Annex 4: Timetable and Roadmap

For the disposal of Austria's radioactive waste

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Introduction

To plan a complex project that involves multiple stakeholders and spans several decades, it is essential to develop a strategic timeline and roadmap.

A timetable and roadmap are a project management tool that places the goals and key results (tasks, milestones) of a project along a timeline, grouped into a single visual representation. Unlike a conventional project plan, it does not include every detail but serves as a clear and strategic overview. A visual project timeline is particularly useful for communicating with stakeholders, presenting the strategy, and discussing the key steps required to implement and advance the project.

This timetable and roadmap are not a detailed implementation plan, but a strategic framework. It defines a goal or desired results and outlines the key steps or milestones necessary to achieve it. To measure and evaluate progress, key performance indicators (KPIs) are developed.

Task 4 of the mandate of the Austrian Board for Radioactive Waste Management stipulates the development of a timetable and roadmap for the disposal of radioactive waste generated in Austria by the year 2045. This roadmap was developed by the Advisory Board in collaboration with experts from the Austrian Agency for Health and Food Safety (AGES). The present report is a “living document,” prepared in close alignment with the recommendations of the final report at the end of the Advisory Board’s first mandate. As the disposal process remains ongoing, the roadmap may be expanded or revised as new information becomes available.

To ensure transparency and traceability, and to preserve the integrity of relevant information, the timeline and roadmap is maintained as a controlled document[1].

[1] A controlled document is one that is created, reviewed, approved, distributed, and regularly updated in a managed process to ensure that the valid and current version is always used.

Underlying Documents

The design of a final repository must consider a range of site-specific and country-specific factors. As such, there is no universally applicable guideline or standard for developing such a concept or its associated timetable and roadmap.

The timetable and roadmap presented below is based on documentation from the International Atomic Energy Agency (IAEA), makes specific reference to various Austrian laws and regulations, and incorporates conclusions derived from these sources. The following references are particularly noteworthy:

- IAEA (2006): Storage of Radioactive Waste, IAEA Safety Standards Series, Safety Guide No. WS-G-6.1, IAEA, Vienna
- Hunt J. & Guskov A. (2021): Introduction into Development of a Road Map for Radioactive Waste Storage, IAEA Second Plenary Meeting of the International Harmonization and Safety Demonstration Project for Predisposal Radioactive Waste Management, IAEA, Vienna
- IAEA (2024): Experiences of the Development, Review and Use of Safety Cases and Safety Assessments for Taking Decisions on Near Surface Disposal of Radioactive Waste, IAEA TECDOC-2041, Vienna
- European Joint Programme on Radioactive Waste Management (2018): Roadmap, EURAD
- Wagner E. & Semmelrock-Picej M. (2022): Legal Framework for the Disposal of Radioactive Waste, Linz
- Radiation Protection Act 2020 (StrSchG 2020), especially §§ 3, 17, and 53
- General Radiation Protection Ordinance 2020 (AllgStrSchV 2020), especially § 67
- Environmental Impact Assessment Act 2000
- Directive 2001/42/EC of the European Parliament and Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment
- Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste
- Commission Recommendation 2010/635/Euratom of 11 October 2010 on the application of Article 37 of the Euratom Treaty

- Analysis and summary of disposal concepts for radioactive waste in selected countries, serving as input for the Austrian timetable and roadmap (working document of the Advisory Board)

Explanation of the Structure of the Timetable and Roadmap

The timetable and roadmap for the disposal of radioactive waste is divided into four distinct phases:

- Phase 1: Concepts for Final Disposal
- Phase 2: Site Selection Procedure
- Phase 3: Construction
- Phase 4: Operation and Decommissioning

Each phase includes specific milestones that must be achieved, supported by various work packages. These phases and milestones are processed chronologically, although the work packages may also be carried out in parallel. Key performance indicators (KPIs) for evaluating the progress of the timetable and roadmap are presented in tabular form (see section “Key Performance Indicators”).

The legally binding end of interim storage at Nuclear Engineering Seibersdorf GmbH (NES)—requiring all radioactive waste to be removed by 31 December 2045—sets an extremely ambitious timeline. The realization and commissioning of a final repository by the end of 2045 is considered highly unlikely. Therefore, the Advisory Board recommends, in its final report, an extension of the existing Joint Agreement between the Municipality of Seibersdorf, Nuclear Engineering Seibersdorf GmbH, and the Republic of Austria.

