



Ministerie van Infrastructuur
en Waterstaat

Public input response memorandum

Draft Memorandum on Scope and Level of Detail

Nuclear Energy Act amendment for operating life extension of Borssele nuclear power plant

This report is an English translation of a document originally drawn up in the Dutch language. In case of a contradiction, the Dutch text is leading.

Date	4 March 2024
Reference	IenW/BSK-2024/2024/71224
Status	Final

Colophon

Ministry of Infrastructure and Water
Management Directorate-General for the
Environment and International Affairs

PO Box 20904 2500 EX The Hague

Table of Contents

1.	INTRODUCTION	4
1.1.	Introduction	4
1.2.	Procedure and process	5
1.3.	Public input received	6
1.4.	Reading guide	6
PART A ECEA ADVICE AND SUMMARY		8
1.	REACTION TO ECEA ADVICE	9
1.1.	Main points of the advice	9
1.2.	How the NCEA's advice is incorporated	9
2.	SUMMARY OF FREQUENTLY ASKED QUESTIONS AND CHANGES TO THE INVESTIGATION APPROACH	14
2.1.	Frequently asked questions	14
	Nuclear power and the energy mix -----	14
	Projects in the region -----	15
	Age of the nuclear power plant-----	17
	Safety 18	
	Effects on the Western Scheldt-----	18
2.2.	Changes in the investigation	19
PART B RESPONSE TO PUBLIC INPUT ON THE DRAFT MEMORANDUM		20
1.	DECISION MAKING UNDER NUCLEAR ENERGY ACT AND BORSSELE NPP COVENANT	21
1.1.	NCEA advice	21
1.2.	Borssele nuclear power plant covenant and compensation plan	21
	1.2.1. Generic viewpoints -----	21
1.3.	Decision to be made	22
	1.3.1. Generic viewpoints -----	22
	1.3.2 Specific viewpoints-----	23
2.	ENERGY POLICY	24
2.1.	Energy mix	24
	2.1.1. NCEA advice-----	24
	2.1.2. Generic viewpoints -----	25
	2.1.3. Specific viewpoints -----	26
2.2.	Projects in the region - including new construction of nuclear power plants	27
	2.2.1. NCEA advice-----	27
	2.2.2. Generic viewpoints -----	27
3.	CONTENT AND STRUCTURE OF EIA PROCEDURE AND MEMORANDUM ON SCOPE AND LEVEL OF DETAIL	30
3.1.	Scope of investigation	30
	3.1.1. NCEA advice-----	30
	3.1.2. Generic viewpoints -----	31
	3.1.3. Specific viewpoints -----	33
3.2.	Reference situation	33

	3.2.1. Generic viewpoints -----	33
3.3.	Information and language to be used	34
	3.3.1. Generic viewpoints -----	34
	3.3.2. Specific viewpoints -----	35
4.	ENVIRONMENTAL AND OTHER IMPACTS	36
4.1.	Nuclear and external safety	36
	4.1.1. Advice of the The Netherlands Commission for Environmental Assessment (NCEA) -----	36
	4.1.2. Ageing management -----	36
	4.1.3. Disasters and threats -----	38
	4.1.4. Accidents -----	39
4.2.	Radioactive waste	42
	4.2.1. Advice of the The Netherlands Commission for Environmental Assessment (NCEA) -----	42
	4.2.2. Radioactive waste and the National Radioactive Waste Programme -----	42
	4.2.3. Radioactive Waste Roadmap -----	44
4.3.	Air quality and noise	44
	4.3.1. Air quality -----	44
	4.3.2. Noise -----	45
4.4.	Health	45
	4.4.1. Advice of the The Netherlands Commission for Environmental Assessment (NCEA) -----	45
	4.4.2. Generic viewpoints -----	46
	4.4.3. Specific viewpoints -----	47
4.5.	Ecology and biodiversity	47
	4.5.1. Advice of the The Netherlands Commission for Environmental Assessment (NCEA) -----	47
	4.5.2. General flora and fauna -----	48
	4.5.3. Effect of hot cooling water -----	48
4.6.	Water	49
	4.6.1. Advice of the The Netherlands Commission for Environmental Assessment (NCEA) -----	49
	4.6.2. Generic viewpoints -----	50
4.7.	Climate	50
	4.7.1. Generic viewpoints -----	50
	4.7.2. Specific viewpoints -----	50
	4.7.3. Sea level rise and waste storage -----	50
4.8.	Transport	50
4.9.	Extracting raw materials	51
	4.9.1. Generic viewpoints -----	51
4.10.	Living environment, landscape and cultural heritage and recreation	51
	4.10.1. Generic viewpoints -----	51
4.11.	Costs and benefits, economic effects	52
	4.11.1. Generic viewpoints -----	52
	4.11.2. Specific viewpoints -----	52
4.12.	Decline in value and compensation	53
5.	CROSS-BORDER	53
5.1.	Cross-border effects	53
5.2.	Translation of documents	55

APPENDIX GLOSSARY AND ABBREVIATIONS USED	56
---	-----------

1. Introduction

1.1. Introduction

The Dutch government intends to make it possible for the Borssele nuclear power plant to keep operating for longer. The operator must apply for a licence for this. To apply for that licence, the first necessary step is to amend the Nuclear Energy Act. In the current situation under the Nuclear Energy Act, the nuclear power plant will no longer be permitted to release nuclear energy after 31 December 2033. Also, an application for renewal of the licence may not be accepted for processing. It is planned to amend Article 15a of the Nuclear Energy Act.

A second step to keep the nuclear power plant operating for longer consists of a licence application to the Authority for Nuclear Safety and Radiation Protection (Autoriteit Nucleaire Veiligheid en Stralingsbescherming, ANVS) by the nuclear power plant operator. The nuclear power plant will only be able to stay open longer if this can be done safely and responsibly.

To obtain a clear picture of the environmental effects and in view of the (cross-border) public participation obligations - following from the Aarhus and Espoo Conventions - the Minister for Climate and Energy Policy and the State Secretary for Infrastructure and Water Management have decided to go through the environmental impact assessment (hereinafter: EIA) procedure in preparing this legislative amendment. The purpose of the EIA procedure is to capture all the relevant environmental impacts in the decision-making for the legislative amendment. These environmental impacts are reported in an Environmental Impact Assessment (EIA). In this EIA procedure, the Minister for Climate and Energy Policy and the State Secretary for Infrastructure and Water Management are the joint competent authority. For appropriate separation of functions, the Ministry of Economic Affairs and Climate Policy (Ministerie van Economische Zaken en Klimaat) acts as initiator and the Ministry of Infrastructure and Water Management (Ministerie van Infrastructuur en Waterstaat) takes on the role of competent authority¹.

The first step in this procedure was the preparation and publication of a Draft Memorandum on Scope and Level of Detail (Draft Memorandum). In the Draft Memorandum, the Ministry of Economic Affairs and Climate Policy describes the proposed activity and the assessment criteria to be investigated. The Draft Memorandum was available for public inspection from 31 May to 12 July 2023. 170 viewpoints were received.

The Ministry of Infrastructure and Water Management also asked the Netherlands Commission for Environmental Assessment (NCEA) for its advice on the Draft Memorandum. This [advice](#)² was issued on 12 October 2023. In the EIA procedure, the NCEA has the role of independent adviser on the scope and level of detail of the study to be conducted and the quality of information in the EIA for the competent authority. Advice was also requested from the [statutory advisers](#)³; they did not issue any advice.

The public input gives a picture of how the proposed activity and assessment criteria in the Draft Memorandum are regarded. The viewpoints submitted were analysed and divided into sub-questions. Answers to all sub-questions have been formulated. They are

¹ The Minister for Climate and Energy Policy and the Secretary of State for Infrastructure and Water Management are the joint competent authority (on behalf of the government) for the bill.

² <https://commissiemer.nl/adviezen/3723>

³ The statutory advisers are the Minister of Infrastructure and Water Management or the inspector of spatial planning, the Minister of Agriculture, Nature and Food Quality and the Minister of Education, Culture and Science (or an administrative body designated by them).

given in this response memorandum. The methodology of responding to the public input is explained in section 1.4.

1.2. Procedure and process

Article 15a of the Nuclear Energy Act stipulates that the licence to operate the Borssele nuclear power plant will expire on 31 December 2033, as far as the release of nuclear energy is concerned, and an application for a licence to continue operating after 31 December 2033 will not be considered. The purpose of the proposed activity is to remove the legal barrier, making a possible extension of the operating life possible with a licence application.

The proposed activity displays a strong resemblance to the situation regarding the operating life extension of the nuclear power plants in Doel, Belgium. This procedure concerned a 10-year extension of electricity production at two nuclear power plants in Doel, which required a legislative amendment. In the opinion of the European Court of Justice (ECJ), the measures adopted by the Belgian legislature (the legislative amendment) and the inseparably connected modernisation work on the nuclear power plants together were part of one and the same 'project' within the meaning of 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 (OJEU 2012, L26) (the EIA Directive). The Belgian Constitutional Court then deemed that the adoption of the legislative amendment should have been preceded by an environmental impact assessment and public consultation on the principle of the extension (...) and on the consequences of that extension with regard to modernisation and security work.

From this judgment of the Court of Justice of the European Union (ECJ) on this operating life extension (the 'Doel judgment'), it may be concluded that the legislative change for the operating life extension of the Borssele NPP qualifies as the first phase of project consent in the sense of the EIA Directive. The licence is the second phase. In short, in view of this judgment, the licence application and legislative amendment should be considered together as the consent for one project. Because this is a project as a whole, the project EIA procedure will be followed.

This EIA procedure for the possible operating life extension and the EIA to be prepared consists of two phases:

Phase 1: Exploratory EIA for the legislative amendment

The first step in deciding on operating life extension is to amend the Nuclear Energy Act. In line with the NCEA's advice (see also *Part A chapter 1*), the EIA for Phase 1 for the legislative amendment will explore the environmental impact of the nuclear power plant in the current situation. Further, the EIA gives a view of future environmental effects (the NCEA calls this extrapolation): what are the environmental aspects where possible negative effects could occur, and what points of attention are there for the next phase? The EIA concludes with an overview of environmental aspects to be monitored and an overview of agenda items for the second phase (see below).

Phase 2: EIA for the licence application for the operating life extension

Amending the Nuclear Energy Act does not automatically mean that the nuclear power plant will be allowed to operate longer. Technical feasibility studies being carried out should show whether it is technically feasible to keep the nuclear power plant operating safely beyond 2033 and what modifications and investments to the power plant are needed for this. The nuclear power plant operator will then need to submit a licence application to the ANVS. ANVS is the competent authority for this licensing procedure. This will include examining the environmental impacts in the Phase 2 EIA that will have to be conducted by the operator. The environmental assessment will be more concrete

and detailed than the study in Phase 1 and more focused on the situation if the nuclear power plant continues to operate beyond 31 December 2033. Indeed, the assessment of the environmental impacts in this phase may also include the results of the technical feasibility studies and, if they emerge from the feasibility studies, the necessary modifications to the nuclear power plant.

The EIA (containing both parts described above) is then an annex to any licence application.

1.3. Public input received

The viewpoints received have been read and analysed carefully. The questions from the viewpoints were categorised and summarised by theme and topic. In this way, all viewpoints are provided with a response, but the exact viewpoints are not given. However, each theme does refer to the viewpoints to which a response is given. In this way, everyone who submitted input can find the response to their viewpoint.

We received 170 viewpoints. Of these, 23 viewpoints came from organisations such as municipalities and interest groups and 147 viewpoints came from individuals. Fifteen viewpoints were signed multiple times.

The viewpoints are not only from the Netherlands, but also from abroad.

- 82 viewpoints come from Germany, 61 of which are largely the same;
- 4 viewpoints come from Belgium;
- 1 viewpoint comes from Luxembourg;
- 1 viewpoint comes from Austria;
- 1 viewpoint comes from Denmark.

Of the public input submitted from the Netherlands, most of the viewpoints (53 viewpoints) come from Zeeland.

1.4. Reading guide

Each viewpoint is divided into questions. The viewpoints were answered once they were summarised, merged and restructured, so you may not see your viewpoint(s) verbatim. Every question has been answered. Sometimes questions from different viewpoints are combined because they concern the same topic.

Each viewpoint was given its own number. This number was sent to the submitter of a viewpoint with the acknowledgement of receipt. This number enables you to find the answers to the questions in your viewpoint.

If you are reading the Memorandum of Response on a computer, you can search in the following way:

1. Open the Memorandum of Response
2. Use the search function in the document by using the key combination **CTRL+ F** (on Windows) or **Command + F** (on Mac)
3. Type your viewpoint number into the search bar and press enter
4. You will see a smaller window on your screen with the answers found.
5. You can now click through the answers to your questions step by step.

Some of the viewpoints received are very comprehensive and not only contain questions but also descriptions of the situation as perceived by the submitter. We appreciate the efforts made to prepare these descriptions. These descriptions do not contain questions and we have therefore taken note of them and do not address them in this response memorandum. The questions and comments made in the NCEA's advice and in the public

input have led to changes in the design of the study. The NCEA's advice and changes to the study are given in Part A.

The viewpoints are answered by theme in Part B.

- Chapter 1: Decision making
- Chapter 2: Energy policy
- Chapter 3: Content and design of EIA procedure and Memorandum on Scope and Level of Detail and alternatives
- Chapter 5: Environmental effect and other effects
- Chapter 6: Cross-border effects

Questions on the draft participation plans have been answered by the Ministry of Economic Affairs and Climate Policy in a separate document.

Part A

NCEA advice and summary

1. Reaction to NCEA advice

The competent authority has asked the Netherlands Commission for Environmental Assessment (NCEA) for advice on the scope and level of detail of the study⁴. This independent Commission does not make decisions or reports. The Commission issued its [advice](#) on the Draft Memorandum on 12 October 2023.

In its advice on the Draft Memorandum, it discussed the planned study design and also gave some advice on how to achieve better and more transparent decision-making for the legislative amendment.

1.1. Main points of the advice

In its advice, the Commission indicates that it believes that the EIA should include at least the following points:

- A. a delineation decision that includes a clear summary and timetable for the essential decisions (strategic and operational) and the parties involved. In this overview, clearly indicate what is to be decided, in what sequence, and in which decision;
- B. a survey of the environmental consequences of the legislative amendment including a comprehensive and comprehensible summary of the existing environmental impacts of Borssele NPP. In particular, address nuclear safety, nature and impacts on neighbouring countries;
- C. an agenda listing environmental focal points for follow-up.

1.2. How the NCEA's advice is incorporated

The Commission's advice consists of several points that will be adopted in their entirety in the EIA for the legislative amendment. The most relevant points from the advice, along with how this is adopted in the EIA, are given below. The NCEA's advice on those themes that were also raised in the public input is addressed in Part B.

Permission for a possible licence application or more?

It is not clear to the Commission whether the legislative amendment is only intended to remove an obstacle to licence application, or whether the legislative amendment grants approval in principle for operating life extension.

In the EIA, the Ministry of Economic Affairs and Climate Policy will make it clear that the legislative amendment does not mean that the nuclear power plant can stay open longer without question. It will be more clearly explained in the EIA that the legislative amendment only removes the obstacle to a new licence application that makes an operating period longer than 31 December 2033 possible. To arrive at the actual decision on operating life extension, it will first be necessary to demonstrate with technical studies that this can be done safely and responsibly, and then go through all the necessary licences and procedures to demonstrate that this can be done safely and responsibly. The ANVS assesses this when processing the licence application.

Further, the EIA presents a clear delineation including a clear overview and timetable of the necessary decisions (strategic and operational) for this and the parties involved (see also Part B Chapter 1 Decision-making).

Regional strategic decisions to be made by the Government of the Netherlands

The Commission notes that strategic decisions on energy transition in the Borsele region lie with the Government of the Netherlands. There are several projects under the

⁴ Where the Commission talks about "lifespan extension", the Ministry of Economic Affairs and Climate Policy continues to consistently call it "operating life extension". This is how the Ministry has communicated it in recent years and, to avoid confusion, it will continue to communicate it in this way.

National Coordination Regulation (RCR) and an overarching vision is lacking, according to the Commission. It goes on to argue that the strategic choices in the region should not be in the hands of a private party at the time that it applies for a licence for an operating life extension in the future.

Indeed, a private party does not make strategic choices; this is done by the (central) government. The EIA will therefore include a section about which RCR projects are relevant around Borssele nuclear power plant and where possible cumulation between these projects and the operating life extension would be appropriate (see also Part B chapter 1).

Wider decision-making

The Commission asks for clarification on what (other) decisions are needed to enable an operating life extension and which environmental consideration is or was involved in which decision.

The EIA will include the decision chain below with the steps that need to be taken throughout the process up to the possible actual decision on operating life extension. The decision chain also outlines a picture of other procedures in which nuclear energy plays a role (such as the National Energy Systems Plan (NPE), the National Energy Network Programme (PEH) and possible international processes).

The tables below give an overview of the context of which operating life extension is part.

