

First Activity Report of the Austrian Board for Radioactive Waste Management

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Preface



Leonore Gewessler

Austria is a country that has exemplified the responsible use of nuclear power throughout its history. In 1978 the Austrian people decided against the use of nuclear energy. As a result, no high-level radioactive waste and spent fuel from nuclear power plants is produced in Austria.

At the same time, Austria is a country of advanced medicine, innovative product development and internationally recognised scientific research. In that process, low- and intermediate-level radioactive waste can arise; this includes mostly components from research reactors that are no longer needed or work gloves worn by medical professionals. This waste is currently stored professionally in the interim storage facility of Nuclear Engineering Seibersdorf GmbH. By 2045 long-term storage needs to be ensured. The establishment of the Austrian Board for Radioactive Waste Management ("Advisory Board" for short) was an important first step in this process. It is the beginning of a long process, at the end of which the best possible solution for Austria's radioactive waste disposal is to be found. We have to take responsibility now to avoid unnecessary burdens on future generations. Only the responsible disposal of radioactive waste can guarantee the protection of human health and prevent endangering the environment.

The Advisory Board is an interdisciplinary, transparent advisory body of the Federal Government. Over the next three years it will deal with topics and issues related to radioactive waste in Austria and gradually find a path towards a final repository for radioactive waste. Questions about the information and participation of the public already play a central role during this time. Because before we can think about finding a site, many open questions still have to be clarified. The guidelines of the Austrian Board for Radioactive Waste Management are based on transparency, openness, and participation. As this activity report shows, the Austrian Board for Radioactive Waste Management has already started to analyse the current situation. In the first two meetings, committees on relevant issues were formed and comprehensive background knowledge was compiled. I would like to express my sincere thanks to the members of the Austrian Board for Radioactive Waste Management for their time and commitment!

Leonore Gewessler

Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology

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1 The Austrian Board for Radioactive Waste Management

1.1 Background and Legal Basis

In 1978 the Austrian people decided against the use of nuclear energy. This has also been embedded in the constitution since 1999. As a result, Austria does not generate high-level radioactive waste and spent fuel from nuclear power plants that need to be disposed of. Nevertheless, the use of radioactive materials in medicine, industrial processes and scientific research produces low- and intermediate-level waste. In particular, radioactive waste arises where (scientific research) facilities that are no longer required are dismantled (decommissioned).

The Directive 2011/70/Euratom on "establishing a community framework for the responsible and safe management of spent nuclear fuel and radioactive waste" obliges all Member States of the European Union to manage their radioactive waste in a safe and responsible manner. To this end, every state must draw up a national programme that covers the management of radioactive waste from its generation to its final storage and ensures the protection of the public, the environment, and future generations from ionising radiation. At the same time, the directive requires that citizens have access to all necessary information and can effectively participate in decisions regarding the disposal of radioactive waste.

A draft of "The National Programme for the Management of Radioactive Waste" was prepared on behalf of the Federal Government and subjected to the Strategic Environmental Assessment required by law. This procedure aims to ensure that the programme has no negative environmental impact and at the same time gives the public - including neighbouring countries - the opportunity to participate in the compilation of the programme. The comments received were taken into account during the finalisation of the National Programme for the Management of Radioactive Waste.

The National Programme for the Management of Radioactive Waste (NEP) was adopted by the Federal Government in the Council of Ministers on 5 September 2018.

The National Programme for the Management of Radioactive Waste outlines the Austrian strategy for the responsible and safe disposal of radioactive waste.

It contains the applicable principles, the existing legal framework, and the practice of managing radioactive waste in Austria and provides an overview of the current and expected quantities of radioactive waste. The National Programme for the Management of Radioactive Waste outlines further steps for the final disposal of radioactive waste and examines the possibilities for disposal taking into account the waste inventory.

The National Programme for the Management of Radioactive Waste includes a provision for a working group (now called the Austrian Board for Radioactive Waste Management - "Advisory Board" for short) made up of representatives of the Federal and State Governments, scientists, NGOs, and from the public.

