2013. In the context of preparations for approval, the relevant British authorities carried out an environmental impact assessment (EIA). A notification according to Article 3 of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) was not made. The relevant British authorities do not regard the currently launched transboundary public participation procedure as formal notification in the sense of the Espoo Convention, but have assured they will make information available which they would have made available in the context of a transboundary EIA. The relevant British authorities have announced they will review position statements submitted in the context of this public participation procedure and take them into account in further approval and supervisory procedures insofar as new transboundary impacts are identifiable.*

*Due to the large number of documents posted on the web pages of the British authorities, only the most important documents were uploaded directly to the EIA portal or linked.*

*The German public has the opportunity until 20 October 2017 to send position statements on its assessment of transboundary environmental impacts to the British authority responsible (**beiseip@beis.gov.uk**). These statements may be submitted in German from 21 August 2017 to 20 October 2017.”*

**We object to the transboundary public participation procedure for the new construction of a nuclear power station (Hinkley Point C) in Somerset, Great Britain for the following reasons:**

The Department for Business, Energy & Industrial Strategy of the United Kingdom of Great Britain and Northern Ireland (UK) granted a Development Consent Order for construction in March 2013. In the context of preparing for approval, the relevant British authorities carried out an environmental impact assessment (EIA) in Great Britain only. A notification according to Article 3 of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) was not made – on the grounds that the Hinkley Point C project will not have adverse impacts on Germany. The current EIA was launched only after an intervention was submitted by the German public through the Espoo Convention Implementation Committee[[2]](#footnote-2), and two complaints were submitted to the Aarhus Convention Compliance Committee in Geneva, with file numbers ACCC/C/2013/91[[3]](#footnote-3) and ACCC/C/2013/92[[4]](#footnote-4). The committees responsible for environmental conventions decided that the Hinkley Point C project involved multi-hazardous technology. Large-scale impacts on neighbouring countries are indeed possible.

Radioactive material from Sellafield and La Hague already contaminates the Wadden Sea area of Germany and Denmark. The consequences of an INES 6 or INES 7 scale accident at Hinkley Point C have not been researched by the project’s proposer or by the British authorities responsible. The risk of such an accident occurring is not zero, not even according to the builders’ specifications. The relevant factor is how much nuclear inventory can be kept inside the station’s containment structures. It is irrelevant what builders and authorities think could be released from the facility. The Institute for Safety and Risk Studies at the BOKU University of Vienna uses the example of existing reactors to prove the extent to which Germany could be contaminated by air. [[5]](#footnote-5)

*“The relevant British authorities do not regard the already launched public participation procedure as a formal notification in the sense of the Espoo Convention. However, they have given assurance that information will be made available which would have been made available in the context of a transboundary environmental impact assessment. They have also announced that they will examine the position statements submitted in the context of this public participation procedure and take them into account in further approval and supervisory procedures as far as new transboundary impacts have been identified.”*

This means that in the new environmental impact assessment (EIA) presented here, the rights of the public as prescribed by environmental law are being denied and counteracted. Even though the committees responsible for the Espoo Convention and the Aarhus Convention have already decided that the first EIA needed to have been carried out because of the environmental consequences of the HPC project, and indeed these committees asked the UK to suspend construction, the UK is ignoring these decisions. This means that approval was granted unlawfully, making the Hinkley Point C nuclear power station an illegal construction.

In addition, the current EIA still denies the German public its right to the third pillar of the Aarhus Convention – the right of access to justice – and thereby once again violates binding conventions in the UK and Germany. Furthermore, since Brexit has not yet been completed, the current EIA violates the Altrip judgment made by the European Court of Justice in 2013. [[6]](#footnote-6) The project owner’s legal certainty of construction approval must be investigated.

Moreover, the documents presented so far do not state that a public discussion will take place in Germany. This is mandatory. The Aarhus Committee already took this decision in the case of Temelin (ACCC/C/2012/71). [[7]](#footnote-7) This is mandatory to avoid any discrimination of the German public, since several hearings took place during the first EIA procedure in the UK. [[8]](#footnote-8)

Furthermore, all of the EIA documents are in English. According to Article 3.9 of the Aarhus Convention[[9]](#footnote-9), these documents must also be submitted in German so that every person in the German public can read them without discrimination and without encountering a language barrier.[[10]](#footnote-10)