Table 1 State level decision chain

Products at state level	Year	Explanation
Rutte IV Coalition Agreement	2021	The Coalition Agreement for Rutte IV includes the goal of keeping Borssele nuclear power plant open and building two new nuclear power plants.
Letter to parliament on nuclear power 9-12-2022	2022	The letter to parliament dated 9-12-2022 once again sets out the cabinet's goals. It underlines the need to keep Borssele open: the plant is already there, its lifetime is presumably not over, and it fits well into a green energy system.
National Energy System Plan (NPE)	2023	A vision document defining scenarios for the Netherlands' energy system in 2050. Nuclear energy is reflected in this in line with the objectives in the Rutte IV Coalition Agreement and the letter to parliament of 9 December 2022.
National Energy Programme (PEH)	2023	The programmatic elaboration of the NPE: it spatially shows where opportunities/bottlenecks occur in the national energy network in various energy scenarios. In it, nuclear power is part of one scenario.
Broader environmental consideration regarding benefit and necessity of nuclear power	2024	The Ministry of Economic Affairs and Climate Policy will further substantiate the wider consideration of the benefit and necessity of nuclear power in the energy mix and what this means for the environment.
Draft Nuclear Energy Act (Kew) bill	2024	This will include the amendment to the Nuclear Energy Act, including outcomes of the operating life extension EIA and the Explanatory Memorandum.
Decision on legislative amendment of Nuclear Energy Act by the Dutch legislature	2025	Ultimately, the House of Representatives and Senate will decide whether the legislative amendment will pass. Once the legislative amendment is a reality, the nuclear power plant operator can apply for a (new) licence to operate longer.
Preferred decision on new construction of two nuclear power plants	2025	Work is underway in parallel on the second objective from the Rutte IV Coalition Agreement: the creation of two new nuclear power plants. In 2025, the minister is expected to be able to decide on the preferred location, including the plan EIA.
National Programma for Radioactive Waste (NPRA)	2025	The Ministry of Infrastructure and Water Management is working on the NPRA that will take effect in 2025. Every 10 years, it draws up a plan on how to deal with our radioactive waste. The NPRA addresses how to handle the radioactive waste, i.e. the end of the nuclear fuel chain.
Other	Year	Explanation
Nuclear fuel chain and uranium mining		Uranium is mined abroad. Nuclear power plants buy this from facilities that process uranium into fissionable materials from which energy can be extracted. Any environmental impacts in uranium mining must be monitored in the country of extraction.

Table 2 Operator decision chain

Products for life extension by the operator	Year	Explanation
SALTO (Safety Aspects of Long-Term Operation) missions	2022-2025	The International Atomic Energy Agency (IAEA) conducts missions for ageing management of the nuclear power plant. Outcomes will be included in the follow-up process.
10EVA (Ten-year safety evaluation)	2023	Every 10 years, the operator has to demonstrate the safety of the nuclear power plant through safety reviews. The results of this are submitted to the ANVS for evaluation.
Technical feasibility studies	2022-2025	The operator of the Borssele nuclear power plant, partly on the basis of outcomes of the SALTO and 10EVA, is investigating what measures are necessary at the nuclear power plant to keep it operating safely after 31 December 2033.
Business case	2022-2025	Based in part on the technical feasibility studies, the business case will be calculated. If not loss-making, a shareholder resolution on this will follow later.
Licence application	2025-2029	To be permitted to operate longer, the operator must submit a new licence application to the ANVS. Apart from substantiating the safety, this will also include the environmental assessment (Phase 2 EIA), including all relevant environmental studies.
Contracts	2025-2029	The operator draws up new contracts to facilitate the operating life extension. This includes contracts with fuel suppliers, as well as contracts with COVRA and how radioactive waste will be stored in the future.
Implementation	2029-2033	In this period, the operator works to carry out necessary measures at the nuclear power plant and implements the contracts drawn up.

In summary, Phase 1 EIA only serves to substantiate the possible legislative change, and Phase 2 EIA together with Phase 1 EIA serves to substantiate the possible licence application for the actual operating life extension.

Alternatives and reference: other approach required

Given the high level of abstraction of the EIA for the legislative amendment, the Commission argues that it does not make sense to test the alternatives as included in the Draft Memorandum as long as the results of the necessary technical studies are not yet known (expected in about five years). The Draft Memorandum assumed three alternatives to understand environmental impacts: nuclear power plant operating for 10 years longer, nuclear power plant operating for 20 years longer, or nuclear power plant operating for an indefinite period longer. The Commission: For the time being, it is not feasible, even in a general sense, to convincingly demonstrate in the EA-report that the Borssele NPP design life can safely accommodate a second extension of the approved lifetime, or in other words, that this is feasible and realistic. The question is whether a comparison between the aforementioned alternatives and an uncertain (and hypothetical) development of the Borssele area and its surroundings in the distant future (in the period from 2033 to 2053) can offer decision-making information for the

legislative amendment that is both distinctive and meaningful. In addition, describing the reference situation accurately would seem to be a complex undertaking.”

This is an initial phase of the EIA for the operating life extension project with two decisions: Phase 1 amendment of Nuclear Energy Act and Phase 2 licence under this Nuclear Energy Act. We adopt the NCEA’s advice in this first phase EIA to conduct an investigation based on the current situation of the nuclear power plant and - where possible - to extrapolate the effects to the situation after 2033. Reporting on the current environmental impacts of Borssele nuclear power plant is now broken up into different parts. It is a lot of information, which makes it difficult to find the right information in one central place. And the Borssele area in particular benefits from this information, as several viewpoints also show. The EIA brings this information together in one place.

Aside from the current environmental impacts, the Commission recommends extrapolating these outcomes where possible and relevant, based on *expert judgement*, to the situation after 2033. This provides insight into whether threshold values can be given, from which point certain environmental aspects can become critical. Such aspects must then be given due consideration in the future (and for the possible licensing in a few years). As part of this Phase 1 EIA, certain investigation efforts will be put on the agenda to make it clear which investigations still need to take place as part of Phase 2. This agenda will guide the (environmental) studies in the Phase 2 EIA.

This recommended approach is adopted for the Phase 1 EIA. This means that the EIA is no longer based on the three alternatives previously considered, with an assessment against a reference situation, but instead focuses on the environmental effects of the current situation. Where possible, it also provides a view of how those environmental impacts develop after 2033, and what areas of concern this leaves for further steps in the possible application for a licence for an operating life extension.

The Phase 1 EIA is structured as follows:

- Introduction
 - General description of functioning of Borssele NPP, parties involved, and policy frameworks;
 - Delineation of scope, which parts are investigated, and also which parts fall beyond the scope of this Phase 1 EIA.
- Procedures and decisions
 - Sequential description of the procedures and decisions
 - “nuclear power in the energy mix”,
 - Borssele NPP operating life extension
- Proposed activity
 - Operating life extension Phase 1, Nuclear Energy Act amendment;
 - Description of benefit and necessity
- Exploration work method
- Theme chapters
 - Radiological aspects (radiation, emissions);
 - Non-radiological aspects (nature, safety, water, soil, noise);
 - For each theme, the policy frameworks are stated, the relevant aspects from Borssele NPP for that theme, description of the current situation including any cross-border effects, extrapolation into the future where possible, possible consequences of climate change, and putting actions on the agenda for Phase 2.
- Conclusions

2. Summary of frequently asked questions and changes to the investigation approach

In this section, we go into the most frequently asked questions in the public input. We also explain the adjustments to the investigation to be conducted in response to questions or ideas from the public input and the advice of the NCEA.

2.1. Frequently asked questions

Several people submitting viewpoints asked questions or made comments on:

- Nuclear energy in the energy mix
- The coherence of the energy projects in the region
- The age of the nuclear power plant
- Safety, radiological effects
- Effects on the Western Scheldt

Nuclear energy in the energy mix

Several people and the NCEA ask about the role of nuclear energy in the energy mix. The plan to keep Borssele nuclear power plant open longer will not change the role nuclear energy currently has in the overall energy mix. After all, nuclear energy already has a place in the mix. However, without a legislative amendment, nuclear energy does disappear from the mix because Borssele NPP would close after 2033.

Furthermore, alongside solar and wind, nuclear energy is a clean form of power generation with a high level of security of supply because a nuclear power plant can generate power 24/7. Nuclear energy can therefore contribute to achieving the Dutch government's climate goals of being CO₂-neutral by 2050.

The question of 'why nuclear energy in the energy mix' is not answered in this procedure. There are other procedures that deal with the wider Dutch energy system. Several questions and sub-questions regarding the role of nuclear energy (part of the mix, radioactive waste handling, the relationship with surrounding projects, possible new nuclear power plants to be built) are answered there. The Ministry of Economic Affairs and Climate Policy will further substantiate the wider consideration of the benefit and necessity of nuclear energy in the energy mix and what this means for the environment. For an overview, see also the tables on pages 10 to 12.

Several other procedures with relevance to nuclear energy are mentioned below.

National Energy System Plan

The National Energy System Plan (NPE) provides a clear development focus for the energy system until 2050. With the NPE, the government makes orienting choices that lay the foundation for the development of this energy system. In the transition to a fully sustainable energy system, the cabinet is committed to the widest possible palette of energy sources and the necessary infrastructure. By making a maximum commitment to ensure an adequate supply of energy (domestic production and imports) in the coming years and timely availability of adequate energy infrastructure, the cabinet will facilitate the sustainability of the demand sectors (built environment, mobility, industry and agriculture). In doing so, the government looks at the energy system as a whole. Nuclear power is part of this: growing from 0.5 GW now (from current Borssele NPP) possibly to over 3.5 GW around 2035 and possibly growing further to 7 GW by 2050.

The plan was released in its final form in December 2023. Participation took place through an internet consultation and stakeholder dialogue based on a draft NPE. These responses received also touch on the discussion of *why nuclear power in the energy mix* several times. At this time, work is underway on the Implementation Agenda for the NPE. See also: [National Energy System Plan \(NPE\) \(rvo.nl\) \(in Dutch\)](https://www.rvo.nl/en/energy/national-energy-system-plan).

National Energy Network Programme (PEH)

The Ministry of Economic Affairs and Climate Policy has done its own elaboration of the National Energy System Plan (NPE) in 2023/2024 in the form of the National Energy Network Programme (PEH). The PEH revolves around seven scenarios that examine the spatial impact of the required growth of the Dutch energy system. One scenario called 'very strong nodes' was examined, the only one in which nuclear power has a role. This scenario investigated growth of nuclear power to 8.3 GW (with a total of five new nuclear power plants within the Borssele and Maasvlakte I protection areas and the existing Borssele nuclear power plant. See also: [National Energy Network Programme \(rvo.nl\)](https://rvo.nl/national-energy-network-programme) (in Dutch).

National Programme for Radioactive Waste

Every 10 years, all EU member states must update their national programme for the storage and management of radioactive waste and spent fuel (the National Programme for Radioactive Waste ; NPRA). The Netherlands must have a new national programme no later than 2025. Drawing up the national programme is an obligation from the European Commission (2011/70 EURATOM). To assess the impact of the National Programme for Radioactive Waste on the environment, a plan environmental impact assessment (SEA) is being prepared.

Several policy options will be included in the plan SEA for the NPRA. A possible longer operating life of the Borssele nuclear power plant is included in the COVRA inventory⁵. Possible construction of new nuclear power plants is also covered in this inventory.

The first step towards this plan EIA is a Draft Memorandum on Scope and Level of Detail. The Draft Memorandum describes what will be investigated in the plan EIA and in what detail. This Draft Memorandum was open for comments from 3 October to 13 November 2023. See also: [Nationaal Programma Radioactief Afval | Platform Participatie](#)). The NCEA's [advice](#) on the Draft Memorandum was issued on 31 January 2024.

Projects in the region

In the area around Borssele - and particularly in the port area - work is underway on several national government energy projects, referred to as projects under the National Coordination Regulation⁶ (RCR projects). These include landfall of offshore wind projects, a high-voltage substation and various infrastructure projects. These projects collectively put pressure on the region. People contributing viewpoints wonder how it will be managed if so many projects are built in their area. A common complaint from the viewpoints is that projects go through their own legal processes.

At the time of writing this Memorandum, the Ministry of Economic Affairs and Climate Policy is also expanding its environmental planning managers in the Borssele region. Exploratory discussions are also being held between the project leaders of the RCR projects (project procedure under the Environmental Planning Act) on how all current projects and future projects can be considered in conjunction.

Further, the municipality asked a group of residents to indicate the conditions under which they would regard energy projects in the region as acceptable. These Borssele

⁵ [Nationale-Radioactief-Afval-Inventarisatie.pdf \(covra.nl\)](#)

⁶ Until the Environmental Planning Act (Omgevingswet) comes into force, projects will be implemented as National Coordination Regulation (RCR) projects. In the RCR, the various decisions (licences and exemptions and a zoning plan) that are needed are taken simultaneously and in consultation with regional authorities. After the Environmental Planning Act comes into force, these will become Project Decisions.

Conditions were adopted by the municipal council in January 2024. These conditions also address compensation and nuisance reduction in the region. The Minister for Climate and Energy Policy will receive these Borssele Conditions April 2024. A response will follow later this year.

The following projects are underway, of which the current status (January 2024) is explained under Figure 1:

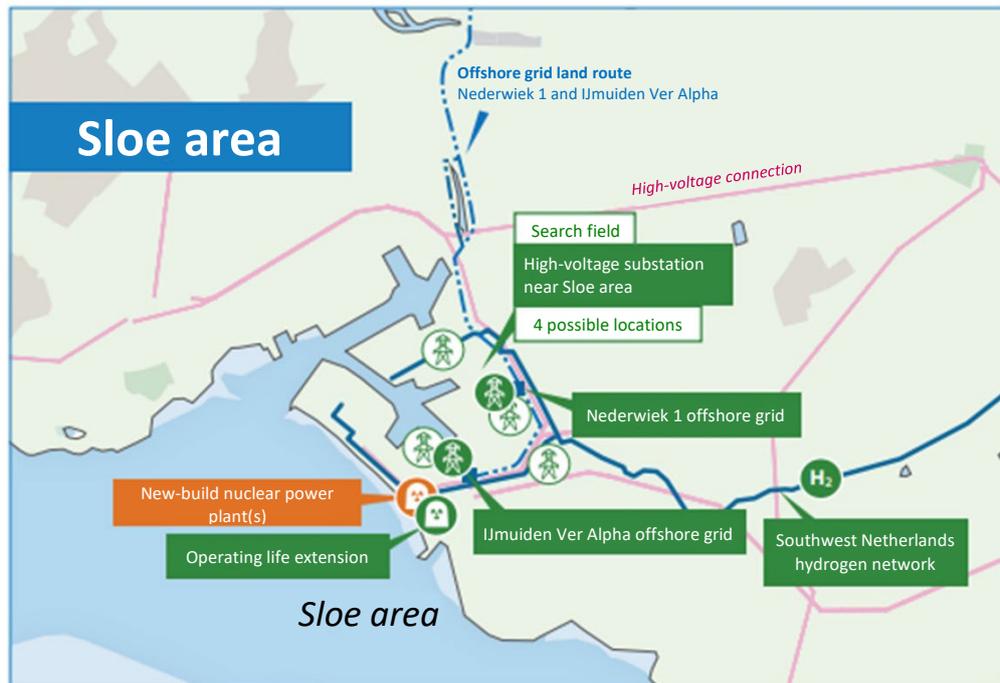


Figure 1 projects in the Sloe area

Offshore grid: IJmuiden Ver Alpha

TenneT wants to build an underground high-voltage connection from the IJmuiden Ver wind farm zone to the nationwide high-voltage grid at Borssele. The IJmuiden Ver Alpha offshore grid project will connect 2 gigawatts (GW). The wind turbines in the IJmuiden Ver wind farm zone will be connected directly to a platform in the wind farm zone. The platform will be connected to an onshore converter station with underground 525 kilovolt (kV) direct current cables. This is where direct current is converted into alternating current. The electricity then goes from the converter station to the Borssele high-voltage substation via alternating current cables.

Offshore grid: Nederwiek 1

TenneT wants to construct the Nederwiek 1 offshore grid. This is one of the three underground connections connecting the Nederwiek wind farm zone to the nationwide high-voltage grid. The Nederwiek 1 offshore grid project will connect 2 gigawatts (GW). The wind turbines in Nederwiek 1 will be directly connected to a platform in the wind farm zone. The platform will be connected with underground 525 kilovolt (kV) direct current cables to a new converter station in Borssele.

Southwest Netherlands hydrogen network

Among other things, hydrogen can be used in industry as a replacement for natural gas to reduce CO₂ emissions. To make this possible, a nationwide network is being built to transport hydrogen. The hydrogen network in the southwest Netherlands is part of the nationwide hydrogen network being created by Hynetwork Services (100% subsidiary of

Gasunie). The nationwide hydrogen network connects five industrial clusters in the Netherlands with each other, with hydrogen storage sites, and with neighbouring countries. The southwest Netherlands hydrogen network runs from the Belgian border at Sas van Gent to Vlissingen in Zeeland and Moerdijk in North Brabant.