The task of this working group is to develop proposals for the final disposal of radioactive waste, taking into account technical, economic and social aspects. In the context of studies and workshops, but also in cooperation with foreign institutions and experts, solutions are to be developed. In addition, the working group is to draw up a concept for the comprehensive information and involvement of the public.

1.2 Constitution of the Advisory Board, Obligation to Report

On 10 March 2021 the Austrian Federal Government established the Austrian Board for Radioactive Waste Management ("Advisory Board" for short) to implement the National Programme for the Management of Radioactive Waste. This Advisory Board develops a basis for decisions and recommendations for the Federal Government regarding the final disposal of radioactive waste accumulated in Austria. The Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) is responsible for coordinating the Advisory Board.

The Advisory Board has its legal basis in the National Programme for the Management of Radioactive Waste. Its tasks are described there as follows:

- To give advice on changes to the legal framework as well as the financial framework for the final disposal of radioactive waste
- Consultation on a timeframe with key milestones

- Monitoring of the development of the waste inventory at Nuclear Engineering Seibersdorf (NES), including estimates of the time it could take to reach clearance values
- Monitoring the activities of other countries with comparable waste inventories
- Information on European and international cooperations in relation to radioactive waste
- Discussion about the type and requirements of public participation and information as well as on how to guarantee transparency and participation
- Initiate and monitor research and development activities leading to an assessment of the feasibility of introducing new technologies and concepts, waste minimisation, etc.
- Development of a conceptual project for the disposal facility, but also for all other relevant elements such as transport, monitoring, etc.
- Development of criteria for the selection of disposal options, especially with regard to safety aspects
- To give advice on the requirements for the future repository operators, safety regulations of the facility and ensuring that sufficiently qualified personnel are available
- To give advice on the decommissioning concept for equipment no longer required at NES
- Support of the implementation and updating of the National Programme for Radioactive Waste Management

The Rules of Procedure for the Austrian Board of Radioactive Waste Management were issued by the Federal Minister for Climate Action, Environment, Energy, Mobility, Innovation and Technology on 10 March 2021. Pursuant to § 13 of the Rules of Procedure, the Advisory Board must prepare an annual activity report, which is to be published by the Secretariat.

According to The National Programme for the Management of Radioactive Waste, the Advisory Board has to report regularly on its activities to the Federal Government and present the results as a basis for decisions. In order to ensure sufficient time for the possible construction and commissioning of the facility(ies) for the final disposal, the decision on the final disposal of radioactive waste should be made no later than 10 to 15 years before the contractual end of interim storage facility. However, the aim is to take the decision at an earlier date.

1.3 Establishment of the Secretariat

A Secretariat set up by the Federal Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) at the Austrian Agency for Health and Food Safety GmbH (AGES) provides technical and administrative support to the Advisory Board. It coordinates and administers the activities of the Advisory Board.

The Secretariat has the following tasks:

- Preparation and organisation of meetings
- Support of the Advisory Board in commissioning specialized expertise and studies
- Development of a basis for discussions and decisions on upcoming issues, as well as provision of technical expertise for the Advisory Board
- Writing of meeting minutes
- Documentation of discussion results
- Interface between the public and the Advisory Board

The Secretariat of the Advisory Board established at AGES took up its activities on 1 March 2021.

1.4 Mandate June 2021 - June 2024

The mandate of the Austrian Board for Radioactive Waste Management was issued by the Federal Government at the Council of Ministers meeting on 10 March 2021 and is valid for three years, i.e., until June 2024. After that, the Federal Government will issue another mandate based on the recommendations of the Advisory Board and the final report.

In the first three years the Advisory Board will work on topics and issues to present the status quo regarding radioactive waste in Austria and to gradually show a path towards the final disposal of radioactive waste. The search for a suitable site for a repository and the decision on the type of repository are not included in this phase.

Until June 2024 the mandate of the Advisory Board includes the following four points:

1. Radioactive Waste in Austria: Survey of the Status Quo

The aim is to survey and collect information and data on radioactive waste management, to discuss the inventory of radioactive waste in Austria as well as to evaluate the studies on the Federal Government's previous activities with respect to final disposal. As part of this, plans are to provide a tangible overview of the existing situation. The data collected in this survey describes the starting point in detail and provides the basis for the work of the Austrian Board for Radioactive Waste Management.