**We therefore demand that**

1. **a public hearing is held in Germany in the context of the current non-legally binding EIA to allow the public to personally clarify all open questions about the illegality of this EIA.**
2. **the documents for the current non-legally binding EIA are published in German in compliance with environmental conventions, allowing the public in Germany to read them without encountering a language barrier.**
3. **due to violations of the law in the first EIA and now in the second EIA, construction of the Hinkley Point C nuclear power station is immediately suspended, its building approval is revoked, and a correct EIA in compliance with the legally binding requirements of the Espoo Convention, the Aarhus Convention and the European Court of Justice (Altrip judgment) is implemented.**
4. **Procedure under the Espoo Convention[[11]](#footnote-11), in conjunction with the Aarhus Convention[[12]](#footnote-12) and EU Directives[[13]](#footnote-13)**
	1. The documentation delivered by the United Kingdom is provided in digital form as PDFs, but these PDFs are locked and the copy-paste function disabled. This hinders easy use for the public to prepare submissions. In order to facilitate participation in decision-making (Aarhus Convention Art. 3(2)), it would be good to allow copy-paste as well as highlighting and commenting in the documentation provided.
	2. It is understood that this public participation procedure is carried out in response to the findings of the Espoo Convention Implementation Committee (EIA/IC/CI/5 United Kingdom)[[14]](#footnote-14) and the Aarhus Convention Compliance Committee (ACCC/C/2013/91)[[15]](#footnote-15), and therefore is taking place late in the decision process. However, on the basis of the Aarhus Convention Art. 6(4) and 6(8) in conjunction with the Espoo Convention Art. 6(1) and EIA Directive Art. 8, it has to be pointed out that:
		1. The input from the public in this procedure has to be taken into full account in the decision whether or not to go ahead with the project. Earlier decisions about the project as well as earlier permits and licenses given cannot be seen as a point of no return.
		2. All decisions following the decision to allow the project to go ahead have to be informed—also in retrospective—by the input of the current public participation procedure.
	3. Because ongoing works at Hinkley Point C can render *faits accomplis* that hinder compliance with the Espoo, Aarhus and EU articles mentioned in 1.2, we hereby demand immediate suspension of all works related to the project until the outcomes of this procedure have been taken into full account in all decisions relating to the project—also in retrospective. Works that have been carried out counter to decisions influenced by this procedure have to be retrospectively annulled.
	The UK has already been requested by the Espoo Convention Implementation Committee in a letter sent after the Implementation Committee’s 38th session (point 61)[[16]](#footnote-16) to suspend all works pending the transboundary procedure started by the UK to which this submission is made. However, works at Hinkley Point C have since continued, reducing the chance that input from this procedure will indeed be taken into due account, also retrospectively, in all decisions related to the project. With that, the UK is in non-compliance with the Espoo and Aarhus Convention and the EIA Directive’s articles as mentioned in 1.2 above.
	4. Reference to document
	*EN010001-005035-4.1 - Environmental Statement Non-Technical Summary 1.pdf*
	Environmental Statement Non-Technical Summary
	Ad point 4.3.10 – The time-frames of the project have in the meantime already been shifted by several years, so that the dates mentioned in the provided documentation on the Environmental Statement have become irrelevant. Why was not updated documentation provided for this procedure? This is in breach of Art. 6(6) of the Aarhus Convention which obliges the relevant authorities to provide to the public *“all information relevant to the decision-making referred to in this article that is available at the time of the public participation procedure”.* A fully outdated technical summary of the Environmental Statement as well as other documentation does not comprise all information relevant and available at the time of this procedure.
5. **Transboundary impacts of Hinkley Point C**

In the documentation it provides, the UK concludes that no transboundary impacts are likely or to be expected from the project. This is false.

* 1. In spite of using advanced third generation nuclear technology, the HPC project still inevitably causes, among others, the following environmental impacts:
* Uranium mining for fuel production and resulting landscape destruction, and other environmental impacts. These activities take place outside of the UK;
* Production of radioactive wastes, especially high-level wastes either in the form of spent nuclear fuel or vitrified rest waste from reprocessing, for which the UK has neither currently nor in the foreseeable future (one generation) a practicable, final disposal option;
* The risk of exposure of people, the environment and economy to the hazard of a severe accident by which a substantial amount of the radioactive content from one or both reactors would spread through the environment, including across the boundaries of the UK;
* Contamination of the installations of HPC in the course of normal operation, producing radioactive waste and leading to the need for careful decommissioning.

These factors of risk, ranging from uranium mining and the general risk of exposure to people, the environment and economy to the hazard of a severe accident, by which a substantial amount of the radioactive content from one or both reactors would spread through the environment, plus the potential hazards involved in managing spent nuclear fuel and radioactive waste after a severe accident here, would create transboundary impacts that have not been taken into account in the Environmental Impact Assessment and the justification of the project.