High-voltage substation near Sloe area

Construction of new 380 kV high-voltage substation near the Sloe area. After the connection of the 'IJmuiden Ver Alpha offshore grid' project, new connections to the existing 380 kV high-voltage substation at Borssele will no longer be possible. New connection capacity is needed for future initiatives such as hydrogen production as well as the connection of the 'Nederwiek 1 offshore grid' project (the additional 2 Gigawatt offshore wind connection to the Sloe area). A new 380 kV high-voltage substation is therefore needed in/near the Sloe area.

New nuclear power plants

In view of climate goals and the pursuit of an affordable, reliable, safe, sustainable and equitable energy system, the Government of the Netherlands itself is taking the initiative to build two new nuclear power plants. The [letter to parliament](#)⁷ of 9 December 2022 sets out the preparations the State is making and describes some initial choices based on initial exploratory studies. The letter also identified the Borssele protection area as a preferred site. This was done to allow as many preparatory studies as possible to be conducted in parallel.

The first step in the EIA process is to prepare a Preferred Decision. In order to reach a Preferred Decision, several steps are being taken by the Ministry of Economic Affairs and Climate Policy: several feasibility studies are being carried out, a plan EIA is being completed, a Comprehensive Impact Analysis is being prepared. The aim is for the national government to be able to make a Preferred Decision in 2025 and, with this, to designate a plot where the two new nuclear power plants can be built. Although Borssele has already been named as the preferred site by the Ministry of Economic Affairs and Climate Policy, the EIA procedure requires an investigation of alternative sites.

The [Kennisgeving Voornemen en Voorstel Participatie Nieuwbouw Kerncentrales](#) [Notification of Intent and Proposal for Participation on New Nuclear Power Plants] was published on 23 February 2024. Anyone can give a response to this, and the aim is to mobilising as many residents, organisations and other (international) stakeholders as possible to say something about the plan. A Draft Memorandum on Scope and Level of Detail will also be delivered later in 2024. More information about this can be found at <https://www.overkernenergie.nl/english>.

Age of the nuclear power plant

Several people submitted concerns about the age of the nuclear power plant, and what that age means for safety.

The Borssele nuclear power plant has undergone several safety assessments during its operating life and various measures have been implemented accordingly to keep the plant safe. With this, the Borssele nuclear power plant has been modified several times since its construction. This has raised the level of safety. As a result, the current plant is more robust than the plant as it was commissioned in 1973.

⁷ <https://open.overheid.nl/documenten/ron-11d97704ce65c4ba42664fb0fbb21e02a40099b2e/pdf>

The safety of the nuclear power plant and of all systems, structures and components (SSCs) has been demonstrated in the safety report and underlying justification up to an operating life of 60 years (2033). If the licence holder actually wants to operate for longer, it will have to demonstrate that the plant is actually safe and that, taking further ageing into account, it will continue to be in the future. A Long Term Operation (LTO) process is envisaged for this that should eventually lead to a licence application. Broadly, the LTO licensing process requires the following steps:

- action plan for the technical studies,
- memorandum on scope and level of detail of EIA (Phase 2),
- conducting safety analyses and investigations,
- assessment of investigations by ANVS,
- submission of licence application and Phase 2 EIA,
- ANVS prepares draft licence for public consultation and ultimately grants the final licence.

In this licence application, at least the safety substantiation is submitted to the ANVS for assessment and decision-making.

The Phase 1 EIA for the legislative amendment addresses the age of the plant in the description of effects in the field of (nuclear) safety and radiation protection.

Safety

A large proportion of the viewpoints expressed concerns about the safety of the plant.

Now and in the future, the Borssele nuclear power plant must continue to meet the safety requirements and the risk targets set out in the legal framework (Nuclear Safety of Nuclear Installations Regulation, article 6, and Nuclear Facilities Fissionable Materials and Ores Decree, article 18). An operating life extension does not change these safety objectives. These regulations define the safety level the nuclear power plant must meet, including for so-called 'off-design accidents'.

Several evaluations (including the stress test after the disaster at the nuclear power plant in Fukushima) examined the robustness of the nuclear power plant and took additional measures to improve the nuclear power plant. The ANVS always assesses whether the nuclear power plant meets the safety requirements set. The nuclear power plant must also always have a security package approved by the ANVS that prevents possible theft of materials and knowledge.

New insights gained over time, whether or not due to developments at other plants around the world, lead to new requirements for nuclear power plants. These new requirements have to be implemented and, as a result, a level of safety is achieved that meets current (scientific) knowledge.

With a view to nuclear safety, the EIA identifies the radiological consequences of normal operations and the radiological effects of accident scenarios. External hazards, including the resistance of the plant to the impact of an aircraft crash, are part of the assessment framework used.

Effects on the Western Scheldt

Many viewpoints ask about the effects on the Western Scheldt Natura 2000 site.

Impacts on the Western Scheldt are addressed in the EIA. The NCEA has also considered this in detail in its opinion. The EIA will include an 'ecology' section. That section will describe the effects on nearby Natura 2000 sites and other relevant nature (areas and species).

2.2. Changes in the investigation

In the EIA, the Ministry of Economic Affairs and Climate Policy planned to investigate the effects of operating life extension for 10 years, 20 years and an indefinite period of time. Following from the advice of the ECEA, this approach was revised. This is addressed in Chapter 1 of Part A.

The EIA for the Nuclear Energy Act amendment does not examine alternatives but, in line with the advice of the NCEA, explores the current environmental situation around Borssele NPP.

On the advice of the NCEA, the Ministry of Economic Affairs and Climate Policy will assess the environmental impact of the current situation around Borssele NPP. Where possible, an extrapolation is made for the period beyond 2033. This leads to environmental considerations and an investigation agenda for the second phase (if it is decided to actually extend the operating life, subject to the licence application to ANVS for actual approval of the operating life extension). Section 1.2 sets out the changes following the NCEA's advice and how the environmental study is now being carried out.

In addition, the NCEA asks for a clearer delineation in the EIA of what is and is not part of the decision on operating life extension. Indeed, several projects involving nuclear power are currently ongoing. The Commission calls for a decision-making chain so that it is clear - also to readers - which part of nuclear power falls into which procedure. The tables in Chapter 1 'wider decision-making', pages 10 to 12, show this chain of decisions.

Part B

Response to public input on the Draft Memorandum

1. Decision making under Nuclear Energy Act and Borssele Nuclear Power Plant covenant

What was in the Draft Memorandum?

Article 15a of the Nuclear Energy Act states that, effective as of 31 December 2033, the licence granted to EPZ to operate the Borssele nuclear power plant, as far as the release of nuclear energy is concerned, will expire. The second paragraph of Article 15a provides that an application for a licence, for the release of nuclear power at the Borssele nuclear power plant after 31 December 2033, will not be considered. To allow the operating life extension for nuclear power to be released after 31 December 2033, Article 15a needs to be amended. This legislative amendment is the first necessary step towards a possible operating life extension beyond 2033.

The second step for the operating life extension for the release of nuclear power after 31 December 2033 is a decision regarding the licence to release nuclear power (hereinafter: LTO licence). Together with the legislative amendment, this licence constitutes permission for the operating life extension as provided for in the EIA Directive. The ANVS assesses whether the licence application complies with the legal framework and decides on the granting of this licence.

1.1. NCEA advice

In its advice (section 2.1), the Commission recommends that an accurate description of the goal be included in the EA-report as well as brief summary of the context and background of the Borssele nuclear power plant, including:

- *the safety of the plant relative to other reactors in Europe;*
- *the extent to which a lifespan extension beyond 2033 might also entail further modernisation.*

The Commission further states that it is not clear whether the legislative amendment is only intended to remove an obstacle to the licence application, or whether the legislative amendment grants approval in principle for operating life extension. The Commission advises that this is made clear.

In the current situation under the Nuclear Energy Act, the Borssele nuclear power plant is not permitted to release nuclear energy after 31 December 2033. Also, an application for renewal of the licence may not be accepted for processing. To allow an operating life extension of Borssele nuclear power plant, it is necessary to amend the Nuclear Energy Act. It is planned to amend Article 15a of the Nuclear Energy Act. The EIA will be publicly consulted at the same time as the legislative amendment, so it will be clear at that time what the legislative amendment covers.

1.2. Borssele nuclear power plant covenant and compensation plan

1.2.1. Generic viewpoints

Viewpoint 95634062, 95925451

Several submitters indicate that aside from amending the Nuclear Energy Act, the 'Borssele Nuclear Power Plant Covenant (2006)' should be amended. They say the EIA should also address the potential environmental impact of agreements in the new covenant.

The EIA for the legislative amendment and the bill will be made public at the same time. The EIA is not about the covenant but about the amendment of the Nuclear Energy Act. A covenant, if applicable, will follow at a later stage. However, a covenant may include environmental agreements, such as mitigation measures that follow from the EIA. The effects of any mitigation measures will be addressed in the Phase 2 of the EIA.

Viewpoint 95221011, 95593142, 95618821, 95618990, 95620763, 95653762, 95655564, 95658141, 95660969, 95664913, 95665347, 95667175, 95677679, 95677716, 95680309, 95687193, 95687947, 95688697, 95689917, 95695215, 95695253, 95696328, 95699114, 95700359, 95701438, 95701512, 95701538, 95702002

Several submitters request that the EIA address the compensation plan for the municipality of Borsele. If Borsele was granted an extended operating life, there is a situation where local residents would have to be compensated for the negative impacts they experienced. Several people are asking for generous compensation in the form of a fund for the village managed by the village council. Several submitters request that all compensation obligations still outstanding be fulfilled first. Priority in the expenditure must be the green buffer between industry and village.

The Ministry of Economic Affairs and Climate Policy is not responsible for the compensation plan municipality Borsele. The process around the compensation plan for the municipality of Borsele is being organised by the municipality.

The municipality asked a group of residents to indicate the conditions under which they would regard energy projects in the region as acceptable. These Borssele Conditions were adopted by the municipal council in January 2024. These conditions also address compensation and nuisance reduction in the region.

A State-region working group has been established to oversee the discussions on investment in the area. The compensation plan will be included in these discussions (between the national government, municipality of Borsele and Province of Zeeland) about nuclear energy in general as well as about the other energy projects.

1.3. Decision to be made

1.3.1. Generic viewpoints

Viewpoint 95064163, 95230378, 95336804, 95403639, 95404482, 95404609, 95404887, 95414782, 95422214, 95479805, 95604545, 95613191, 95618911, 95622160

Several submitters endorse the plan: to amend the law to facilitate a licence application by the Borssele nuclear power plant. One submitter indicates that the extension should be 20 years or not include a date.

These viewpoints support the proposed legislative amendment and are duly noted.

In the EIA, the Ministry of Economic Affairs and Climate Policy initially planned to investigate the effects of operating life extension for 10 years, 20 years and an indefinite period of time. On the advice of the NCEA, the Ministry of Economic Affairs and Climate Policy will assess the environmental effects of the current situation, extrapolate these effects - where possible - beyond 2033, and put environmental issues on the agenda for the second phase (the licence application to ANVS for the actual approval of the operating life extension).

Viewpoint 95120231, 95221011, 95447173, 95578378, 95582618, 95615760, 95616025, 95616091, 95616139, 95616156, 95616184, 95618821, 95619596, 95619631, 95619658, 95620037, 95620162, 95620294, 95620378, 95620484, 95620539, 95621176, 95621241, 95621247, 95621300, 95621388, 95621470, 95621546, 95621655, 95621713, 95621719, 95621768, 95621783, 95621794, 95621823, 95621865, 95621889, 95621915, 95621931, 95621970, 95622021, 95622155, 95637376, 95637401, 95637425, 95637450, 95637480, 95637500, 95661956, 95662060, 95662135, 95662202, 95662269, 95662307, 95662361, 95662412, 95662511, 95662570, 95662631, 95662675, 95662727, 95662911, 95663185, 95663231, 95663274, 95677299, 95677366, 95677389, 95677460, 95677630, 95678179, 95687193, 95694754, 95698959, 95699162, 95699196, 95699235, 95709241, 95709392, 95709431, 95709478, 95709524, 95709593, 95709641, 95709667, 95709753, 95714515, 95786262, 95786310, 95786355, 95786453

Several submitters object to the proposed amendment to the Nuclear Energy Act to extend the operating life of the Borssele nuclear power plant. They ask to close the plant in 2033. The operating life extension violates his/her right to life, health and property protection. Some people also cite arguments against nuclear power, such as radioactive waste.

This first-phase EIA deals with the amendment of the Nuclear Energy Act. The Ministry of Economic Affairs and Climate Policy is investigating the current and expected future environmental impacts of keeping Borssele nuclear power plant open longer. This includes health and safety requirements. The outcomes of the investigations will be taken into account in the decision-making. In this EIA procedure, the emphasis is on mapping out the environmental impacts in the current situation for the proposed legislative amendment. The purpose of this EIA procedure is not to make a decision regarding actual operating life extension.

To actually be able to continue operating longer, the licence holder (EPZ) must demonstrate in a subsequent procedure (second-phase EIA procedure) that a longer operating period is safe, given the standards then in force. It will then become clear what technical measures are needed. The independent authority ANVS assesses this as part of the operating life extension licence procedure.

1.3.2 Specific viewpoints

Viewpoint 95925451

One submitter states that the EIA should describe the decision-making process in the follow-up process.

The NCEA also asked this question. The EIA will include a timeline with the steps to be taken. Steps in the timeline are the EIA procedure, the legislative amendment, the steps to reach an adopted legislative amendment, the investigations that must be conducted for the licence application, and what will be submitted to ANVS for assessment at what time (approximately).

Viewpoint 95694754

One submitter indicates that a correct and proper consideration of whether keeping the Borssele nuclear power plant open longer is justified only after extensive and thorough long-term investigation.

The Ministry of Economic Affairs and Climate Policy is currently studying the possibility of keeping the nuclear power plant open longer. The legislative amendment is a first step, but will not necessarily lead to the decision to extend the operating life. The LTO process is also part of this. This procedure deals with the amendment of the Nuclear Energy Act. This makes it possible to apply for a licence or licence amendment and have it considered by ANVS (second phase of the procedure). This Phase 1 EIA should not be seen as a decision on the actual operating life extension. To actually stay in operation longer, it will be necessary to apply for a licence later. In this procedure, EPZ must demonstrate that longer-term operation can be done safely and responsibly. It will also become clear then what technical measures are needed.

2. Energy policy

What was in the Draft Memorandum?

Section 2.4 discussed the benefit and necessity of operating life extension at Borssele Nuclear Power Plant. By keeping the nuclear power plant open longer, the Ministry of Economic Affairs and Climate Policy wants to contribute to a CO₂-neutral electricity supply and, with this, contribute to the Dutch climate target of being climate-neutral by 2050. This means that no greenhouse gases will be emitted then, in net terms. To do this, nuclear energy is used as one of the energy sources in the overall energy mix to meet energy demand. Aside from nuclear power, the Dutch government is investing in energy saving, generation from energy sources such as solar and wind power, energy storage in batteries, and energy carriers such as hydrogen.

With all these efforts combined, the government expects to meet the Dutch climate target in terms of energy, and must also meet the growing demand for electricity. Keeping the nuclear power plant in operation for longer will provide greater security of supply and preserve nuclear expertise in the region. The more electricity the Netherlands produces itself, the less dependent the Netherlands is on electricity imports from other countries. Section 2.4 explains these aspects.

2.1. Energy mix

2.1.1. NCEA advice

The NCEA asks (chapter 2) for clarification as to what (other) decisions are needed for a potential lifetime extension. It also calls attention to the connection between the legislative amendment on one hand and the EIA procedure on the other, and the relationship between legislative amendment and other (energy) processes. The NCEA specifically asks about the role of nuclear energy in the energy mix. The NRD briefly mentions that decision-making on such an 'overarching decision-making process' will take place elsewhere, at a later stage.¹⁹ The question arises as to the precise 'scope' of the EIA for this decision, in relation to other forthcoming decisions. In other words: 'What is to be decided, in what sequence and in which decisions regarding electricity production from nuclear energy in the Netherlands, and how does the current Borssele nuclear power plant fit into this context?'

The NCEA states that a precondition for its advice is that the wider decision-making chain is addressed elsewhere. The Commission operates on the premise that the Minister will promptly clarify this matter (prior to a legislative amendment), thus enabling its inclusion in the EIA. This is because the NCEA requires a clear understanding of the structure of the overall decision-making chain to effectively evaluate the accuracy and completeness of the EIA for the for the legislative amendment at a later stage.

In line with the Commission's advice, the EIA will include a decision chain with an explanation of what steps will be taken to make decisions. The decision chain also outlines a picture of other procedures in which nuclear energy plays a role (such as the National Energy Systems Plan (NPE), the National Energy Network Programme (PEH), NOVEX, and possible international processes). Part A chapter 1 gives this decision-making chain in table form.