2. Analysis of the Options for Final Disposal

The aim is to provide an overview of all possible options for the final disposal of radioactive waste in the form of a single document. It should include the option of cooperation with other countries and outline the requirements, strengths, weaknesses, opportunities, and risks, as well as an initial cost estimate for each option.

3. Framework for Public Participation

The aim is to develop a framework for the public to participate (including cross-border measures) during the process of establishing a final repository for radioactive waste in Austria. The concept should consider technical, economical, and social aspects. Moreover, it should contain recommendations on how and when the public should be informed, involved, and included in the decision-making process.

4. Development of a Timetable for the Disposal of Radioactive Waste

The aim is to define a timetable and roadmap for the disposal of radioactive waste accumulated in Austria. This draft should include, where possible, relevant intermediate stages ("milestones"), key performance indicators and precise timelines for reaching these stages.

1.5 Members

The Advisory Board consists of 20 members for the mandate up to June 2024. Seven of them are technical experts, three representatives of civil society, nine representatives of the Federal and State Governments and one representative of the Association of Municipalities. Together they develop recommendations for the final disposal of radioactive waste in Austria.

The Advisory Board is chaired by Silvia Benda-Kahri from the Environment Agency Austria. The Chair was entrusted with this function by the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology on 10 March 2021; she is not a member of the Advisory Board and thus has no voting rights. The task of the chairperson is to supervise the meetings and to work towards a consensus among the members of the Advisory Board on the decisions to be taken.

Table 1 Members of the Advisory Board at the time of establishment in alphabetical order

Name	Institution
Roman Beyerknecht	Nuclear Engineering Seibersdorf
Manfred Ditto	Federal Ministry of Social Affairs, Health, Care and Consumer Protection
Ulrike Felt	University of Vienna Department of Science and Technology Studies
Bernhard Haubenberger	Association of Austrian Municipalities
Isabel Lamprecht-Pühra	Federal Ministry of Finance
Günter Liebel	Federal Ministry for Agriculture, Forestry, Regions and Water Management
Patricia Lorenz	Global 2000
Frank Melcher	Montanuniversität Leoben Chair of Geology and Economic Geology, Applied Geosciences and Geophysics
Gabriele Mraz	Austrian Institute for Ecology
Nikolaus Müllner	University of Natural Resources and Life Sciences Institute of Safety and Risk Sciences
Ewald Plantosar	Office of Styrian Government
Horst Reicher	Federal Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology
David Reinberger	Ombuds Office for Environmental Protection Austria
Wolfgang Renneberg	Öko-Institut e.V., Institute for Applied Ecology Germany
Ursula Rosenbichler	Federal Ministry of Arts, Culture, Civil Service and Sport

Name	Institution
Sabine Schneeberger	Federal Chancellery
Sigrid Sperker	Office of the Government of Upper Austria
Johannes Sterba	Technical University of Vienna Atomic and Subatomic Physics
Christoph Urbanek	Office of the Government of Lower Austria
Hannelore Weck-Hannemann	University of Innsbruck Department of Public Finance, Faculty of Economics and Statistics

Image 1 The Members of the Advisory Board, first Meeting in June 2021 (Copyright: AGES/Drott)



1.6 Working Method

The framework for the work of the Advisory Board is established by the mandate issued by the Federal Government as described in 1.4. The mandate defines the goals and outlines the topics that need to be addressed. The Rules of Procedure provide the formal framework. The Rules of Procedure set out the requirements for the establishment, tasks (according to the mandate), composition, members, membership, chairmanship, Secretariat, preparation and conduct of meetings, attendance, committees, consultation documents, resolutions, record keeping, reporting, and informing the public.