* 1. The reason that these transboundary environmental impacts have not been taken into account is because they have not been taken seriously enough during the transboundary screening as reflected in document *“EN010001-004148-120522\_EN010001\_ Hinkley\_Transboundary Screening.pdf”.*
	2. Reference to document
	*EN010001-004148-120522\_EN010001\_ Hinkley\_Transboundary Screening.pdf*The following claim in the transboundary screening is faulty: “*no possibility of any adverse effects having a transboundary impact on another European Economic Area (EEA).*” (Page 4). Transboundary impacts are to be expected in the following form:
* Impacts from fuel acquisition—uranium mining, enrichment, fuel production
* The risk of impacts from a severe accident whereby a substantial part of the radioactive content of the reactor or reactors is spread in the environment;
* The risk of impacts from a severe accident whereby a substantial part of the radioactive content of the fuel storage is spread in the environment;
* The risk of spread of radioactive substances from faulty management of radioactive waste on the middle-long, long and very long term.
	1. Impacts from fuel acquisition / mining

	Currently, all uranium mining results in large impacts on the environment around mining sites. Examples of publicised cases can be found in Niger[[17]](#footnote-17), Canada[[18]](#footnote-18) and former East Germany[[19]](#footnote-19), but environmental impacts from uranium mining can be found without exception around all uranium mines[[20]](#footnote-20).
	Because the UK does not itself produce uranium for nuclear fuel, it depends on fuel produced from uranium mined elsewhere. The resulting environmental impacts are directly related to the operation of nuclear power stations – without demand, no mining. Currently, there is no active uranium mining in the EEA area, but there are active plans in the Czech Republic and Spain.
	2. Impacts from fuel acquisition / enrichment

Enrichment of fuel that is to be used in the EPR currently takes place in the UK, the Netherlands, Germany (Urenco), France (Areva) and Russia (Rosatom / TVEL). During enrichment, large amounts of depleted uranium are produced that need to be safely stored because of their radioactivity and toxicity. Currently, this happens mainly on site at the enrichment facilities and in Krasnoyarsk / Zhelenogorsk in Russia. The Urenco DU storage facilities are at their limits, and because export to Russia has been stopped, the company is struggling to find appropriate space.

This is a transboundary consequence resulting from demand for nuclear fuel, inevitably related to the project.

* 1. Impacts from fuel acquisition / fuel rod production

Production of nuclear fuel is likely to take place in France, although also other producers may be contracted, including in Germany, Sweden and/or Russia. Production of fuel rods results in the production of low-level radioactive waste, which is in all cases produced outside the UK, hence representing a transboundary environmental impact directly related to the operation of Hinkley Point C.

* 1. Impacts from fuel acquisition / CO2 emissions

Mining, uranium enrichment, fuel production and transport are, next to construction of nuclear power plants, the largest sources of CO2 and other greenhouse gas emissions related to nuclear power. The assessment of the amount of these emissions in the Environmental Screening (ES) documentation is one-sided, relying on industry estimates and citing amounts that are too low. An independent re-assessment is advised.

* 1. Impacts from a severe accident / likelihood

The ES states wrongly that the chance of a severe accident with a substantial emission of radioactive substances does not have to be taken into account because it is not likely. The ES relies too much on PRAs/PSAs in coming to this conclusion and does not take sufficiently into account the uncertainties that exist around PRA / PSA outcomes (there is no clear quantitative indication of these uncertainties in the documentation); nor does the ES sufficiently take into consideration that these PRAs/PSAs do not at all include certain factors, e.g. certain forms of human error, certain extreme weather or maritime phenomena, malevolent attacks (sabotage, terrorism, acts of war) or a combination of these. There is general consensus among analysts that it is not sufficient to rely on PRAs/PSAs to assess the risk of a severe nuclear accident in a nuclear power station. Also, deterministic approaches have to be used. Besides this, because risk not only consists of chance (likelihood) but also impact, and impacts can be extremely large, nuclear power stations are seen under the Aarhus Convention as an ultra-hazardous activity for which public participation always needs to be organised before decisions are taken, including the public in other countries when impacts there cannot be ruled out.[[21]](#footnote-21)

* 1. Impacts from a severe accident – source term

In order to assess which impact citizens outside the source country could be confronted with, it is advisable to assess the spread of an amount of radioactive substances from a source term that is at least comparable with the source term experienced in Fukushima and to a lesser extent in Chernobyl (because of the difference in reactor design). This means a source term of several percentage points to tens of percentage points of the gaseous content in the reactor. This has been done in the study provided by the government of Austria during its earlier participation in the transboundary EIA procedure. The fact that this input was not reflected in the assessment of transboundary impacts, or in the justification of the project, is not acceptable.[[22]](#footnote-22)

Sholly et al. from the Institute for Safety and Risk Studies at the BOKU University of Vienna calculated potential source terms for the EPR reactor.[[23]](#footnote-23) For a release scenario with a PRA/PSA frequency of 3.70x10-9 per reactor year, they calculated a release fraction of 17.8 % of the cesium group and 17.8 % of the iodine group. According to Seibert et al., this results[[24]](#footnote-24) in 163 PBq of Cs-137 and 915 PBq of I-131. Important here is not the frequency of the scenario – that scenario has a very small technical chance – but the indication that in the case of a not unthinkable bypass of the containment, these orders of magnitude of radioactive substances can be emitted into the environment. Because these amounts are far higher than the source terms for the AGR reactor of Hinkley Point B, the spreading calculations for Hinkley Point B at least give an indication of how far the impacts of a severe accident with substantial emission of radioactive substances from Hinkley Point C can spread.
We argue that the UK authorities should order similar calculations for Hinkley Point C as put forward by the Austrian government for Hinkley Point B based on a source term of several percentage points to tens of percentage points as calculated by Sholly et al.