The Ministry of Economic Affairs and Climate Policy wishes to further substantiate the wider consideration of the benefit and necessity of nuclear power in the energy mix and what this means for the environment. The precise form is not yet clear at the time of writing this response memorandum.

2.1.2. Generic viewpoints

Viewpoint 95120231, 95593142, 95615760, 95616025, 95616139, 95616156, 95616184, 95619596, 95619631, 95619658, 95620037, 95620162, 95620294, 95620484, 95620539, 95621176, 95621241, 95621247, 95621300, 95621388, 95621470, 95621546, 95621655, 95621713, 95621719, 95621768, 95621783, 95621794, 95621823, 95621865, 95621889, 95621915, 95621931, 95621970, 95622021, 95622155, 95637376, 95637401, 95637425, 95637450, 95661956, 95662060, 95662269, 95662307, 95662511, 95662631, 95662727, 95662911, 95663185, 95663231, 95663274, 95668198, 95677299, 95677366, 95677389, 95677460, 95677667, 95698959, 95699196, 95699235, 95709241, 95709431, 95709641, 95709667, 95709753, 95786355, 95786453, 95925451

Several submitters ask the State to focus on renewable forms of energy (wind, solar, hydroelectric, geothermal). This should be sufficient for the electrification of industry. According to the submitters, the operating life extension would hinder the growth of renewable energy sources.

This cabinet has the ambition of making electricity production CO₂-neutral by no later than 2035. Various energy sources, including nuclear power, contribute to achieving this objective. It is emphatically not the case that one energy source hinders or competes with the other. Given the urgency of the climate problem, the Netherlands does not have the luxury of excluding certain CO₂-neutral energy sources (see also [letter to parliament](#)⁸ of 9 December 2022, [NPE](#) and [PEH](#)).

Electrification of industry is important to combat climate change. However, there are more sectors where a step toward sustainability is needed. Given this large and exponentially growing demand for CO₂-neutral electricity and the urgency of the climate problem, the Netherlands is investing in these CO₂-neutral energy sources as much as possible.

Viewpoint 95632838, 95701986

A submitter asks that the procedures of several related projects in the large-scale energy transition should not be done simultaneously and in parallel. This submitter says that a sequential approach would be better.

Another submitter feels there is a procedural error in the sequencing of the Draft Memorandum and communication and participation plan, the NPE and the PEH, and argues that the operating life extension should be delayed until the discussion on the energy mix has taken place.

Because energy transition is a major task with very many of projects, it is not possible to do everything one after the other. This would take too long, and the urgency and need is too high for that. That is why many projects are being investigated and implemented in parallel. Of course, coordination between the projects is necessary and other concrete plans and projects are being taken into account in the investigations (see also Part B section 2.2). Policy documents such as NPE and PEH have already been published and/or adopted. The EIA for operating life extension can draw from them.

The operating life extension is being examined step by step to ensure due diligence in the process. This means that the Ministry of Economic Affairs and Climate Policy is now exploring options for amending the law. In the next phase, the operator will conduct technical feasibility studies. However, as part of this EIA, the procedures and decisions to be taken are explained.

⁸ <https://open.overheid.nl/documenten/ron-l1d97704ce65c4ba42664fb0fbb21e02a40099b2e/pdf>

Viewpoint 95618911

One submitter notes that diversification across multiple energy sources reduces the risk of shortages and consequences of geopolitical tensions.

The Ministry of Economic Affairs and Climate Policy shares your view that diversification across multiple energy sources reduces the risk of shortages and consequences of geopolitical tension. This is indeed one of the reasons why the government is committed to energy generation from multiple sources such as solar, wind and nuclear.

2.1.3. Specific viewpoints

Viewpoint 95593142, 95618821, 95618990, 95620763, 95655540, 95662202, 95662412, 95687193, 95699196, 95700359, 95702002

Several submitters ask for the EIA to assess the impact of operating life extension on security of supply. Some of them indicate that operating life extension does not contribute to security of supply.

Electricity demand will increase in the coming decades, in part due to the energy transition to cleaner forms of energy. Over time, supply bottlenecks may arise if the power grid is not expanded, and also if electricity generation (such as Borssele nuclear power plant) is not expanded proportionally. Potential bottlenecks that may occur here are described in the EIA and put on the agenda for a subsequent phase.

Viewpoint 95221011

The submitter indicates that there should also be investment in saving energy.

This procedure is about possibly keeping an existing nuclear power plant generating energy, not about possible energy savings in the Netherlands. The Government of the Netherlands is investing in various policy fields, among others in the [National Energy Saving Programme \(in Dutch\)](#).

Viewpoint 95655540

The submitter argues that electricity demand within Zeeland will decrease, and gives several examples.

The Borssele NPP produces about 3.8 TWh of CO₂-neutral electricity annually and delivers this to the grid. This generation not only meets local needs but also contributes to meeting national energy needs. So even if electricity demand in Zeeland decreases, there will still be growing demand nationwide, which Borssele NPP helps meet.

Viewpoint 9565554, 95221011, 95403314, 95403639, 95404887, 95414782, 95422214, 95479805, 95613191, 95618911, 95622160, 95925451

Several submitters express their view that nuclear power is a reliable source of energy. They list some of the sustainability advantages of nuclear power over wind turbines and solar panels.

Several submitters address the benefits of operating life extension and nuclear power in general. For example, that an energy system with a diversity of energy sources contributes to a stable, robust energy system with higher levels of security of supply.

Several submitters believe that operating life extension will ensure the preservation and expansion of nuclear knowledge in the Netherlands. Someone finds that there is insufficient knowledge and expertise in this area in the Netherlands, which means, for example, that foreign experts are flown in for maintenance.

One submitter points out that some forms of renewable energy fluctuate in yield, but to accommodate this, nuclear power is not a logical option. The output of a nuclear power plant can only be adjusted very slowly.

A submitter argues that the operating life extension will meet a growing energy demand.

These viewpoints have been duly noted.

2.2. Projects in the region - including construction of new nuclear power plants

2.2.1. NCEA advice

In its advice (section 2.2), the NCEA points out that in the municipality of Borssele, seven National Coordination procedures for major energy projects are currently underway. This number is expected to increase in the coming decades. It remains uncertain when and where a comprehensive and cohesive examination of regional strategic decisions concerning National Energy Projects and their environmental consequences will take place.

The Borssele NPP may have environmental effects on these upcoming energy plans and projects. Conversely, these plans and projects, particularly the plans for two new nuclear power plants, can also impact the Borssele NPP. The municipality of Borssele's public submission underscores the need to draw attention to this aspect.

From a logical standpoint, the decisions and considerations related to this matter are not entirely in keeping with 'Part 2 of an EIA for a permit under the Nuclear Energy Act'. Responsibility for this does not rest with EPZ, a private entity entrusted with drawing up the EIA part 2. In the NCEA's view, decisions and considerations of this kind are more appropriately handled by the government (central government) itself, using a non-binding approach that is yet to be specified. In summary, a solution is still needed to avert any alignment issues and environmental risks.

The EIA considers the coherence between the projects in the region.

The Ministry of Economic Affairs and Climate Policy also sees the importance of coherence between different (RCR or project decision) procedures and the wider strategic spatial planning of the area. There is coordination on this, including with local authorities, and also between the procedures underway within Zeeland. During these procedures, ongoing projects are taken into account and decision-making is considered in conjunction as much as possible. How this will be done will be described in the EIA for the Nuclear Energy Act (Kew). The EIA for the Nuclear Energy Act also considers cumulative effects with other relevant plans and projects. See Part A chapter 2 for further explanation on the relevant projects and their interrelation in the Borssele area.

At the time of writing this Memorandum, the Ministry of Economic Affairs and Climate Policy is also expanding its environmental planning managers in the Borssele region. Exploratory discussions are also being held between the project leaders of the RCR projects (project procedure under the Environmental Planning Act) on how all current projects and future projects can be considered in conjunction. You can consult the digital project map of the Bureau Energieprojecten to understand the national energy projects (in process or completed); <https://www.rvo.nl/onderwerpen/bureau-energieprojecten> (in Dutch).

2.2.2. Generic viewpoints

Viewpoint 95652861, 95653762, 95655540, 95655564, 95657861, 95658141, 95660969, 95661743, 95664913, 95665347, 95667175, 95677679, 95677716, 95678179, 95680309, 95687947, 95688697, 95689917, 95695215, 95695253, 95696328, 95699114, 95701438, 95701512, 95701538

Several viewpoint submitters, including the municipality of Borssele, point to the various projects to be completed in the same area, such as the addition of two new nuclear power plants and the various 'wind on land' projects. These projects questions will take

up a lot of the limited physical space, demand space on the electricity grid, and have an impact on the surroundings. They indicate that procedurally settling projects as separate building blocks is not enough and point to the accumulated effects on landscape, environment and liveability.

The Ministry of Economic Affairs and Climate Policy also sees the importance of coherence between different (RCR or project decision) procedures and the wider strategic spatial planning of the area. There is coordination on this, including with local authorities, and also between the procedures within Zeeland. During these procedures, ongoing projects are taken into account and decision-making is considered in conjunction as much as possible. How this will be done will be described in the EIA for the Nuclear Energy Act (Kew). The EIA for the Nuclear Energy Act also considers cumulative effects with other relevant plans and projects. See Part A chapter 2 for further explanation on the relevant projects and their interrelation in the Borssele area.

In November 2022, the Ministry of Economic Affairs and Climate Policy announced that funding will be made available from the area investment in offshore grids for several regions where landfalls from offshore windfarms will be realised. Zeeland is one of these regions. Landfalls from offshore wind projects tend to be placed in regions where large industrial clusters are located and the living environment is usually already under pressure. These regions are confronted with potential additional environmental pressures, the physical space required for these projects, possible impacts on green space/nature/living environment, etc. The Ministry of Economic Affairs and Climate Policy is aware of this and wants to invest in these areas to improve the integration of the energy transition, regional economy and living environment. In the coming period, the Ministry of Economic Affairs and Climate Policy will work with the region to develop a national-regional package to eventually start implementing these investments.

To transition to a sustainable energy system, we need to expand and adapt our energy infrastructure. There are several landfall sites for offshore wind projects nationwide. Landfall locations outside the Sloe area are also being investigated for future connections. Everywhere in the Netherlands, hard work is underway on new infrastructure for the energy transition, with many developments emerging simultaneously in several regions (in addition to the Sloe area, Maasvlakte, Moerdijk region, North Sea Canal area and northern Netherlands, among others).

You can consult the digital project map of the Energy Projects Bureau to understand the national energy projects (in process or completed); <https://www.rvo.nl/onderwerpen/bureau-energieprojecten> (in Dutch).

Viewpoint 95120231, 95404609, 95604545, 95616091, 95621865, 95622160, 95652861, 95653762, 95654030, 95654072, 95654114, 95655564, 95658141, 95660969, 95664913, 95665347, 95667175, 95677389, 95677519, 95677679, 95677716, 95677941, 95678179, 95680309, 95687947, 95688697, 95689917, 95695215, 95695253, 95696328, 95699114, 95701438, 95701512, 95701538, 95709478, 95714515

Several submitters have questions and comments on the new construction of one or more nuclear power plants. Many of them are concerned that this legislative amendment will allow new nuclear power plants to be built in the future.

Several submitters argue that by providing these project plans for inspection separately, an overall vision of the interfaces of the two nuclear power projects (Borssele NPP operating life extension and new construction) is missing.

A number of specific questions and comments on the new construction are also raised:

- *Will it still be possible to build new power plants if the current plant remains open?*
- *Take sea level rise into account in new construction.*

- *Will the Borssele nuclear power plant close if two new plants are built?*
- *The cost of new construction is high due to increased (raw material) prices.*
- *The construction of new nuclear power plants may lead to an increase in demand for housing in the area. This could lead to an increase in real estate prices.*
- *With the arrival of many migrant workers [for the construction of new power plants], the submitters fear losing the Zeeland village culture in our village.*
- *Someone advocates building new high-temperature gas-cooled reactors.*
- *Someone advocates small modular reactors.*

This procedure deals with the amendment to the Nuclear Energy Act for a possible operating life extension of the existing Borssele nuclear power plant. The operating life extension of Borssele nuclear power plant can take place in reasonable isolation: after all, the plant is already in operation. However, the EIA does include possible future environmental issues in relation to possible new nuclear power plants on the agenda.

The separate process for new nuclear power plants must take into account the presence of the existing nuclear power plant. The feasibility and impacts of possible new nuclear power plants are announced in the [Intent and Proposal for Participation on New Nuclear Power Plants](#) and examined in that EIA procedure. This procedure on new construction considers the coherence between the plants.

3. Content and structure of EIA procedure and Memorandum on Scope and Level of Detail

3.1. Scope of investigation

What was stated in the Draft Memorandum?

The Draft Memorandum section 3.3 states:

The EIA investigated the environmental impacts of the proposed activity on the basis of alternatives. To illustrate the impact of operating life extension compared to the shutdown of Borssele Nuclear Power Plant in the EIA, the EIA illustrates the environmental impacts of the following alternatives:

- Alternative 1: The expected environmental impacts with a 10-year operating life extension.
- Alternative 2: The expected environmental impacts with a 20-year operating life extension.
- Alternative 3: The expected environmental impacts with an operating life extension of indefinite duration.

3.1.1. NCEA advice

the NCEA does not consider the alternatives (with different lifetime extensions) to be meaningful or realistic alternatives to this EA-report.. The Committee therefore recommends (in section 3.2) a different approach to part 1 of the EIA. In essence, this involves drawing up a survey that:

- *clearly and coherently provides details of the current environmental situation around Borssele NPP (the emissions by Borssele NPP and their consequences for people and nature). This is also important for nature conservation legislation (see also Section 4.4) and, subsequently, for Part 2 of the EIA;*
- *provides a succinct extrapolation of this for the post-2033 period.*

The NCEA believes that a survey of this kind would enable the EA-report to provide a more coherent and pertinent understanding of the environmental consequences and (following a favourable decision regarding a legislative amendment) an agenda listing environmental focal points for Part 2 of the EIA.

In section 4.1 of its advice, the NCEA recommends that the survey should start by establishing a clear and comprehensive picture of the existing environmental situation around Borssele NPP. Next, based on this, answer the following survey questions in the EIA:

- *Does extrapolating the current environmental situation lead to an increase (or decrease) in environmental stress and is this acceptable?*
- *Does extrapolation result in standards being exceeded or thresholds being identified at which cumulative effects are no longer acceptable? And on what timescale might that happen?*
- *Are there other internal factors at Borssele NPP that might alter the environmental stress, such as modifications in the composition of (decommissioning) waste?*
- *Are there other external factors that may influence the current functioning of the Borssele NPP, such as climate change, the development of the Borssele Energy Hub and other local changes?*

The EIA for the Nuclear Energy Act amendment does not examine alternatives but, in line with the advice of the NCEA, portrays an exploration of the current environmental situation around Borssele NPP. Where possible, an extrapolation is made for the period beyond 2033. This leads to environmental considerations and an investigation agenda for Phase 2 of the EIA.

3.1.2. Generic viewpoints

Viewpoint 95593142, 95606485, 95615760, 95616025, 95616139, 95616156, 95616184, 95618821, 95618990, 95619596, 95619631, 95619658, 95620037, 95620162, 95620294, 95620539, 95620763, 95621176, 95621241, 95621247, 95621300, 95621388, 95621409, 95621470, 95621546, 95621655, 95621713, 95621719, 95621768, 95621783, 95621794, 95621823, 95621865, 95621889, 95621915, 95621931, 95621970, 95622021, 95622155, 95634062, 95637376, 95637401, 95637425, 95637450, 95639364, 95641180, 95642471, 95652861, 95654030, 95654072, 95654114, 95659519, 95661743, 95661956, 95662060, 95662269, 95662307, 95662511, 95662631, 95662727, 95662911, 95663185, 95663231, 95663274, 95677299, 95677366, 95677460, 95677519, 95677630, 95677941, 95687193, 95698959, 95700359, 95701986, 95702002, 95709241, 95709431, 95709641, 95709667, 95709753, 95786355, 95786453, 95925451

Several viewpoint submitters feel that the EIA only complies with national and international legislation and regulations if it includes the following alternatives.

- 10 year extension
- 20 year extension
- No extension (closure in 2033), for example as a baseline variant
- Immediate shutdown

Several submitters ask that the EIA includes possible alternatives in the energy mix. Several submitters also ask to address the new construction of nuclear power plants.

Based on the advice of the NCEA, we adjust the approach in the EIA compared to what is stated in the Draft Memorandum (on this point, see also Part A chapter 1 and section 4.1, among others). The NCEA's advice has been adopted.

Instead of examining three alternatives, the Commission recommends assessing the current environmental impact of Borssele nuclear power plant. Those impacts will be extrapolated into the future where possible. This leads to environmental considerations and an investigation agenda for Phase 2.