In order to be able to support the members of the Advisory Board in their work in the best possible way, the chair has based the design of the process on four central guidelines:

- A setting that enables constructive work
- Use a variety of methods to draw on broad expertise and ideas
- Allow flexibility in order to respond to needs
- Build in feedback opportunities to ensure that the process design is conducive to work

The process design provides for an iterative structuring in four process steps adapted to the topics. These are:

- Discover: Familiarisation with the topics of the mandate
- Define: Definition of issues relevant to the mandate topics as a basis for fact-finding missions
- Develop: Development of recommendations based on shared insights
- Deliver: Consensus on recommendations relevant to the issues of the mandate and communication of the results

2 Activities of the Advisory Board on the Implementation of the Mandate in 2021

2.1 Meetings of the Advisory Board

At the constituent meeting of the Advisory Board, it was decided by consensus to hold three meetings per year.

The following meetings were held in 2021:

Meetings of the Advisory Board:

- 23 March 2021 (preparatory meeting)
- 16 and 17 June 2021 (first meeting)
- 13 and 14 October 2021 (second meeting)

2.2 Activities of the Advisory Board

After a preparatory meeting on 23 March 2021, which took place online due to the Corona pandemic, the newly established Austrian Board for Radioactive Waste Management met on June 16 and 17 2021 for its constitutive meeting at the premises of AGES - Austrian Agency for Health and Food Safety.

The first meeting was opened by Christian Holzer (Head of Department at the BMK) and Thomas Kickinger (Managing Director of AGES). The Austrian Board for Radioactive Waste Management then began its work. After discussing the expertise of the Advisory Board, its tasks and working methods, the members of the Advisory Board discussed the results of previous repository studies in Austria with experts from AGES and the Environment Agency Austria. This was followed by a joint introduction to the content of the three main topics of the mandate through presentations and discussions on:

- Quantities and types of radioactive waste in Austria
- Different types of repositories (technical options)
- Participation processes for final disposal

As a basis for further work, existing information on the topics of the mandate was compiled and further questions to be deepened were collected. A committee was set up on the topic of "Participation and Involvement of the Public in the next three years". This Committee was to develop a proposal on the topic of "Participation and Involvement during the Advisory Board Period" by the second meeting.

The second meeting on 13 and 14 October 2021 aimed to deepen the understanding of the mandate, to get a common picture of the existing expertise and to clarify what additional knowledge should be collected. Furthermore, the next steps towards fulfilling the mandate were to be defined.

The meeting started with a report on the results of the Committee on "Participation and Public Involvement in the next three years". It presented its general reflections on the topic of participation and integration of the public as well as various ideas regarding public involvement during the three-year period of the Advisory Board's mandate.

This was followed by a joint look at the four tasks of the mandate. They were discussed in small groups and the members deliberated which further information (surveys, research, studies, committees, etc.) the Advisory Board would need to fulfil the mandate and what the next steps would be.

During the meeting, presentations and discussions on the following topics were held:

- Comparison of different participation models in selected countries
- Survey of the inventory of radioactive waste in Austria
- Possible technical options for final disposal

On the second day of the meeting, a tour of Nuclear Engineering Seibersdorf GmbH (NES) took place in order to give the board members insight into the collection, processing, conditioning, and storage of radioactive waste in Austria.

At the end of the meeting, three committees were formed to efficiently work on the mandate issues.

2.3 Decisions of the Advisory Board

All resolutions of the Advisory Board were passed unanimously.

Committee on the "Participation and Involvement of the Public in the next three years"

At the first meeting on 17 June 2021, it was decided to set up a committee on the "Participation and Involvement of the Public for the next three years". By the second meeting on 13 and 14 October the Committee was to prepare input for a common understanding of transparency and participation, a concept for public involvement and a communication and participation concept for the three-year period of the Advisory Board's mandate.

The Committee on the "Participation and Involvement of the Public for the next three years" met on the following dates:

- 17 June 2021
- 2 July 2021
- 6 September 2021

At the second meeting on 14 October 2021, the formation of the following three committees was decided:

Committee on "Radioactive Waste in Austria - Focus on Quantities"

In order to clearly define the already existing prognosis of the radioactive waste that will accumulate by 2045, a questionnaire is to be developed and the persons to be interviewed should be determined. This way the existing prognosis of NES on the quantities expected by 2045 can be amended and refined. In addition, further data that is required to characterise the radioactive waste inventory needs to be defined and evaluated (e.g., volume; radiological, chemical, and physical characterization; origin). This is the task of the Committee on "Radioactive Waste in Austria - Focus on Quantities".