* 1. The UK authorities and EdF also are not clear about the uncertainties that the very long operational time of 60 years introduces to their assessments. Especially regarding the issue of malevolent attack, but also skills availability and training, a certain level of political stability is necessary over that entire time period. This cannot be guaranteed, which has severe consequences for such long-term predictions.
	2. Reference to document *EN010001-004148-120522\_EN010001\_ Hinkley\_Transboundary Screening.pdf*Page 4: *“At this stage transboundary impacts on internationally designated sites in other EEAs are not anticipated.”* This statement clearly does not take into account the impacts of a severe accident with a substantial emission of radioactive content from one or both of the reactors into the environment as happened in Chernobyl and Fukushima. In the case of such an accident, radioactive substances may be transported over large distances and lead to the necessity of measures to reduce the potential impact on health of the population as well as potential impact on natural areas within other EEA countries. For example, the UK faced the necessity to cull sheep and deer for a considerable time after the Chernobyl accident due to high Cs-137 contamination. Whereas a similar spread is unlikely (due to the differences in reactor design between HPC and Chernobyl), the amount of substances emitted into the environment may still be considerable in the case of a non-foreseen severe accident (in the order of magnitude of several percentage points to tens of percentage points of the Sr-90, Cs-134, Cs-137 and I-131 content of the reactor). See also 2.10.
	3. Reference to document *EN010001-004148-120522\_EN010001\_ Hinkley\_Transboundary Screening.pdf*
	Page 5: *“The Interim Fuel Store would be retained on site until a Geological Disposal Facility is able to accept the spent fuel for disposal.”*
	Storage in the interim fuel store is an additional risk – a catastrophic release of part of the content into the environment could lead to widespread, even transboundary impacts.
	4. The interim storage space mentioned above is to function for a maximum of 100 years without clarity as to whether the geological disposal facility consistent with the Government’s long term strategy will be available at the end of that term. This means that further management of this highly toxic waste is shifted to following generations. From the ES it is clear that there is currently no basis on which to predict how much time it will take before the UK has a geological disposal facility at its disposal. This means that in reality, it is not 100 years; in fact, how long this extra risk will exist cannot be predicted. Due to political instability or due to technical reasons, it may well be that a geological disposal facility will never be available. How long will it be assured, in that case, that the interim fuel store will remain safe beyond the 100 years?
	5. Reference to document *EN010001-004148-120522\_EN010001\_ Hinkley\_Transboundary Screening.pdf*
	The extent of potential impacts is underestimated for as far as severe accidents with a substantial emission of radioactive substances is concerned.
	6. The magnitude of potential impacts is underestimated for as far as severe accidents with a substantial emission of radioactive substances are concerned.
	7. Although the probability of a severe accident with a substantial emission of radioactive substances is extremely low, the uncertainty in calculating this probability is very large—hence a deterministic and precautionary approach towards such accidents is more appropriate, especially given the potential extent and magnitude. The sole use of PRA/PSA as a means to assess the probability of such an accident is unacceptable because of the large uncertainties involved, as well as the exclusion of important scenarios that could lead to such an accident, including certain forms of human error, malevolent attack and unpredictable weather changes over the extremely long operational time of the project, including those due to climate change.
	8. The duration of the impacts after a severe accident with substantial emission of radioactive substances into the environment has not been assessed at all. Analyses from IRSN (France), among others, indicate that this can take years. The experiences in Fukushima show that the clean-up and decommissioning of the reactors could take several decades. The closed zone around Chernobyl can still not be re-inhabited. The fact that the operational life-time of the reactors is not fixed puts the population in a state of uncertainty. We can see from older reactors that although citizens may have (sometimes grudgingly) accepted to live next to a reactor predicted to have a service life of 40 years, they are currently facing 50 percent time extensions without consultation. Also, the estimated decommissioning time of 20 years is—70 years before it is supposed to take place—not much more than crystal ball gazing. More openness about these uncertainties is necessary in a justification.
	9. Due to a lack of statistical data and lack of experience with certain parts and technologies, the assessment of the frequency of impacts is based largely on the judgment of engineers. For that reason, there is a large margin of uncertainty in PRAs/PSAs. Other factors have not been included in frequency assessments, like malevolent attack. Any frequency assessment has to be viewed very cautiously because issues such as political and social stability or even states of war are impossible to predict over the assumed operational time of 60 years, the assumed decommissioning time of 20 years, and the necessary storage/deposition time of radioactive wastes of a few hundred to a few hundred-thousand years.
	10. The fact that the responsible authorities have not taken into account the irreversibility of many of the impacts of a large accident that emits a substantial amount of radioactive substances into the environment undermines the justification assessment. Also, the irreversibility of the production of a form of radioactive waste for which there is currently no practical solution in place is an important factor that is not mentioned.
	11. The main conclusion of this analysis should therefore have been that a) transboundary impacts also take place in the course of normal operation, at least in the form of uranium mining and possibly in the form of radioactive waste management, and b) there are potentially severe transboundary impacts that may not be likely (defined as having a PRA/PSA of less than 10E-7) but that have immense effects and therefore pose a risk that needs to be taken into account in decision-making. Furthermore, several factors, including human error and malevolent attack (terrorism, sabotage and acts of war) can be expected to increase the chance of such an accident by several factors.
	12. Nuclear power plants for that reason are considered “ultra-hazardous” projects – projects that can cause ultra-large impacts and therefore have to be treated as high-risk projects.
	13. This does not only lead to an opposite conclusion concerning transboundary effects, but also has a fundamental influence on the justification of the project.
	14. Reference to document *EN010001-005035-4.1 - Environmental Statement Non-Technical Summary 1.pdf*
	Environmental Statement Non-Technical Summary
	Ad point 2.1.3 – QUESTION: Have the relevant National Policy Statements been submitted to a transboundary Strategic Assessment, as required by the EU SEA Directive 2001/42/EC of 27 June 2001 regarding the assessment of the effects of certain plans and programmes on the environment, the Kiev Protocol to the Espoo Convention and Article 7 of the Aarhus Convention? See also point 51.1. in the Technical Summary. If so, what were the outcomes of this SEA? If not, these NPSs should be considered commendable documents in this procedure and their conclusions should be revisited when due concern regarding the outcome of this procedure gives rise to such concern (Art. 6(8) Aarhus Convention).
	15. Reference to document *EN010001-005035-4.1 - Environmental Statement Non-Technical Summary 1.pdf*