The Ministry of Economic Affairs and Climate Policy wishes to further substantiate the wider consideration of the benefit and necessity of nuclear power in the energy mix and what this means for the environment. At the time of writing this response memorandum, the precise form is not yet known, see also Part A chapter 2. In the EIA for the Nuclear Energy Act, the Ministry of Economic Affairs and Climate Policy does not examine alternatives with a mix of energy sources.

The operating life extension is procedurally ahead of studies on new nuclear power plants. This means that the procedure for new construction should take into account a possible longer-operating Borssele nuclear power plant. The EIA accompanying the Nuclear Energy Act amendment describes the environmental considerations that may arise if new nuclear power plants are added. Areas where potential cumulative effects may occur are considered. These cumulative effects are relevant in the procedure for new construction, not for operating life extension because the exact location of any new plants to be built is not yet certain. The procedure for the new construction will include the operating life extension of the current Borssele nuclear power plant as an autonomous development.

Viewpoint 95209836, 95593142, 95618821, 95618990, 95620763, 95653762, 95655564, 95658141, 95660969, 95664913, 95665347, 95680309, 95687193, 95688697, 95689917,

95695215, 95695253, 95696328, 95699114, 95700359, 95701438, 95701512, 95701538, 95702002, 95925451

Several submitters ask whether the EIA will consider the risks of keeping the nuclear power plant open longer. One submitter indicates that external risks, both natural and due to the influence of malicious actors, should also be included.

With nuclear safety in mind, the EIA for the Nuclear Energy Act amendment must identify the current nuclear safety risks and whether they would change with a legislative amendment.

The ANVS assesses whether the nuclear power plant meets the safety requirements set in the licence procedure for longer operation. The licence can only be granted if it is indeed demonstrated that the nuclear power plant satisfies these limit values. External hazards are part of the assessment framework used for licensing.

Viewpoint 95593142, 95618821, 95618990, 95620763, 95621409, 95634062, 95653762, 95655564, 95658141, 95660969, 95664913, 95665347, 95680309, 95687193, 95687947, 95688697, 95689917, 95695215, 95695253, 95696328, 95699114, 95700359, 95701438, 95701512, 95701538, 95702002

Several submitters ask that the EIA describes how, if Borssele nuclear power plant closes in 2033, 2043 or 2053, the statutory direct decommissioning of the Borssele nuclear power plant can proceed unhindered. If (the construction of) the new nuclear power plants under consideration by the government frustrates the mandatory immediate decommissioning of Borssele nuclear power plant, the immediate (2024) closure and decommissioning of Borssele nuclear power plant should also be examined as a scenario. The submitters argue that, in any case, keeping Borssele nuclear power plant operating longer will lead to environmental impacts in the form of radioactive waste and more difficult decommissioning.

This procedure is about the legislative amendment and then a possible operating life extension of the existing Borssele nuclear power plant. That includes decommissioning once the nuclear power plant is shut down.

The procedure for potential new nuclear power plants must take into account autonomous developments in the surrounding area: the decommissioning of the existing nuclear power plant is part of this. New construction therefore needs to take into account existing plans and projects, including a possible decommissioning of Borssele NPP if operating life extension proves not to be an option.

The EIA will assess the impact of extended operating life, including the effects on the increase in radioactive waste. Further, the construction of new power plants may not interfere with the decommissioning of Borssele NPP. This is also included in the EIA.

Viewpoint 95593142, 95618821, 95618990, 95620763, 95621409, 95668061, 95687193, 95694754, 95700359, 95701438, 95702002

Several submitters request a detailed description in the EIA of:

- *Developments in residents (numbers) and users*
- *Value of residences*
- *Nature area development*
- *Landscape development*
- *The impact of these developments on the consequences of a major accident with substantial emission of radioactive materials*

A submitter indicates which research questions should be addressed regarding the pumping station, the discharge area to be used, heat plume and effects on the Western Scheldt.

The EIA addresses various environmental aspects in the impact assessment. The EIA examines the environmental effects on surface water, the effects of cooling water on aquatic ecology, the effects of the presence of the nuclear power plant on surrounding natural areas (including nitrogen deposition), the effects on biodiversity, safety and the effects on the health situation of local residents. This assumes the operation of the nuclear power plant in the current situation.

3.1.3. Specific viewpoints

Viewpoint 95668061

The submitter asks for a detailed description of all necessary technical measures to be included in the EIA.

This procedure deals with the amendment of the Nuclear Energy Act. To actually stay in operation longer, it will be necessary to apply for a licence later (the second phase of the procedure). In that procedure, EPZ must demonstrate that a longer operating life will be safe. It will then become clear what technical measures are needed.

Viewpoint 95925451

The submitter asks that the EIA include a map showing:

- *the site with all facilities, including their infrastructure and*
- *transport routes for hazardous and potentially hazardous goods for the nuclear power plant.*

This component is described qualitatively in the EIA.

Viewpoint 95593142, 95620763, 95618990, 95618821, 95702002, 95700359, 95687193

Several submitters ask for sufficient time to prepare the EIA. Quality should come before speed.

The quality of the EIA is monitored in the EIA procedure by distinguishing between the roles of initiator and competent authority. The competent authority checks the EIA for completeness before publishing. In addition, the NCEA is asked for an opinion on completeness and correctness of the EIA.

Viewpoint 95677446

The submitter indicates that all measures as included in the Draft Memorandum, EIA and other relevant documents must be implemented.

This procedure deals with the amendment of the Nuclear Energy Act. To actually be able to operate longer, Phase 2 must first clarify whether operating life extension can be cost-effective, and then apply for licences. In that procedure, the operator must demonstrate that a longer operating period is safe. It will then become clear what technical measures are needed. The effects of technical measures follow in Phase 2. Mitigation measures needed to reduce environmental impacts must be implemented.

3.2. Reference situation

3.2.1. Generic viewpoints

Viewpoint 95593142, 95606485, 95634062, 95639364, 95641180, 95642471, 95652861, 95654030, 95654072, 95654114, 95659519, 95677519, 95677941, 95925451

Several submitters ask about the reference situation and the description of autonomous development. They ask that the EIA address the other activities in Vlissingen-Oost. A submitter asked that this also be based on the planned truck parking area at 's-Heerenhoek. A submitter asks that the EIA describe future developments in the vicinity of the nuclear power plant.

The submitter asks that the comparable years (10 - 20 - undetermined) be used for the reference situation as the years of the alternatives to make a realistic comparison. Another submitter asks that for the baseline situation (shutdown of the nuclear power plant in 2033), the reference situation should also be addressed because it is expected that within two decades a large number of the current impacts will have disappeared.

On the advice of the NCEA, the approach in the EIA is modified from what you have read in the Draft Memorandum. The Ministry of Economic Affairs and Climate Policy examines the current environmental effects of Borssele nuclear power plant and the planned and legally zoned developments (autonomous developments) and extrapolates these effects - where possible - to the situation after 2033. The effects of the baseline situation are described qualitatively.

3.3. Information and language to be used

3.3.1. Generic viewpoints

Viewpoint 95593142, 95618821, 95618990, 95620763, 95621409, 95632838, 95653762, 95655540, 95655564, 95657861, 95658141, 95660969, 95664913, 95665347, 95680309, 95687193, 95687947, 95688697, 95689917, 95695215, 95695253, 95696328, 95699114, 95700359, 95701438, 95701512, 95701538, 95701986, 95702002

Several submitters indicate that despite the findings of the Aarhus Convention Compliance Committee from 2019, following the 2013 licence amendment that allowed a lifespan extensions from 2013 to 2033, no EIA has been done for the operation of Borssele from 2013 to 2033. Data relating to environmental impact from that period should be brought into this procedure.

In its advice on this, the NCEA notes that because no environmental impact assessment was prepared for the 2013-2033 period, an accessible and complete overview of the environmental consequences is not available. It is therefore probably necessary to determine some of these effects in the EIA as well.

The 2013 draft operating life extension (LTO licence), which updated the safety report, involved an activity that could be performed without physical intervention and without adjustment (extension) of the licence validity. Indeed, for that [reason](#), no EIA was made for it at the time. The Administrative Jurisdiction Division of the Council of State confirmed this decision not to do an EIA in 2014. With this [ruling](#) by the Administrative Jurisdiction Division of the Council of State, the LTO licence became irrevocable. The 2018 findings of the Aarhus Compliance Committee and the 2021 decision of the Meeting of the Parties (the parties to the Convention that meet every three years) do not change this.

The EIA will include a description on the history of operating life extension, including the reasoning behind why an EIA is being prepared. In addition, this Phase 1 EIA will give a description of the current situation, providing the information that is missing (at least in part) because an EIA was not prepared for the 2013 LTO licence.

Viewpoint 95618821, 95618990, 95620763, 95621409, 95668061, 95687193, 95700359, 95702002

Several submitters recommend using recent reports including already elaborated scenarios including costs when elaborating on the issue of 'nuclear energy in the energy mix'. The Draft Memorandum does not adequately refer to international sources and therefore it is not possible to make statements on the costs of operating life extension until the additional investments needed are known.

The Phase 1 EIA procedure now underway deals with the legislative amendment. The legislative amendment creates the possibility of keeping the nuclear power plant open

longer after 2033. It is only in Phase 2, after the legislative amendment, that the potential costs of operating life extension will be addressed.

The Ministry of Economic Affairs and Climate Policy wishes to further substantiate the wider consideration of the benefit and necessity of nuclear power in the energy mix and what this means for the environment. The precise form is not yet clear at the time of writing this response memorandum. You will be kept informed on the website www.overkernenergie.nl/english of the status of projects around nuclear power.

In addition, several relevant (international) sources were consulted in the preparation of the Draft Memorandum. In the EIA, the Ministry of Economic Affairs and Climate Policy lists sources consulted.

Linguistic usage in Draft Memorandum

Viewpoint 95593142, 95618821, 95618990, 95620763, 95621409, 95668061, 95687193, 95700359, 95702002, 95925451

One submitter asks that the EIA be written in understandable language so that non-technical readers also understand what it says. Several people make suggestions for using different terms or language in the Memorandum on Scope and Level of Detail and the EIA. They feel that the current way of writing seems to suggest that

- *Orano's reprocessing plant in La Hague uses all the radioactive waste as raw material,*
- *vitrified radioactive substances cannot exit the block of glass after reprocessing,*
- *nuclear power is CO₂-neutral electricity, it is the same order of magnitude as wind power,*
- *only the quality of the reactor vessel affects the safety of the nuclear power plant,*
- *The Netherlands will be less dependent on foreign countries with nuclear power, but in practice it will not be,*

The Memorandum on Scope and Level of Detail and EIA will be written to be as understandable as possible. Technical descriptions cannot be avoided on some components. As a result, the text can be complicated for a less technically-savvy reader. Part of the EIA is therefore a non-technical summary.

3.3.2. Specific viewpoints

Viewpoint 95701986

Someone asks to investigate the possibility of utilising the residual heat for heating households or industrial heat needs.

Utilising residual heat would require very drastic measures at the nuclear power plant. This makes an operating life extension less cost-effective. This is therefore not currently under investigation. However, it is being investigated whether residual heat at the possible new nuclear power plants could be relevant.

4. Environmental and other impacts

4.1. Nuclear and external safety

4.1.1. NCEA Advice

If the survey is to provide an accurate picture of the Borssele NPP current safety situation, the NCEA recommends a focus on 'ageing management' and 'disasters and emergencies'. This is because these are decisive in this regard (section 4.2 of its advice).

In particular, the EIA Phase 1 deals descriptively with ageing management, calamities and disaster scenarios in relation to nuclear and external safety.

4.1.2. Ageing management

4.1.2.1. Generic viewpoints

Viewpoints 95120231, 95209836, 95221011, 95578378, 95582618, 95615368, 95615760, 95616025, 95616139, 95616156, 95616184, 95619596, 95619631, 95619658, 95620037, 95620162, 95620294, 95620378, 95620484, 95620539, 95621176, 95621241, 95621247, 95621300, 95621388, 95621470, 95621546, 95621655, 95621713, 95621719, 95621768, 95621783, 95621794, 95621823, 95621865, 95621889, 95621915, 95621931, 95621970, 95622021, 95637376, 95637401, 95637425, 95637450, 95637480, 95637500, 95653762, 95655564, 95658141, 95660969, 95661956, 95662060, 95662135, 95662202, 95662269, 95662307, 95662361, 95662412, 95662511, 95662570, 95662631, 95662675, 95662727, 95662911, 95663185, 95663231, 95663274, 95664913, 95667175, 95668061, 95668198, 95677299, 95677366, 95677460, 95677630, 95677679, 95677716, 95680309, 95687947, 95688697, 95689917, 95695215, 95695253, 95696328, 95698959, 95699114, 95699162, 95699196, 95699235, 95701438, 95701512, 95701538, 95709241, 95709392, 95709431, 95709593, 95709641, 95709667, 95709753, 95786262, 95786310, 95786355, 95786453, 95925451

Several submitters argue that the safety requirements at the nuclear power plant do not match current safety requirements and the state of the art due to its age. Risks increase with increasing age. The plant was designed in the 1960s for an operating life of 40 years and not 50, 60 or 80 years. The submitters indicate that the power plant is an outdated design and thus prone to failure.

The design does not take into account lessons and experience from disasters at nuclear power plants. The plant is operating longer than originally planned. During the design phase of the Borssele NPP, safety requirements were lower than today. As a result, the submitters consider it a less safe power plant than a new nuclear power plant.

The Borssele nuclear power plant has undergone several safety evaluations during its operating life and several measures were implemented as a result to improve the plant. Under laws and regulations, the operator has an ongoing obligation to learn from disasters and from minor malfunctions at other facilities. This is also monitored by the ANVS. In addition, the operator is obliged to carry out a major periodic evaluation every 10 years, with the objective, among other things, of being among the 25% safest nuclear power plants in the world. This periodic evaluation examines the 'conceptual obsolescence' (i.e., whether the nuclear power plant still meets the latest state-of-the-art). Based on this evaluation, improvement measures must be implemented that improve the plant. With this, the Borssele nuclear power plant has been modified several times since its construction. As a result, the Borssele nuclear power plant is safer than when it was commissioned in 1973.

The safety of the nuclear power plant and of all systems, structures and components (SSCs) has been demonstrated in the safety report and underlying justification up to an operating life of 60 years (2033). If the licence holder actually wants to operate for longer, it will have to demonstrate that the plant is safe and that, taking into account further ageing, it will continue to be so into the future. For this purpose, the so-called

Long Term Operation process is foreseen, which leads to a licence application. In that licence application, the safety justification is submitted to the ANVS for assessment and decision-making.

The current phase of the procedure deals with the amendment of the Nuclear Energy Act to make it possible for the Borssele nuclear power plant to continue operating after 2033, and therefore not yet with an actual licence application with accompanying justification (that is Phase 2).

4.1.2.2. Specific viewpoints

Viewpoint 95657861

One submitter asks to what extent the plant meets current environmental requirements.

The nuclear power plant has a valid licence granted by the ANVS. It is also supervised by the ANVS. The EIA Phase 1 will examine the effects on the environment. In the EIA Phase 1, the Ministry of Economic Affairs and Climate Policy examines the effects of the operating situation as it is today and extrapolates - where possible - to the situation after 2033. In Phase 2, upon an actual decision on keeping the nuclear power plant open longer, the licence holder must demonstrate that all environmental, nature and safety requirements are met.

Viewpoint 95657364

One submitter calls attention to the (electrical) installations within the sphere, both for the upcoming 10 years and beyond.

The safety and reliability of the systems within the nuclear power plant are not part of this first phase of the EIA procedure.

The licence holder is already required to examine this periodically. The ANVS monitors this. In the event of an actual decision on keeping the nuclear power plant open longer, the licence holder will have to demonstrate that these facilities are and remain safe. The actual licence application with accompanying justification is Phase 2 of the procedure.

Viewpoints 95615368, 95621409, 95699235

Several submitters indicate that due to the age of the power plant, certain components are no longer available. Also, sharing experiences with other similar plants is no longer possible. Sharing experiences also becomes more difficult because a mix of old and new technology is used at the power plant. Some fear that not all specifications can be met when components are replaced and that this is a safety risk.

The legislative amendment is only to allow for an operating time extension, not the actual decision to extend operating time and/or demonstrate that it can also be done safely. When demonstrating nuclear safety in the second phase of the procedure, safety will have to be demonstrated, including the necessary measures to do so. The ANVS is the competent authority for this and will test this in the licensing procedure and regular supervision (Phase 2 of the procedure).

Viewpoint 95925451

The submitter argues that, due to age, lack of documentation, and loss of know-how, it is difficult to assess safety.

This part of the procedure deals with the adaptation of the law. To actually allow longer operation, the licence holder must demonstrate and document in a subsequent procedure that this can be done safely. The way knowledge transfer is handled can also be a potential safety risk and will be examined here. Safety culture and knowledge are aspects that are also important in the ANVS's supervision. These form an integral part

of the forementioned periodic safety evaluations and are laid down in the nuclear safety regulations for nuclear installations.