The Committee on "Radioactive Waste in Austria – Focus on Quantities" met on 21 December 2021.

Committee on the "Pathway to the Evaluation of Options for the Final Disposal"

In order to carry out an analysis of the options for final disposal, the Advisory Board needs further information in the form of studies or reports. For example, on the topics of safety and site criteria. The next steps build on this information.

Mandate item 2 "Analysis of Options for the Final Disposal" is closely linked to mandate item 4 "Development of a Timetable for the Disposal of Radioactive Waste", since the key steps in the process essentially depend on the analysis of disposal options.

The Committee on the "Pathway to the Evaluation of Options for the Final Disposal" has the task of developing a system for evaluating various repository options. For this purpose, flowcharts are to be drawn up showing which decisions are to be made by which persons/institutions and who is involved. In addition, the Committee will propose to the Advisory Board a structure for the content of the questionnaire and define the prerequisites for the required reports and studies.

The Committee intends to present a draft of a possible flowchart/decision tree which can then be used to visualise the system for evaluating the options. In addition, the required information and reports (e.g. safety and location criteria, presentation of the options including an initial estimate of the associated costs, etc.) are to be structured.

Committee on the "Framework for Public Participation"

The efforts to involving the public during the next three years as well as public relations and communication of the Advisory Board's work are to be continued. In addition, the expectations regarding the participatory process should be clarified and the basis for future work should be established.

The Committee on the "Framework for Public Participation" has the task of continuing and expanding on the work that has already been carried out. In addition, the Committee is to develop a proposal for a common understanding of transparency and participation, summarise the results of a brief inquiry into the public's level of knowledge, undertake preliminary work on a stakeholder map and compile key points for public relations and communication of the Advisory Board's work.

The Committee on the “Framework for Public Participation” met on 22 November 2021.

3 Background Studies as Input for the Advisory Board

Various studies were carried out to gather background information for the Advisory Board. Once these are completed, they will be published on the website of the Austrian Board for Radioactive Waste Management. The studies were conducted by AGES - Austrian Agency for Health and Food Safety and the Environment Agency Austria.

The study on "**Radioactive Waste in Austria - Quantity and Type**" provides an overview of the type and origin of Austrian radioactive waste.

The study on "**Participation - an International Comparison**" compared various participatory initiatives and comparable processes in dealing with decisions on the disposal of radioactive waste. Particular attention was paid to countries that had already implemented successful processes or had similar preconditions regarding low- and intermediate- level radioactive waste as in Austria.

The study on "**International Repository Technologies**" provides an overview of the requirements of a repository for the various radioactive waste types. In addition, examples of existing international repositories are presented.

4 Publications and Public Relations

The Advisory Board's website www.entsorgungsbeirat.gv.at was set up. The website serves to inform the public and also publishes minutes of meetings and annual activity reports. It offers the possibility of contacting the Advisory Board. For this purpose, the e-mail address kontakt@entsorgungsbeirat.gv.at was established, which the public can use to ask questions and express their concerns.

During the reporting period, three meeting reports were published on the website:

- Report of the preparatory meeting
- Report of the first meeting
- Report of the second meeting

There were no recommendations or other publications from the Advisory Board during the reporting period.

5 Personnel Changes

In the first year the following personnel changes occurred in the chairmanship and the members:

The Federal Ministry for Social Affairs, Health, Care and Consumer Protection (BMSGPK) nominated Christina Raith as a replacement member.

Due to the early resignation of a member, the Federal Ministry for Finance (BMF) nominated Mr. Philipp Bohatschek as a member of the Advisory Board.

6 Outlook

The meeting dates for 2022 have already been set. The meetings shall take place on:

- 26 and 27 January 2022 (third meeting)
- 11 and 12 May 2022 (fourth meeting)
- 19 and 20 October 2022 (fifth meeting)

In 2022, issues are to be specified and study results are to be discussed so that the Austrian Board for Radioactive Waste Management can make recommendations to the Federal Government at the end of its mandate.

Furthermore, excursions to existing European repositories for low- and intermediate-level radioactive waste are planned to take place.

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