Environmental Statement Non-Technical Summary
Ad point 2.2.3 – Why has the pre-application consultation not been carried out in a transboundary fashion as prescribed by the Espoo Convention? This could, among other things, have prevented the fallacy that no transboundary impacts are to be expected or likely (point 2.3.5).

* 1. Reference to document

*EN010001-005036-4.2 - Volume 1 - Introduction 1.pdf*
7.10 – Transboundary impacts – page 141 and further
Ad 7.10: What is missing here is the obligation under the Aarhus Convention under Art. 6 to arrange public participation before a decision regarding the project is taken. This obligation also applies to the public in any country that could potentially be impacted environmentally by a project as defined in Annex 1. Because of the “ultra-hazardous” status of nuclear power plants, impacts of severe accidents with a substantial release of radioactive substances cannot be excluded. The validity of the obligation of the Aarhus Convention as well as the obligation to properly notify the public in countries that could experience potential impacts has been confirmed by the findings of the Aarhus Convention Compliance Committee in case ACCC/C/2013/91.[[25]](#footnote-25)

* 1. Reference to document

*EN010001-005036-4.2 - Volume 1 - Introduction 1.pdf*
7.10 – Transboundary impacts

Ad APPENDIX 7E
EdF states that a transboundary EIA is only necessary in cases where transboundary impacts are likely. The Implementation Committee of the Espoo Convention concluded in its 35th session *“that a significant adverse transboundary impact cannot be excluded in case of a major accident, an accident beyond design basis or a disaster. The Committee also finds that, as a consequence of its conclusion concerning the likely significant adverse transboundary environmental impact, the United Kingdom is in non-compliance with its obligations under article 2, paragraph 4, and article 3, paragraph 1, of the Convention.”[[26]](#footnote-26)* Even though the 7th Meeting of Parties to the Convention in 2017 did not reach conclusions concerning endorsement of these findings, the conclusions and argumentation of the Implementation Committee currently stand.

* 1. *Reference to document*

*EN010001-005036-4.2 - Volume 1 - Introduction 1.pdf*
Ad 7.11: EdF wrongly excludes the description of uncertainties in the assessment of potential severe accidents with a substantial emission of radioactive substances. It bases itself almost exclusively on the outcomes of the PRA/PSA and should have listed here those factors that rely on estimates made by engineers, those factors that are excluded (including those that are excluded on the basis of lack of statistical data or sufficient experience or lack of sufficient insight into the circumstances), and those factors that are excluded because they relate to malevolent attacks and other unforeseeable events. We conclude on the basis of our own assessment of these factors that a considerable element of risk still remains for a severe accident with the emission of a substantial amount of radioactive substances.

1. **Technology, reasonable alternatives and radioactive waste**
	1. The UK government based its initial justification for the project on an assessment that presumed that the costs for reasonable low-carbon alternatives would be around the same level as the subsidies that would be granted to Hinkley Point C.
	In the meantime, the situation has drastically changed. The tendering of contracts for difference for onshore wind, solar PV and offshore wind has all resulted in prices well under the strike price in the contract for difference for Hinkley Point C.
	This was not unexpected. But this situation does create a completely different basis for justification of the project and strengthens the arguments for alternatives. However, nothing in this new situation is covered in the documentation put forward for this consultation process.