Viewpoint 95925451

The submitter argues that retrospective adaptations serve to correct deficiencies in the installation.

The legislation implements the principle of continuous improvement. This is an internationally accepted principle and focuses on learning from experience. The Borssele nuclear power plant has undergone several safety evaluations during its operating life that have led to design adaptations. This makes the current plant more robust than the one that started operation in 1973. The licence holder must conduct periodic safety evaluations and implement improvement measures that emerge from them. To actually operate for longer, the licence holder must demonstrate in the licence application that it can do so safely.

Viewpoint 95925451

The submitter highlights the importance of including the various safety systems in the assessment in the EIA, in particular the quality of the reactor vessel.

In its licence application, the ANVS assesses whether the nuclear power plant meets the required safety requirements. In the case of the Borssele nuclear power plant, the quality of the reactor vessel will certainly be an important theme in that assessment. At the same time, the assessment will also focus on other themes that are important in the light of nuclear and external safety.

4.1.3. Disasters and threats

4.1.3.1. Generic viewpoints

Viewpoints 95120231, 95447155, 95447173, 95615760, 95616025, 95616139, 95616156, 95616184, 95619596, 95619631, 95619658, 95620037, 95620162, 95620294, 95620484, 95620539, 95621176, 95621241, 95621247, 95621300, 95621388, 95621470, 95621546, 95621655, 95621713, 95621719, 95621768, 95621783, 95621794, 95621823, 95621865, 95621889, 95621915, 95621931, 95621970, 95622021, 95622155, 95637376, 95637401, 95637425, 95637450, 95661956, 95662060, 95662269, 95662307, 95662511, 95662631, 95662727, 95662911, 95663185, 95663231, 95663274, 95667175, 95677299, 95677366, 95677389, 95677460, 95677630, 95677679, 95677716, 95698959, 95699196, 95699235, 95709241, 95709431, 95709641, 95709667, 95709753, 95786355, 95786453, 95925451

Several submitters feel that nuclear power plants, and hence the Borssele nuclear power plant, are not designed against threats of war. Several submitters fear that nuclear power plants can never be adequately protected against terrorist attacks and against the consequences of wars (malicious attacks, plane crashes, military use of nuclear material). Therefore, nuclear power plants should no longer be kept in operation. One submitter believes that new requirements after the Three Mile Island, Chernobyl and Fukushima accidents have not been adequately implemented in the old(er) nuclear power plants.

The Borssele nuclear power plant has undergone several safety evaluations during its operating life that have led to design adaptations. The current plant is, therefore, more robust than the one that started operation in 1973. The licence holder must conduct periodic safety evaluations and implement improvement measures that emerge from them. To actually allow longer operation, the licence holder must demonstrate in a subsequent procedure that this can be done safely. The aspects mentioned should be addressed therein.

Several evaluations (including the stress test after the disaster at the Fukushima nuclear power plant) examined the robustness of the nuclear power plant and additional measures were taken to improve it.

The ANVS assesses whether the nuclear power plant meets the required safety requirements. External hazards, including the plant's resistance to the impact of a plane crash, are part of the assessment framework used in this EIA Phase 1. It does not include the impact of possible actions by malicious parties.

Proliferation risks (military use of nuclear material) are regulated by the international safeguards system overseen by EURATOM. This system provides for frequent inspections to establish the nuclear inventory. Exports of materials to other countries are regulated, among others, by the EU regulation for the export of so-called dual-use materials. In addition, the nuclear power plant must always have a security package approved by the ANVS to prevent possible theft of materials and knowledge.

This part of the procedure deals with the legislative amendment. In the second part of the procedure, the licence holder will have to demonstrate that staying open longer is safe. This will also include aspects relating to security. Possible consequences for the security package are, therefore, part of the assessment for the granting of the licence in Phase 2.

New insights gained over time, whether or not due to developments at other plants around the world, lead to new requirements for nuclear power plants. These new requirements have to be implemented and, as a result, a level of safety is achieved that meets current (scientific) knowledge.

4.1.4. Accidents

4.1.4.1. Generic viewpoints

Viewpoints 95209836, 95447173, 95593142, 95615368, 95662412, 95667175, 95668061, 95677667, 95677679, 95677716, 95699196, 95699235, 95701438, 95709392, 95709478, 95709593, 95925451

Several submitters express concerns about whether the risks will be examined in the EIA and what the scope of the accident scenarios being examined will be. Several submitters believe that the risks of staying open longer cannot be properly determined. They ask what keeping the nuclear power plant open beyond 2033 means for the level of risk in the Netherlands and in Belgium.

Some of these submitters say they expect that the use of MOX fuel will accelerate the embrittlement of the reactor vessel and that a major reactor accident cannot be ruled out.

One submitter thinks fatigue could start to be a problem.

Another submitter indicates that the assessment should not only be about the quality of the reactor vessel.

A submitter points to a specific IAEA safety guide that deals with the inclusion of man-made external risks in the environment around the nuclear power plant.

According to another submitter, the regulation offers no certainty of ruling out accidents or calamities.

This part of the procedure (Phase 1) deals with amending the Nuclear Energy Act to ensure that electricity production by the Borssele nuclear power plant does not automatically end after 2033. In order to actually be able to continue operating for longer, a licence will soon have to be applied for (Part 2 of this procedure).

As part of that licence procedure, the operator must demonstrate that a longer operating period is safe. It must then also demonstrate that effects such as embrittlement (loss of strength) are adequately mitigated. During the 2011 fuel diversification licence for the

Borssele nuclear power plant, the potential safety impact of using MOX fuel⁹ for the Borssele nuclear power plant was extensively investigated. There is now 10 years of operating experience with its deployment. Before the nuclear power plant is actually allowed to operate beyond 2033, it will have to produce a safety dossier that also substantiates safe operation beyond 60 years of age and expressly examines ageing through irradiation experiments and qualified calculations.

Now and in the future, the Borssele nuclear power plant must continue to meet the safety requirements and risk objectives set out in the legal framework (nuclear safety nuclear installations regulation, Article 6, and Nuclear Facilities Fissionable Materials and Ores Decree (Bkse), Article 18). An operating life extension does not change these safety objectives. These regulations define the safety level the nuclear power plant must meet, including for so-called 'off-design accidents'.

With nuclear safety in mind, phase 2 involves looking at the radiological effects of accident scenarios in addition to the radiological consequences of normal operations. The latter is called 'off-design accidents'. These are accidents that were not taken into account during the original design. The radiological effects of these 'off-design accidents' will have to comply with the individual risk and group risk limits set out in Article 18(3) of the Decree on Nuclear Installations, Fissile Materials and Ores.

In the licence application, the ANVS assesses whether the investigated accident scenarios are adequate and complete. In addition, the ANVS tests whether the dose limits and event frequencies in the Nuclear Facilities Fissionable Materials and Ores Decree (Bkse), among others, are met in the event of design accidents. In the case of nuclear power plants, the ANVS also checks whether the maximum individual and group risks are met in the event of off-design accidents. On behalf of the ANVS, the RIVM calculates the dose distribution of normative accident scenarios. Accident preparation, also known as emergency preparedness and response, is based on this dose distribution.

In the EIA accompanying the Nuclear Energy Act Review, the investigation assumes the current situation and autonomous developments in the surrounding area, and these effects are extrapolated - where possible - to the situation after 2033. This means that the cumulative effects of both the nuclear power plant and other relevant installations with a potential safety risk are taken into account.

In the case of the Borssele nuclear power plant, the safety of the nuclear power plant will be a key issue. At the same time, the assessment will also focus on other themes that are important in the light of nuclear and external safety.

4.1.4.2. Specific viewpoints

Viewpoints 95593142, 95701438

Several submitters ask what measures are needed to achieve an acceptable level of risk.

The EIA for the legislative amendment will assess the current environmental effects in the field of (nuclear) safety and radiation protection (Phase 1). The licence holder will have to demonstrate in the follow-up procedure (Phase 2) that the nuclear power plant can continue to operate safely. This will also involve identifying what additional measures need to be taken.

Viewpoint 95925451

⁹ A form of nuclear fuel consisting of a mixture of plutonium, natural uranium, reprocessed or depleted uranium.

The submitter requests transparent procedures for safety assessments of the power plant. The submitter requests that when operating hours are extended, regular inspections of the entire power plant, such as a periodic safety review (PSR), should be ensured, which could lead to a restriction or suspension of operation in the event of an incident. The submitter states that risk assessment based on the actual condition of the plant against the current state of science and technology is not part of the procedure.

The safety of an installation must be demonstrated in a Safety Report when applying for a licence. This is stipulated in the Decree on nuclear installations, fissile materials and ores. The Safety Report is submitted to the ANVS together with a licence application, this is Phase 2. The ANVS addresses the safety assessment in the licence decision. The ANVS publishes the licence application, as well as the Safety Report and the EIA. The ANVS is transparent about procedures and participation opportunities.

In the EIA for the Nuclear Energy Act Review (Phase 1), the EIA assumes the current situation and autonomous developments in the surrounding area, and these effects are extrapolated - where possible - to the situation after 2033. This means that cumulative effects between both the nuclear power plant and other relevant installations with a potential safety risk are included.

Viewpoint 95668198

Submitter addresses the complexity of investigating wear processes of (safety-related) components of a power plant. The submitter argues that it must be conclusively established that renewal does not pose any risk.

In Phase 2, corrosion and component wear investigations are carried out by the operator. This is the next step in the process for actually applying for a licence from the ANVS.

Viewpoint 95209836

The submitter asks whether the PFD reduction (probability of failure on demand¹⁰) for each instrument is included in the EIA and how exactly.

The safety of the nuclear power plant is paramount - this is also overseen by the independent ANVS. The ANVS is an independent administrative body and is separate from the management of the nuclear power plant and from the Minister for Climate and Energy and the Minister for Infrastructure and Water Management. In the EIA for the legislative amendment, the Ministry of Economic Affairs and Climate Policy addresses safety risks in a broad sense, both radiation safety and nuclear safety and external safety.

Phase 1 of the EIA procedure deals with the legislative amendment. This means that the investigations assume current operations. In this first phase, the PFD per instrument is not included in the EIA. The second phase - in the case of an amended Nuclear Energy Act - aims to investigate all possible modifications and safety measures of the nuclear power plant. The PFDs are relevant here.

Viewpoints 95667175, 95677679, 95677716

Several submitters expressed concerns about the location of the Borssele nuclear power plant, as it is located in an area with a lot of (energy) infrastructure and heavy industry.

This issue will be considered in the EIA of the Nuclear Energy Act Review in cumulative effects of environmental safety.

¹⁰ This concerns the likelihood that when starting up an instrument or device, it will not work.

Viewpoints 95699196, 95925451

The submitters feel that the risks in the published documents have not been sufficiently analysed.

The EIA examines the aspects of nuclear safety and radiation protection, including cross-border effects. To actually continue operating, the licence holder must demonstrate in a subsequent procedure that this can be done safely.

4.2. Radioactive waste

4.2.1. NCEA Advice

Decisions on the decommissioning of the plant and the storage and final disposal of radioactive waste are beyond the scope of the environmental investigation in this EIA, according to the NRD. However, many of the views expressed reveal concerns about the storage and final disposal of radioactive waste. For this reason, the Committee recommends (section 4.3.1) (special) attention be paid to this in the EIA. In addition, in its advice, the Committee asks to outline future changes in radioactive waste supply.

The EIA will broadly address radioactive waste and spent fissile material. Waste management, both storage and final disposal, is the subject of the NPRA procedure.

4.2.2. Radioactive waste and the National Radioactive Waste Programme

4.2.2.1. Generic viewpoints

Viewpoint 95120231, 95221011, 95654307, 95657763, 95662570, 95677389, 95691484, 95691677, 95692917, 95693794, 95700232, 95701986, 95709593, 95714515

Several submitters find it unclear what the final disposal of radioactive waste looks like. Several submitters argue that the final disposal of radioactive waste should be settled before deciding on an operating time extension.

The government is making a Roadmap, but it needs to be clearer about what waste this concerns and whether final disposal will take place in salt domes or clay layers.

Several submitters believe that the handling of radioactive waste is being pushed into the future and that the present EIA procedure [of the Nuclear Energy Act Review], therefore, has an obligation to investigate that point.

The choice of the design (and related location) of a final repository is linked to the radioactive waste inventory. Spent fissile materials classified as radioactive waste are part of it.

A roadmap will be prepared as part of the NPRA¹¹. See also the December 2022 letter to the House of Representatives ([parliamentary paper 25422-286](#)). Although the end date is far away, this does not mean that all decisions will be put on hold; where relevant, the roadmap will indicate interim decision moments.

In the current situation, Borssele NPP radioactive waste is stored at COVRA near the Borssele nuclear power plant. This is also the starting point for the EIA first phase. The National Programme for Radioactive Waste (NPRA) examines the long-term storage of this waste in more detail (see also Part A Chapter 2).

¹¹ According to the [Directive 2011/70/Euratom](#), each member state is responsible for the safe management and storage solution of its own radioactive waste. Our neighbouring countries all have a programme that provides for preparing their own final disposal. Some radioactive waste organisations of small countries are united in [ERDO](#) and are working together to develop final disposal solutions.

Viewpoints 95593142, 95618821, 95618990, 95620763, 95653762, 95655564, 95658141, 95660969, 95662202, 95662412, 95664913, 95665347, 95667175, 95668061, 95668198, 95677389, 95677679, 95677716, 95680309, 95687193, 95688697, 95689917, 95691484, 95691677, 95692917, 95693794, 95695215, 95695253, 95696328, 95699114, 95699196, 95700359, 95701438, 95701512, 95701538, 95702002, 95709392, 95709478

Several submitters are concerned about the volume and storage of radioactive waste and its environmental impact. They ask that the EIA address waste generation and its impacts. Someone points to the negative experiences at the Asse and Gorleben (Germany) disposal projects.

In the current situation, Borssele NPP stores radioactive waste at COVRA near the Borssele nuclear power plant. This is also the starting point for the EIA first phase. The National Programme for Radioactive Waste (NPRO) to be reviewed in 2024 deals with long-term disposal (see Part A, Chapter 2). Asse and Gorleben are former salt mines. The disposal projects at these sites involve concepts for final disposal that do not correspond to the safety case for final disposal in salt domes currently being prepared by COVRA.

4.2.2.2. Specific viewpoints

Viewpoints 95593142, 95668061

Several submitters indicate that the EIA should map out a comprehensive overview of the categories of high-level radioactive waste (nuclear waste).

The effects on the generation, nature and quantity of radioactive waste from the Borssele nuclear power plant are included in the EIA. The aim of the EIA is to provide insight into the effects of this waste. In the current situation, radioactive waste is stored - in accordance with laws and regulations - at COVRA near the Borssele nuclear power plant. Its further processing falls outside the scope of the EIA for the Nuclear Energy Act Review. We refer you further to the National Programme for Radioactive Waste (NPRO), which is looking into this (see Part A, Chapter 2).

Viewpoints 95422214, 95613191

The submitters ask about the application of techniques, such as a method used in Russia, to reduce the half-life of radioactive waste. Someone indicated that spent uranium rods can be reprocessed to reduce the amount of waste.

This procedure concerns the operating life extension of the current Borssele plant. The nuclear power plant uses fissile material as its fuel. This is partly reprocessed after its use and then enriched and reused. For information on innovative new ways to deal with radioactive waste, please refer to the National Programme for Radioactive Waste (NPRO) (see Part A, Chapter 2).

Viewpoint 95422214

One submitter calls for standards and rules for radioactive waste and transport similar to other hazardous materials such as chemical waste. The current rules are too strict.

This procedure concerns the operating life extension of the current Borssele plant. Safety standards for radiation protection are not examined in this procedure. Safety standards are internationally agreed.

Viewpoint 95593142

The submitter indicates that the information from the National Radioactive Waste Programme procedure should have a place in this procedure [the EIA procedure to the

Nuclear Energy Act Review]. There should be an elaborated time plan in relation to radioactive waste.

Radioactive waste generation is part of the aspects included and assessed in the EIA. How the Netherlands deals with radioactive waste is not addressed in this procedure: that is done in the National Programme for Radioactive Waste (NPRa) (see Part A Chapter 2).

Viewpoints 95654307, 95657763, 95691484, 95691677, 95692917, 95693794, 95700232

Several submitters indicate that the National Radioactive Waste Programme requires an EIA procedure.

The NPRa is subject to the plan-EIA procedure (see also Part A, Chapter 2). All residents of the Netherlands (including civil society organisations) and the countries with potential cross-border effects could submit views on the draft NPRa from 3 October until 13 November 2023. The NCEA also issued [advice](#) about the draft NRD on 31 January 2024.

Viewpoints 95691484, 95691677, 95692917, 95693794

Regarding final disposal (final storage) of radioactive waste, the draft NRD talks about final disposal but does not mention the words 'salt dome' or 'clay layer'. Several people are asking for this to be amended.

This procedure deals with the legislative amendment to allow a possible operating life extension of Borssele nuclear power plant.