	There is an obligation to include possible alternatives to the proposed activity, including the zero-alternative (which includes the need for this information) in this consultation under Art. 5(a) of the Espoo Convention.

There is furthermore an obligation under article (6) of the Aarhus Convention to provide all information relevant to the decision-making that is available at the time of the public participation procedure. This obligation includes an update to the currently partly out-dated information that is now provided.

The EIA Directive requires that the EIA be prepared to take into account current knowledge (Article 5(1)), and under Article 5(4c), the UK authorities had the obligation to request updated information for this public participation procedure.

**We therefore demand an update of the provided documentation, reflecting the changes in cost prices of reasonable alternatives including onshore and offshore wind and solar PV and other renewable low-carbon sources of electricity, as well as energy efficiency.**

* 1. The documentation still states 2019 and 2020 as the start-up dates for the reactors. Given the fact that in 2017 main construction work has not yet started, these dates have been revised several times. It is now to be expected that the reactors will not go online before 2025. This has serious implications for the justification case of the project, and hence for the justification for the environmental impacts of the project including transboundary impacts. While the costs of electricity generated by reasonable alternatives to HPC continue to go down, the electricity costs of HPC have already been fixed in the agreement with the constructor and majority owner EdF in a so-called Contract for Difference at a strike price of GBP 92.5, indexed for inflation. Also, the high level of implementation certainty and the short construction times of reasonable alternatives, including onshore and offshore wind, and solar PV, have already proven that these alternatives can be installed and connected to the grid before HPC is estimated to go online. With that, there is no reason to fear security of supply should HPC be cancelled (the zero option) thus preventing the potential environmental impacts of the project.
	2. Reference to document *EN010001-005035-4.1 - Environmental Statement Non-Technical Summary 1.pdf*
	Environmental Statement Non-Technical Summary

Ad point 4.3.12 – The duration indication for the spent fuel store to be “retained on site until a Geological Disposal Facility (GDF) is able to accept the spent fuel for disposal” is unacceptable. This is an open-ended formulation. As a bare minimum, it should be indicated how long such a period of waiting for a GDF is allowed to last before alternatives have to be assessed. What will plan B be, when no GDF ever becomes available? Or does this imply the possibility that the inhabitants of Somerset will get stuck with a permanent above-ground repository of high-level waste and spent nuclear fuel?

1. **Justification of the project**
	1. In its preparation of documentation to justify the project, the promoter and the relevant authorities clearly included faulty economic data, concerning both the project and reasonable alternatives (including the zero option). Recent tendering of strike prices for non-nuclear low-carbon capacities has led to considerably lower strike prices than the agreed strike price for HPC, which apart from that, are valid for a shorter time, enabling a more flexible reaction to market developments. For that reason, the justification process needs to be redone. Our analysis leads to the conclusion that the negative environmental impacts of the project cannot be justified and the project should be cancelled.
	2. HPC is claimed by the government to be using a new technology, which therefore should be not seen as a mature technology (Detailed value for money assessment).[[27]](#footnote-27) This is wrong. The EPR is an evolutionary reactor incorporating the most recent technologies from [French] N4 and [German] KONVOI designs. For that reason, it has been marketed in the United States as an “evolutionary pressurised water reactor”. As HPC is the sixth reactor of this type, building on the experience of two of the most frequently built modern nuclear reactor designs with many years of operational experience, it is clear that the increased costs for the EPR are not a result of a lack of maturity, but of inherent high costs. For that reason, all recent projected nuclear construction start-ups of Generation III+ reactors have shown high construction costs. The justification argument based on innovation and lack of experience is therefore unsubstantiated and cannot be used.
	3. Reference to document *EN010001-005035-4.1 - Environmental Statement Non-Technical Summary 1.pdf*
	Environmental Statement Non-Technical Summary
	Ad point 5.2.1 – Not the vicinity to an already existing NPP, but an acceptable justification for the project and the project’s environmental impacts should have been the determining factors for the allocation of HPC. For that reason, viable alternatives need to be included in the assessment. In this assessment, no viable site alternatives, viable technology alternatives or zero alternatives—for instance, the introduction of a mix of energy efficiency and renewable energy sources to provide the services that are proposed to be provided by the project—are compared with the project. On the contrary, economic assessments and justification for the project were based on inflated figures for other low-carbon sources for electricity production as has recently been proven by the tendering outcomes for offshore wind projects, and earlier for onshore wind and PV.
	4. Reference to document *EN010001-005035-4.1 - Environmental Statement Non-Technical Summary 1.pdf*
	Environmental Statement Non-Technical Summary
	The “alternatives” mentioned under point 5.2 are only marginal variants of an already presumed project and do not fulfil the role of alternatives as required under European and international law (Espoo and Aarhus).
2. **Conclusion**
	1. On the basis of the above, it has to be concluded that the justification of the project has been made on faulty grounds and should therefore be re-done on the basis of up-to-date data.
	2. Updated data and justification argumentation should be re-submitted to public participation.
	3. In spite of the fact that the project was not submitted to an international transboundary EIA procedure, as obliged under the Espoo Convention and the EU EIA Directive, and in spite of the fact that non-British citizens were not duly informed of the possibility of participating in the EIA procedure, as mandated by the Aarhus Convention, the authorities responsible have permitted EdF to start construction work on HPC. Because of the international obligations under Aarhus Convention Articles 6(4) and 6(8), in conjunction with Espoo Convention Article 6(1) and EIA Directive Article 8:
* all work on HPC should be directly suspended until a new decision on the project has been taken that is informed by the input from this public participation procedure; and
* all previously taken decisions should be retrospectively re-taken, taking into due account the input from this procedure.