Information related to radioactive waste and choices for possible final disposal sites are covered by the National Programme for Radioactive Waste (NPRa).

4.2.3. Radioactive Waste Roadmap

Viewpoints 95654307, 95657763, 95691484, 95691677, 95692917, 95693794, 95700232

Several submitters ask that the EIA clearly define what the Radioactive Waste Roadmap is about:

- *what final destination(s) are these (the northern salt domes and clay layers in southern Netherlands?);*
- *what means of transport will be used to get there.*

This procedure is about the legislative amendment to allow longer operating times for the Borssele nuclear power plant. The production of radioactive waste is described. We refer you further to the National Programme for Radioactive Waste (NPRa), which is looking into this (see Part A, Chapter 2 and section 4.2.3).

4.3. Air quality and noise

4.3.1. Air quality

4.3.1.1. NCEA Advice

The Committee recommends (section 4.3.2 of its advice) that the EIA give a brief overview of the annual emissions to air from the Borssele NPP in the current situation. Describe the measurement system of emissions and, in particular, the method of monitoring and alerting in case of abnormal gaseous radioactive discharges. For radiological emissions, briefly substantiate the effects and significance. Differentiate between the various exposure pathways on humans and the environment. Include actual discharges in the current situation and discharge limits.

This advice is accepted. In the EIA, annual emissions to air, water and soil are depicted based on emission data from the Borssele NPP. This includes both radiological and non-radiological emissions.

Then, justify what a lifetime extension means for emissions to air. Specifically with regard to CO₂, the NCEA gives the following advice (section 4.3.2): Describe briefly how 'low-carbon' electricity production from nuclear energy works and for the Borssele NPP in particular. Base this estimate, for example, on key figures for emissions over the entire chain (from uranium extraction and transport to the construction and dismantling of nuclear power plants). This information helps put nuclear energy in an environmental perspective. It also substantiates the climate benefits (percentage of greenhouse gas reduction expressed in CO₂ or its equivalents) of electricity production by the Borssele NPP after 2033.

The EIA considers the nuclear fuel chain and its components relevant to the Phase 1 EIA. Qualitative consideration is given in the EIA to the emissions from nuclear power over the entire life cycle. The emissions from the supply and disposal of fissile material for the operation of the nuclear power plant will also be depicted. In addition, decommissioning will be put on the agenda for the second phase as a component to be developed.

4.3.1.2. Generic viewpoints

Viewpoints 95662361, 95677389, 95709392, 95714515

Several submitters are concerned that when radioactive substances are released into the air, they will reach their homes in the Netherlands and Belgium and Germany and also return to their food. They point to nuclear accidents in recent years, such as the one in Chernobyl.

With this IEA procedure, the Ministry of Economic Affairs and Climate Policy is investigating the potential environmental effects of keeping Borssele open longer, including the effects of emissions in case of calamities and accidents. Cross-border effects are also considered in both Phase 1 and Phase 2 of the procedure.

4.3.2. Noise

Viewpoints 95652861, 95677519, 95677941

Several submitters point out that nuclear power plants have potential environmental impacts, such as noise pollution. One petitioner is concerned about the cumulation of noise. The noises from Vlissingen-Oost are getting louder. This petitioner is concerned about the increase in nuisance if two additional nuclear power plants are also built.

With this IEA procedure, the Ministry of Economic Affairs and Climate Policy is investigating the potential environmental effects of keeping Borssele NPP open longer, including effects on noise. The IEA for the operating time extension considers industrial noise at Vlissingen-Oost and tests it against applicable threshold values. In broad terms, the cumulative effects of projects in the region are considered. Detailed investigations into noise from possible new nuclear power plants are not carried out in this IEA procedure but in the IEA procedure for new construction.

4.4. Health

4.4.1. NCEA Advice

In section 4.3.1, the NCEA gives the following advice. Specify radiation levels of the current Borssele NPP in a typical operating scenario. Briefly explain the significance of these levels for people and nature. This could involve drawing comparisons with other types of exposure to radiation (natural radiation). In addition, address the 'MONET' radiation measurement network at the power plant's site boundary, with a specific focus on the equipment used to detect abnormal radiation levels

Describe potential post-2033 changes in radiation levels. Consider the potential cumulative radiation effects associated with new nuclear power plants, and address the

question whether cumulative radiation levels could reach undesirable levels for neighbouring businesses and/or nature.

Conclude by briefly considering the radiation effects associated with current shipments of radioactive material, including incoming and outgoing fissile materials, along with any anticipated changes in this regard after 2033.

We adopt the Commission's advice. This point will be addressed in the EIA.

4.4.2. Generic viewpoints

Viewpoints 95615760, 95616025, 95616139, 95616156, 95616184, 95618990, 95619596, 95619631, 95619658, 95620037, 95620162, 95620294, 95620484, 95620539, 95620763, 95621176, 95621241, 95621247, 95621300, 95621388, 95621470, 95621546, 95621655, 95621713, 95621719, 95621768, 95621783, 95621794, 95621823, 95621865, 95621889, 95621915, 95621931, 95621970, 95622021, 95622155, 95637376, 95637401, 95637425, 95637450, 95652861, 95657763, 95661956, 95662060, 95662269, 95662307, 95662511, 95662631, 95662727, 95662911, 95663185, 95663231, 95663274, 95667175, 95668061, 95677299, 95677366, 95677389, 95677460, 95677519, 95677630, 95677941, 95687193, 95698959, 95699196, 95700359, 95702002, 95709241, 95709431, 95709641, 95709667, 95709753, 95786355, 95786453

Several submitters indicate that nuclear power plants have potential environmental impacts, such as radiation risks.

Some of the views specifically address accidents and incidents. For example, one petitioner fears radiation and contamination from leaks, incidents and earthquakes. Another petitioner indicates that the effects of a reactor disaster are great and that health effects can still occur after years.

Viewpoints were also submitted dealing with the effects of the nuclear power plant in regular operation. Several submitters call for the EIA to look at the health of local residents, both radiological and non-radiological aspects, such as noise and air pollution. One petitioner is concerned about underestimating the possible effects of keeping Borssele open longer. Even if effects such as radiation and noise are not directly visible, they can have effects on the environment.

Several submitters report that the draft NRD omits from the effects the radiological health effects on humans (men, women, children and the unborn foetus) and animals (both wild and domestic animals). One submitter feels that the sensitivity of the 'reference man' cannot be assumed because women and young children would be much more radiation-sensitive. Another submitter asks whether population health is surveyed and monitored in the Borssele and surrounding areas.

In this EIA procedure, the Ministry of Economic Affairs and Climate Policy investigates the environmental effects of keeping Borssele nuclear power plant open longer. The plan deals exclusively with the Borssele nuclear power plant. The environmental effects are examined in conjunction with known developments in the surrounding area.

The Ministry of Economic Affairs and Climate Policy investigates non-radiological aspects such as health aspects like noise pollution, air quality and contaminants in the EIA for the Nuclear Energy Act Review, in addition to radiological effects.

Radiological health impacts of the nuclear power plant in normal operation are investigated in the EIA. Here, a distinction is made between normal operation of the plant and incidents. In both situations (normal operation and incidents), it is relevant that health effects from radiation exposure can still occur after many years. It is therefore common practice, for example in scientific studies, to include both early and

late effects of radiation exposure. This will therefore be done when analysing the effects of the situation in normal operation and when analysing the effects of an accident in the EIA.

Scientific publications are used in assessing the radiological effects of keeping the Borssele nuclear power plant open longer. One example is the [INWORKS study](#), which examined the health effects of low doses of radiation on workers in the nuclear industry. The doses to which local residents of a normally operating nuclear power plant are exposed are much lower than those to which the workers in the INWORKS study are exposed. Another specific example for describing effects is the German [KiKK study](#) on the occurrence of leukaemia in children growing up near a nuclear power plant, the international studies carried out on this topic, and the RIVM study ([report 610790010](#)) on the significance of the KiKK study for the Dutch situation.

In the draft NRD, the assessment criterion 'health' was not specified. The EIA revisits the assessment criterion and will examine the effects on health.

Viewpoints 95578378, 95582618, 95620378, 95637500, 95662135, 95662675, 95663231, 95677389, 95709753, 95714515, 95786262, 95786310

Several submitters indicate that radioactive particles could enter fish and seafood via water and then the human food chain. Locally and remotely, agriculture and ground and drinking water could also be endangered. The submitters indicate that a leakage or meltdown could lead to contamination of drinking and surface water.

Effects on human and environmental exposure fit within the radiation protection section. Results of existing environmental monitoring in the vicinity of the Borssele NPP are used in the investigation in the EIA.

4.4.3. Specific viewpoints

Viewpoint 95694754

The submitter calls for the EIA to conduct a population survey within a 5 km radius of the reactor vessel. He indicates in his viewpoint which survey questions should be addressed with regard to health.

Besides radiological effects, the EIA also examines non-radiological health aspects such as noise pollution and air quality. The presence of the local population and potential effects on liveability and health are addressed. This assumes the effects of the nuclear power plant in its current form and extrapolates effects - where possible - to the situation after 2033.

4.5. Ecology and biodiversity

4.5.1. NCEA Advice

In its advice (section 4.4), the Commission indicates the following regarding nature. Exploring the environmental consequences for nature is more complex and requires more depth. Indeed, the Borssele NPP is located near environmentally sensitive nature reserves, including the Westerschelde & Saeftinge Natura 2000 area. It is not possible to rule out in advance that airborne emissions and/or waterborne will have an (irreversible) adverse impact on protected nature reserves or on the habitats of certain species. After all, these impacts have not yet been extensively described. Hence, in the current situation, extra effort may be needed to pinpoint environmental impacts..

The Commission then provides guidance on how to approach this exploration. The advice is

- to start with a description in the current situation of the (possible) impact of the Borssele NPP on the surrounding (protected) nature,

- *then briefly summarise on the basis of what investigations and arguments the (possibly partly yet to be described) nature impacts are deemed acceptable. Address, in particular, the impacts on Natura 2000 areas.*
 - *Then, substantiate what a lifetime extension beyond 2033 might mean for nature. In particular, address expected natural trends in the plan area and the cumulative effects due to extended emission hours and from elsewhere.*
- The Commission recommends that the impact on Natura 2000 areas and the Nature Network Zeeland (NNZ) be clearly described in the EIA.*

The above advice will be adopted. The EIA Phase 1 describes the relevant Natura 2000 areas and the Nature Network Zeeland. This assumes the continued existence of the nuclear power plant in its current form and extrapolates effects into the future.

4.5.2. General flora and fauna

4.5.2.1. Generic viewpoints

Viewpoints 95593142, 95618821, 95618990, 95620763, 95657861, 95667175, 95687193, 95694754, 95700359, 95702002

Several submitters request that the EIA address impacts on flora and fauna. And thereby address the requirements of and impacts on Natura 2000 sites to which the Western Scheldt and Kalloot beach belong will be met.

The EIA accompanying the Nuclear Energy Act Review will include an 'ecology' section. This will show the effects that an operating time extension has on nearby Natura 2000 areas, and other relevant nature (areas and species).

An assessment of the impact on the Natura 2000 area Westerschelde, and other Natura 2000 area in the vicinity, is part of the EIA.

4.5.3. Effect of hot cooling water

4.5.3.1. Generic viewpoints

Viewpoints 95593142, 95606485, 95616091, 95618821, 95618990, 95620763, 95639364, 95641180, 95642471, 95653762, 95654030, 95654072, 95654114, 95655540, 95655564, 95657861, 95658141, 95659519, 95660969, 95664913, 95665347, 95677519, 95677941, 95680309, 95687193, 95687947, 95688697, 95689917, 95694754, 95695215, 95695253, 95696328, 95699114, 95700359, 95701438, 95701512, 95701538, 95702002

Several people ask about the effects of cooling water on the Western Scheldt, a Natura 2000 area: how is it ensured that the temperature in the Western Scheldt does not rise (too much)? What is the effect of discharging hot water into the Western Scheldt? What is the effect on biodiversity and marine life?

Several submitters indicate that they feel the water inlet and outlet of the NPP are not up to current standards. By today's technical and environmental standards, the inlet and outlet of the Borssele NPP would not have been constructed in this way. They expect, in the event of a decision to renew the Borssele NPP, that the inlet and outlet of the Borssele NPP will be adapted to current requirements.

A petitioner reports that while pumping back the cooling water, foam forms with a dirty brown colour and a sticky coating. He feels that there is a foul smell in the immediate vicinity of the outlet.

Another petitioner asks about biodiversity investigations close to the outlet. This would allow us to examine whether and, if so, what exotic species have established themselves and what the impact is on native flora and fauna.

Discharging cooling water into the Western Scheldt (even longer) deteriorates the quality of the Western Scheldt and, thus, the life in the Western Scheldt. This petitioner indicates that due to the heated water there are more jellyfish (such as Aurelia aurita, ear jellyfish) causing a decline in (native) biodiversity.

The EIA accompanying the Nuclear Energy Act Review discusses the effects of cooling water on the Westerschelde. The inlet and outlet are part of it. Criteria used are water quality, water quantity and water temperature.

The effects on ecological values are assessed. The effects on species in the surrounding area, including in the Westerschelde, are also considered.

4.5.3.2. Specific viewpoints

Viewpoint 95694754

The Westerschelde pumping station pumps up salt water. This salt water is used to cool the nuclear power plant. As a result, there is an inflow towards this pumping station where animals and seaweed (were) pumped up. The petitioner asks whether there is a system to protect animal life, such as the short-beaked seahorse (Hippocampus hippocampus), from this pumping.

In the EIA, the Ministry of Economic Affairs and Climate Policy provides points of interest for Phase 2, in which the effects of operating time extension are further investigated. The current environmental effects and possible future areas of concern will be addressed.

4.6. Water

4.6.1. NCEA Advice

The Committee recommends (section 4.3.3) that the EIA briefly outline the annual waterborne emissions from Borssele NPP in the current situation. Provide a short, substantiated explanation of the impacts and significance of these emissions. When doing so, draw a distinction between the various exposure pathways. In this context, take actual discharges in the current situation into account, as well as discharge limits. The Commission says it does not have a complete overview of available environmental studies into the consequences linked to the discharges of heat (cooling water plume), radioactive water and other materials, including those related with keeping the cooling water system clean. Hence, in the current situation, extra effort may be needed to pinpoint environmental impacts.

In the EIA, outline the consequences for water quality (thermal and chemical) and for the seafloor in the Western Scheldt, with a specific focus on the accumulation of radioactive emissions in sediment. With regard to emissions from radiological materials, briefly explain the significance of these levels for people and nature.

Address the question of whether, in the coming years, thresholds will be identified at which cumulative effects are no longer acceptable (such as European Water Framework Directive targets). Provide a summary of the environmental studies and arguments used to determine the acceptability of emissions .

Next, explain how a lifetime extension might affect the scale of these emissions after 2033. In particular, address the consequences of climate change (which could lead to intermittent reductions in the cooling water supply for Borssele NPP), while also addressing the effects (in the long-term) on other potential cooling water consumers, such as new nuclear power plants (distribution issue). This may be relevant when deliberating on the legislative amendment.

The EIA will include an overview of these emissions, as well as an exploration of thresholds as advised by the NCEA.

4.6.2. Generic viewpoints

Viewpoints 95621865, 95652861, 95694754

Several submitters asked whether the investigation also considered whether it would be possible to extract cooling water from the Westerschelde in the long term. Or does that water get too hot and can no longer be done?

A submitter is concerned about water use. He points to possible drought due to too much water use.

Currently, cooling water from the Western Scheldt is used in the cooling process. There is sufficient cooling water available for this. The EIA accompanying the Nuclear Energy Act Review examines the effects of cooling water use on the environment (ecology and soil). Water quantity is a criterion as well.

4.7. Climate

4.7.1. Generic viewpoints

Viewpoints 95593142, 95618990, 95620763, 95687193, 95699235, 95925451

Several submitters ask for the EIA to assess the consequences of climate change on the Borssele nuclear power plant. They give a number of focal points for the investigation: probability calculations for flooding, availability of cooling water, higher temperatures of the Scheldt and cooling water temperature development, visualising consequences for surrounding Natura 2000 areas, stronger and more frequent extreme weather situations such as storms, floods, heavy rainfall.

In the EIA, the Ministry of Economic Affairs and Climate Policy investigates the effects of climate change, e.g. rising sea levels in relation to our flood defences, heavier rainfall or prolonged droughts accompanied by lower water levels for cooling water. The EIA will consider this.

4.7.2. Specific viewpoints

Viewpoints 95655540, 95662570, 95677667, 95709593

The submitter argues that due to the rise in sea level, the location of the Borssele nuclear power plant is of concern. Due to climate change, the sea level is rising and thus the risk of flooding will increase. The current dyke at the nuclear power plant does not currently meet water safety standards, according to a petitioner.

The ANVS assesses whether the nuclear power plant meets the required safety requirements. External risks, including flood risks, are part of the assessment framework used for both Phase 1 and Phase 2. This issue will, therefore, be considered. The current embankment meets current safety standards 1:1,000,000.