Yours sincerely,

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**Appendix**

List of used abbreviations

**ACCC** Aarhus Convention Compliance Committee
**AGR** Advanced Gas-cooled Reactor
**DU** Depleted Uranium
**EEA** European Economic Area
**EIA** Environmental Impact Assessment
**EPR** European Pressurized Water Reactor
**GDF** Geological Disposal Facility
**HPC** Hinkley Point C
**NPP** Nuclear Power Plant
**PRA = PSA** Probabilistic Risk Assessment = Probabilistic Safety Assessment
**PSR** Periodic Safety Review
**SEA** Strategic Environmental Assessment

**Additional studies commissioned by Greenpeace Energy:**

**Wind Power as an Alternative to Nuclear Power from Hinkley Point C – A Cost Comparison, 2016:**

<https://www.greenpeace-energy.de/fileadmin/docs/pressematerial/Hinkley_Point/20160121_Study_Windgas_HPC_English.pdf>

**Study in Underestimated Costs and Risks of Hinkley Point C, 2016:** <https://www.greenpeace-energy.de/fileadmin/docs/pressematerial/Hinkley_Point/160203_Study_Underestimated_risk_and_Costs_HPC_BECKER.pdf>

1. <http://www.umwelt.niedersachsen.de/aktuelles/grenzueberschreitendes-beteiligungsverfahren-fuer-den-neubau-eines-kernkraftwerks-hinkley-point-c-in-somerset-grobritannien-156911.html> [↑](#footnote-ref-1)
2. (<http://www.nuclear-transparency-watch.eu/a-la-une/the-espoo-convention-implementation-committee-asks-the-uk-to-suspend-work-on-the-hinkley-point-c-nuclear-power-station-because-of-the-governments-failure-to-consult-with-european-countries.html> [↑](#footnote-ref-2)
3. [www.unece.org/environmental-policy/conventions/public-participation/aarhus-convention/tfwg/envppcc/envppcccom/acccc201391-united-kingdom.html](http://www.unece.org/environmental-policy/conventions/public-participation/aarhus-convention/tfwg/envppcc/envppcccom/acccc201391-united-kingdom.html) [↑](#footnote-ref-3)
4. [www.unece.org/environmental-policy/conventions/public-participation/aarhus-convention/tfwg/envppcc/envppcccom/acccc201392-germany.html](http://www.unece.org/environmental-policy/conventions/public-participation/aarhus-convention/tfwg/envppcc/envppcccom/acccc201392-germany.html) [↑](#footnote-ref-4)
5. <http://flexrisk.boku.ac.at/de/index.html> [↑](#footnote-ref-5)
6. <http://www.uvp.de/de/6-aktuelles-a-veranstaltungen/mitteilungen/646-eugh-klagerecht> [↑](#footnote-ref-6)
7. [www.unece.org/envenv/pp/compliancecommittee/71tablecz.html](http://www.unece.org/envenv/pp/compliancecommittee/71tablecz.html) [↑](#footnote-ref-7)
8. Hinkley Point - West Somerset Council
<https://www.westsomersetonline.gov.uk/Planning---Building/Planning/Hinkley-Point/Hinkley-Point-Development-Consent-Application> [↑](#footnote-ref-8)
9. [www.unece.org/env/pp/treatytext.html](http://www.unece.org/env/pp/treatytext.html) [↑](#footnote-ref-9)
10. <https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-15&chapter=4&clang=_en#EndDec> [↑](#footnote-ref-10)
11. The Convention on Environmental Impact Assessment in a Transboundary Context
 [↑](#footnote-ref-11)
12. The Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters
 [↑](#footnote-ref-12)
13. DIRECTIVE 2011/92/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 April 2014 – further: **EIA Directive**; and other related directives. [↑](#footnote-ref-13)
14. UNECE, Implementation Committee to the Convention on Environmental Impact Assessment in a Transboundary Context, *Report of the Implementation Committee on its thirty–fifth session*, Geneva (2016); <http://www.unece.org/fileadmin/DAM/env/documents/2016/EIA/IC/REPORT_ENG_ece.mp.eia.ic.2016.2_e.pdf>
Annex: Findings and recommendations further to a Committee initiative concerning the United Kingdom of Great Britain and Northern Ireland (EIA/IC/CI/5). [↑](#footnote-ref-14)