4.7.3. Sea level rise and waste storage

Viewpoints 95578378, 95582618, 95620378, 95637500, 95657763, 95662135, 95662361, 95662675, 95786262, 95786310

Several people are concerned about the storage of radioactive waste (at COVRA) in relation to the rise in sea level. Due to the outer dike location, the bunkers may become inaccessible with rising sea levels in the near future.

Radioactive waste from the nuclear power plant is one of the aspects included in the EIA. The location and safety of the COVRA facility are not considered in this procedure. That is part of the licensing situation of COVRA and its supervision by the ANVS.

4.8. Transport

Viewpoint 95677446

The petitioner asks that the EIA describe the mobility aspects of the foreseeable transport movements of (irradiated) fuel elements and radioactive waste to and from the nuclear power plant. In that description, he asks that measures in case of crisis situations (such as derailment of train wagons and train collisions) should also be described.

The draft NRD does not yet include an assessment criterion for the effects of transporting hazardous substances by road and rail. The EIA will add this assessment criterion.

4.9. Extracting raw materials

4.9.1. Generic viewpoints

Viewpoints 95447155, 95447173, 95613191, 95618990, 95621865, 95655540, 95668061, 95668198, 95677389, 95699235, 95701986, 95709753, 95925451

Several submitters indicate that although the plant may not emit CO₂, this does not yet lead to a climate-neutral energy supply. Uranium mining does release CO₂ and creates environmental damage.

Several submitters address the origin of fuel rods and uranium production. In the countries of origin, the production of fuel rods leads to major environmental damage and health problems among the population. Some of them address the costs (in monetary and environmental terms) of uranium production (decommissioning and remediation of sites). The use of uranium makes us dependent on foreign countries.

The operating time extension contributes to a CO₂-neutral electricity supply and, thus, to climate change mitigation. The extraction of uranium must, of course, be done in line with existing resource extraction treaties. It is true that uranium mining does release CO₂.

Indeed, the raw materials needed to generate nuclear power largely come from abroad. In the event of geopolitical tensions, the operator of the nuclear power plant can, if necessary, source some of its raw materials elsewhere. For the legislative amendment and in the EIA procedure, both Phase 1 and Phase 2, we are not looking at those parts of the nuclear fuel chain that are not part of direct operations.

The EIA deals with general information on nuclear energy emissions over the entire life cycle of a nuclear power plant. The environmental impact of mineral extraction for nuclear power generation is not part of the investigation. The part of the nuclear fuel chain that does form part of the EIA is the supply and disposal of fissile materials and radioactive waste, viewed from the perspective of environmental safety.

4.10. Living environment, landscape and cultural heritage and recreation

4.10.1. Generic viewpoints

Viewpoints 95593142, 95618821, 95618990, 95620763, 95652861, 95653762, 95655564, 95658141, 95660969, 95661743, 95664913, 95665347, 95677519, 95677941, 95680309, 95687193, 95687947, 95688697, 95689917, 95695215, 95695253, 95696328, 95699114, 95699196, 95700359, 95701438, 95701512, 95701538, 95702002

Several submitters ask that the EIA elaborate and substantiate that there will be no impact on cultural history and archaeology as well as spatial/visual impacts.

Several submitters asked about the impact of the plans on the liveability and living comfort of the villages. One petitioner argues that space is scarce in the Netherlands and you need to use it well.

Several submitters are concerned about the effects on recreation due to the extended operating life of the nuclear power plant. They ask that the attractiveness of the Kalloot

[nature reserve] not be affected and that it be ensured that it remains accessible to residents and tourists.

The EIA accompanying the Nuclear Energy Act Review briefly discusses cultural history, archaeology and spatial-visual aspects. The plant has been there since the 1970s, and the effects of its realisation occurred then. The EIA assumes the continuation of the existing situation. The Ministry of Economic Affairs and Climate Policy assumes that there is no land taken outside the existing site of the power plant and that, therefore, no new effects occur to the Kalloot, cultural history, archaeology and recreation, among other things.

4.11. Costs and benefits, economic effects

4.11.1. Generic viewpoints

Viewpoints 95221011, 95593142, 95618821, 95618990, 95620763, 95621865, 95653762, 95655564, 95658141, 95660969, 95664913, 95665347, 95668061, 95680309, 95687193, 95687947, 95688697, 95689917, 95695215, 95695253, 95696328, 95699114, 95699196, 95699235, 95700359, 95701438, 95701512, 95701538, 95702002

Several submitters ask for the EIA to include a costing of all costs incurred in preparation, technical measures needed and measures still to be taken during the extended life as well as increases in normal operating costs during operation.

One petitioner thinks the cost of nuclear power production is too high. This investment in operating time extension reduces investment in renewable energy.

Another petitioner believes that the long-term costs, including those for future generations, are overlooked.

This procedure deals with the amendment of the Nuclear Energy Act to allow for the application of a licence allowing the Borssele NPP to continue operating beyond 2033. It is not now a decision on the actual operating time extension. The licence holder, EPZ, will have to demonstrate in the next procedure that this can actually be done safely, what measures will have to be taken and what the costs will be. This cost calculation is not part of the EIA currently being prepared. In the next phase, investigations will also be carried out separately into financing an operating time extension. The monetary effects (costs) involved in the production of energy from nuclear power plants are not considered.

Viewpoint 95593142, 95618821, 95618990, 95620763, 95687193, 95700359, 95702002

Several submitters think it is important that the EIA also looks at the effects of the operating time extension on social and economic activities. One person considers this important because if the social development of a residential area deteriorates, it affects the level of sustainability of that area.

EIA Phase 1 of the amendment to the Nuclear Energy Act considers the current environmental situation of the Borssele NPP and extrapolates the environmental effects - where possible - to the situation after 2033. Social and economic impacts are not part of the EIA. Technical and financial feasibility will be examined by the nuclear power plant operator in the possible second phase and will be part of the decision-making process. This is also when a licence will be granted.

4.11.2. Specific viewpoints

Viewpoint 95668061

The draft NRD states that 'nuclear power is the cheapest and fastest way to generate CO₂-free electricity'. The petitioner indicates that it is not possible to make statements on the cost of operating time extension until it is known what additional investments are needed.

The present EIA only deals with the environmental effects. Indeed, it is not possible to make statements on the exact costs of the operating time extension until it is known what additional investments are required. The assumed costs are based on previously performed operating time extensions. The investigations for the Phase 2 EIA will provide insight into whether investments are needed and, if so, which ones and at what cost.

Viewpoints 95209836, 95613191

Several submitters point to the magnitude of CO₂ reduction through the operating time extension of the nuclear power plant. This could offset the cost of the operating time extension.

These viewpoints have been duly noted.

4.12. Decline in value and compensation

Viewpoints 95606485, 95639364, 95641180, 95642471, 95652861, 95654030, 95654072, 95654114, 95657861, 95659519, 95677519, 95677941, 95689917, 95925451

Several submitters are concerned that the value of their property will fall due to an operating time extension. They call for statutory and above-legal compensation. In the event of a disaster, property prices will plummet, and our residents will be left with unsellable homes. Several submitters are asking about the financial resources available to pay for these damages in the event of a serious nuclear power plant accident.

Declines in value and compensation are not part of the investigation in the EIA¹².

The Borssele NPP is currently and in the future made as spacious as possible. Amending the environmental plan is not necessary. Damage compensation is linked to changing an activity, causing direct or indirect damage¹³. As there will be no other activities, legal compensation (planning damage) does not seem to be an issue.

5. Cross-border

5.1. Cross-border effects

Viewpoint 95663588

Several bodies from the Grand Duchy of Luxembourg indicate that Luxembourg is not a direct neighbour and the distance to the border with the Netherlands is more than 100 km. Therefore, they consider the impact on Luxembourg to be low. Nevertheless, Luxembourg has drawn up a nuclear emergency plan, designed mainly for the Cattenom nuclear power plant (in France) but also applicable to accidents at nuclear power plants further away, such as the Borssele power plant. They do not expect any change due to the extension of the operating life of the Borssele nuclear power plant.

Luxembourg will be informed of the EIA's outcomes and documents during the process. The EIA will assess the radiological effects, including cross-border effects. This view was taken for further consideration.

Viewpoints 95677339, 95677446

Several submitters from Belgium, including FANC, have additions to the investigation described in the Draft NRD. They request that the radiological effects be investigated

¹² The Nuclear Accident Liability Act regulates the liability of operators of nuclear facilities for damage from nuclear accidents. This Act is based on the Paris Convention and this Convention explicitly mentions what type of damage falls under 'nuclear damage'. The Act requires operators to have and maintain insurance or other financial security.

¹³ Exactly how planning damage or damage compensation works is explained at [Nadeelcompensatie | Informatiepunt Leefomgeving \(iplo.nl\) \(in Dutch\)](#).

with the necessary depth and that the consequences for Belgium, including the municipality of Zelzate and the Ghent-Terneuzen canal, be addressed.

The EIA for the legislative amendment assumes that the nuclear power plant will operate in its existing form, and thus with the same impacts, after 2033. However, the nuclear power plant operator will need a licence from the ANVS in due course to stay open longer. When the licence application is submitted, the second part of the project EIA will be prepared to show the exact effects of, among other things, possible technical modifications to the nuclear power plant. At that time, it will also be possible to go into more detail about new potential cross-border effects.

Viewpoint 95925451

There have been requests from Austria to address in the EIA accidents that could lead to the release of radionuclides, mainly airborne, of particular importance. According to this petitioner, the EIA should at least include a detailed description of the central, active and passive safety systems, including information on redundancy¹⁴ and diversity.

Austria informs us that a nuclear meltdown accident can also have cross-border effects. It gives a number of recommendations for the investigation in the EIA on radiation protection and accidents. These recommendations include

- the differences between the Borssele nuclear power plant and new nuclear power plants with regard to the exclusion of early and large emissions,*
- technical concepts for the prevention of major discharges after a core meltdown accident,*
- consideration of how to prevent a meltdown,*
- description of the safety systems as well as the quality of the reactor vessel*

The operating time extension is divided into two phases. One phase for the legislative amendment and one phase for the licensing.

The phase we are in now concerns the legislative amendment. In the EIA, the Ministry of Economic Affairs and Climate Policy investigates the effects of the operating situation as it is today and extrapolates - where possible - to the situation after 2033. The environmental effects of various emissions are assessed in the EIA, both locally and across borders. The parts of the EIA relevant to foreign countries are translated into several languages (English, French and German).

In the second phase, the operator will soon address the technical condition of the plant and the effects that may occur after making necessary modifications to the plant itself. At that point, it will be clear what measures need to be taken to extend the operating life. At that time, the effects, including cross-border radiological effects, can also be investigated in detail.

In the part of the EIA accompanying the Nuclear Energy Act Review (Phase 1), we investigate cross-border effects. Radiation protection effects are also examined. To actually allow longer operation, the licence holder must demonstrate in a subsequent procedure that this can be done safely. This investigation belongs to the next phase after the legislative amendment, in which the nuclear power plant operator conducts further studies about its technical feasibility and safety (Phase 2).

¹⁴ Redundancy is having additional components or systems available as backup in case of failure or breakdown of the primary components or systems. The purpose of redundancy is to improve the availability, reliability and continuity of critical systems. Having redundant systems reduces the probability of critical systems failure and improves their availability, reliability, and continuity.

5.2. Translation of documents

Viewpoints 95615760, 95616025, 95616139, 95616156, 95616184, 95619596, 95619631, 95619658, 95620037, 95620162, 95620294, 95620539, 95621176, 95621241, 95621247, 95621300, 95621388, 95621470, 95621546, 95621655, 95621713, 95621719, 95621768, 95621783, 95621794, 95621823, 95621865, 95621889, 95621915, 95621931, 95621970, 95622021, 95622155, 95637376, 95637401, 95637425, 95637450, 95637480, 95661956, 95662060, 95662269, 95662307, 95662511, 95662631, 95662727, 95662911, 95663185, 95663231, 95663274, 95677299, 95677366, 95677460, 95698959, 95699196, 95709241, 95709431, 95709641, 95709667, 95709753, 95786355, 95786453

Several submitters request that all documents in these proceedings be translated into the languages of neighbouring countries.

In the different steps of the EIA procedure, the [Espoo Convention](#) contact points are notified. Each country party to the Espoo Convention has a contact point. These are contact points for international notifications. The contact points forward the notifications to the relevant authorities abroad. The competent authority abroad takes care of further dissemination and communication.

In addition, the Netherlands has bilateral agreements with Flanders and Germany on EIA procedures with cross-border effects. The basic principle is that the public in the neighbouring country is given the opportunity to express its opinion in a similar way as the Dutch public. An equal opportunity to express views is only possible if the necessary information is translated. Based on the agreements, it is mandatory to translate the summary of the EIA. In addition, the Dutch competent authority assesses to what extent a translation of relevant parts of documents makes sense in relation to the cross-border environmental impact. The NRD phase is the start of the EIA procedure. There are no agreements about the NRD. The translated summary of the NRD adequately reflects the relevant aspects and sections relating to cross-border participation.

The EIA will summarise the environmental impacts. When the EIA is made available for inspection, at least the summary will be translated and the relevant sections on transboundary environmental impacts.

The NCEA issued its advice in both Dutch and English. These [advices](#) can be found on its website.

Viewpoints 95615760, 95616025, 95616139, 95616156, 95616184, 95619596, 95619631, 95619658, 95620037, 95620162, 95620294, 95620539, 95621176, 95621241, 95621247, 95621300, 95621388, 95621470, 95621546, 95621655, 95621713, 95621719, 95621768, 95621783, 95621794, 95621823, 95621865, 95621889, 95621915, 95621931, 95621970, 95622021, 95622155, 95637376, 95637401, 95637425, 95637450, 95637480, 95661956, 95662060, 95662269, 95662307, 95662511, 95662631, 95662727, 95662911, 95663185, 95663231, 95663274, 95677299, 95677366, 95677460, 95698959, 95699196, 95709241, 95709431, 95709641, 95709667, 95709753, 95786355, 95786453

Several people are asking for all documents on the planned new building to be translated into the languages of neighbouring countries.

This procedure is about the Nuclear Energy Act Review. The procedure that deals with the new construction of nuclear power plants is a different procedure. In line with the various steps of this EIA procedure, the agreements of the [Espoo Convention](#) are followed. When the NRD and the EIA in the EIA procedure are made available for inspection in the decision-making on new construction, at least the summary and the relevant sections on cross-border environmental effects will be translated.

Appendix Glossary and abbreviations used

Abbreviation	Abbreviation meaning	Explanation
ANVS	Nuclear Safety and Radiation Protection Authority	The ANVS is the independent inspection body when it comes to nuclear energy-related activities. It monitors safety and regulatory compliance.
Ministry of Economic Affairs and Climate Policy (EZK)	Ministry of Economic Affairs and Climate Policy	In the EIA procedure, the Ministry of Economic Affairs and Climate Policy has the role of initiator and prepares the Environmental Impact Assessment report (EIA).
Ministry of Infrastructure and Water Management (IenW)	Ministry of Infrastructure and Water Management	The Ministry of Infrastructure and Water Management is the competent authority for the EIA procedure.
	Statutory advisers	The Minister of Infrastructure and Water Management or the inspector of spatial planning, the Ministry of Agriculture, Nature and Food Quality and the Minister of Education, Culture and Science (or an administrative body designated by them). These are asked for advice on the plan-EIA assessment and the scope and detail level of the plan- and project EIA.
EIA	The environmental impact assessment	The procedure of the environmental impact assessment
EIA	The environmental impact assessment	The booklet detailing the environmental impacts
NCEA	The Netherlands Commission for Environmental Assessment	The NCEA is an independent foundation that advises the competent authority on the scope and level of detail of the investigations to be carried out and the quality of information in the EIA
MOX fuel	Mixed oxides fuel	A form of nuclear fuel consisting of a mixture of plutonium, natural uranium, reprocessed or depleted uranium.
KCB	Borssele nuclear power plant	
EPZ	Elektriciteits Productie maatschappij Zuid-Nederland	EPZ is the operator of the Borssele nuclear power plant
LTO permit 2013	Long Term Operation permit 2013	In 2013, EPZ applied for a licence to operate for longer, until 2033.
	Meeting of the Parties	Parties to the Convention which meet every three years
ERDO	Association for Multinational Radioactive Waste Solutions	International alliance of organisations concerning the (final) disposal of radioactive waste
BKSE	Nuclear Facilities Fissionable Materials and Ores Decree	
PFD	probability of failure on demand	The likelihood of a device or instrument not working on start-up
	Redundancy	Redundancy is having additional components or systems available as backup in case of failure or breakdown of the primary components or systems. The purpose of redundancy is to improve the availability, reliability and

Abbreviation	Abbreviation meaning	Explanation
		continuity of critical systems. Having redundant systems reduces the probability of critical systems failure and improves their availability, reliability, and continuity.
	Embrittlement	Loss of ductility and strength of the material