15. UNECE, Compliance Committee to the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, *Findings and recommendations with regard to communication ACCC/C/2013/91 concerning compliance by the United Kingdom of Great Britain and Northern Ireland – Adopted by the Compliance Committee on 19 June 2017*, Geneva (2017); <https://www.unece.org/fileadmin/DAM/env/pp/compliance/CC-58/ece.mp.pp.c.1.2017.14.e.pdf> [↑](#footnote-ref-15)
16. UNECE, Implementation Committee to the Convention on Environmental Impact Assessment in a Transboundary Context, *Report of the Implementation Committee on its thirty-eighth session*, Geneva (2017); <http://www.unece.org/fileadmin/DAM/env/documents/2016/EIA/IC/ece.mp.eia.ic.2016.2.advance_unedited_8Apr2016.pdf> [↑](#footnote-ref-16)
17. <http://www.greenpeace.org/international/en/publications/reports/Left-in-the-dust/> [↑](#footnote-ref-17)
18. Goldstick, Miles, *Voices from Wollaston Lake*, Amsterdam (1987) WISE; <http://www.nuwinfo.se/files/voices-from-wollaston-lake1987goldstick.pdf> [↑](#footnote-ref-18)
19. Beleites, Michael, *Pechblende,* (German), Wittenberg (1988) Kirchliches Forschungsheim; <http://www.wise-uranium.org/pdf/pb.pdf> [↑](#footnote-ref-19)
20. WISE/NIRS Nuclear Monitor, issue 789, number 4445, 11/06/2015; Diehl, Peter, *Uranium Mining Issues: 2014 Review*; <https://www.wiseinternational.org/nuclear-monitor/798/uranium-mining-issues-2014-review> [↑](#footnote-ref-20)
21. UNECE, Compliance Committee to the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, *Findings and recommendations with regard to communication ACCC/C/2013/91 concerning compliance by the United Kingdom of Great Britain and Northern Ireland – Adopted by the Compliance Committee on 19 June 2017*, Geneva (2017); <https://www.unece.org/fileadmin/DAM/env/pp/compliance/CC-58/ece.mp.pp.c.1.2017.14.e.pdf> [↑](#footnote-ref-21)
22. Becker, Oda, HINKLEY POINT C - Expert Statement to the EIA, Vienna (2013) Umweltbundesamt; <http://www.umweltbundesamt.at/fileadmin/site/publikationen/REP0413.pdf> [↑](#footnote-ref-22)
23. Sholly, Steven, et al., *Source Terms for Potential NPPs at the Lubiatowo Site, Poland*, Vienna (2014) University of Natural Resources and Life Sciences, Vienna, Department of Water, Atmosphere and Environment, Institute of Safety and Risk Sciences; <http://www.greenpeace.org/poland/PageFiles/593854/140219_Report_Source_terms_Poland2.pdf> [↑](#footnote-ref-23)
24. Seibert, Petra, et al., *Possible Consequences of Severe Accidents at the Proposed Nuclear Power Plant Site Lubiatowo near Gdansk, Poland - Final Report from March 4, 2014. 2nd edition, July 2014*, Vienna (2014) IMGW - Department of Meteorology and Geophysics University of Vienna;
<http://www.univie.ac.at/theoret-met/flexrisk_pl/en/flexrisk_pl_report.pdf> [↑](#footnote-ref-24)
25. UNECE, Compliance Committee to the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, *Findings and recommendations with regard to communication ACCC/C/2013/91 concerning compliance by the United Kingdom of Great Britain and Northern Ireland – Adopted by the Compliance Committee on 19 June 2017*, Geneva (2017); <https://www.unece.org/fileadmin/DAM/env/pp/compliance/CC-58/ece.mp.pp.c.1.2017.14.e.pdf> [↑](#footnote-ref-25)
26. UNECE, Implementation Committee to the Convention on Environmental Impact Assessment in Transboundary Context, *Report of the Implementation Committee on its thirty–fifth session*, Geneva (2016); <http://www.unece.org/fileadmin/DAM/env/documents/2016/EIA/IC/REPORT_ENG_ece.mp.eia.ic.2016.2_e.pdf>
Annex: Findings and recommendations further to a Committee initiative concerning the United Kingdom of Great Britain and Northern Ireland (EIA/IC/CI/5) [↑](#footnote-ref-26)
27. BEIS, *Hinkley Point C: Value for Money Assessment,* London (no date); <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/621400/Detailed_value_for_money_assessment.pdf> [↑](#footnote-ref-27)