If such an extension is considered, more conservative assumptions can be applied to the timeline. An estimate of the adjusted schedule, accounting for potential delays, is provided for each milestone. A graphical overview of the phases, milestones, and work packages is presented in the section “Temporal Overview.”

The timeframes following the start of waste emplacement are based on examples from other countries. These serve as guidelines and may be adapted as needed.

Phase 1: Concepts for Final Disposal

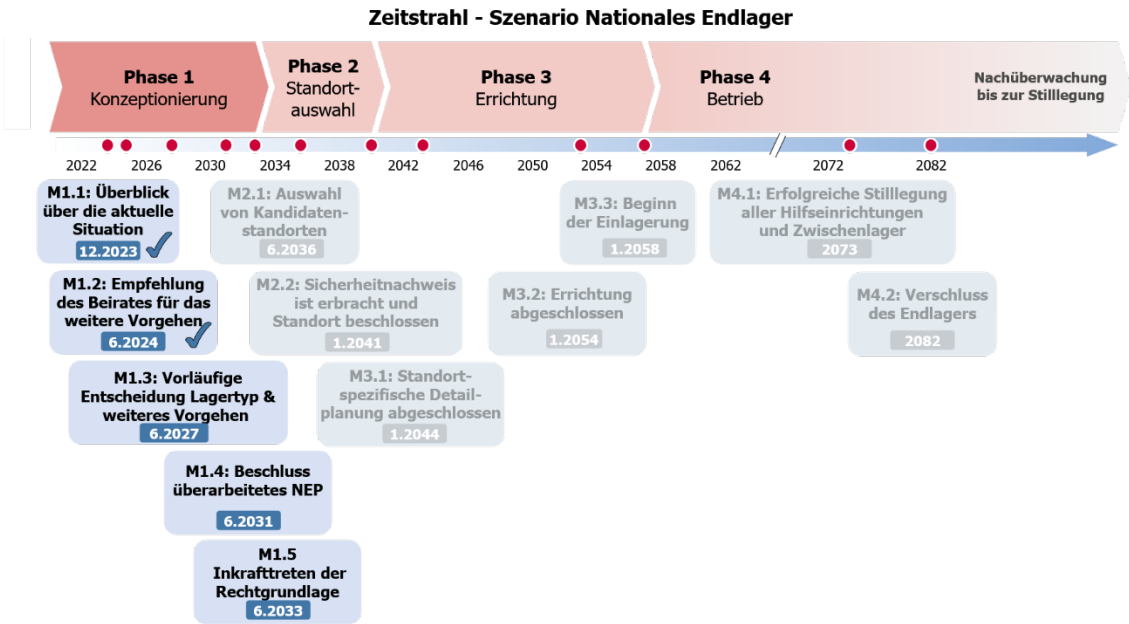
The starting point for Austria's radioactive waste disposal efforts was the adoption of the National Waste Management Programme (NWMP) on 5 September 2018.

This marked the beginning of Phase 1, which focuses on identifying requirements, conducting evaluations, and developing concepts for final disposal. A comprehensive implementation plan is to be prepared, including a strategy for site selection.

This phase is structured around five key milestones:

- M1.1: Overview of the Current Situation
- M1.2: Recommendation of the Advisory Board for Further Action
- M1.3: Preliminary Decision by the Federal Government on the Repository Type and Next Steps
- M1.4: Adoption of the Revised National Waste Management Programme
- M1.5: Enactment of Regulatory Framework for Site Selection and Criteria Catalogue

Figure 1: Milestones from phase 1 of the four-phased timetable and roadmap (only in German)



M1.1: Overview of the Current Situation

The objective is to conduct a comprehensive review in order to gain a clear understanding of the current situation. This assessment is scheduled for completion by the end of 2023.

WP1.1.1: Legal Review

This work package aims to deliver a comprehensive overview of the national legal framework and Austria's obligations under European Union law. It seeks to clarify the need for additional legislative provisions and evaluate the most effective means of implementing them. Certain elements are already outlined in the NWMP. The report "Legal Framework for the Disposal of Radioactive Waste" recommends, among other measures, strengthening the legal foundation for both the site selection process and the final site decision. Additionally, this work package includes defining the procedure for conducting a Strategic Environmental Assessment (SEA) and considering a constitutional amendment to transfer responsibility for Environmental Impact Assessments (EIA) of final repositories to federal jurisdiction.

Deliverable:

Preparation of the report **"Legal Framework for the Disposal of Radioactive Waste"** by the Institute for Environmental Law at Johannes Kepler University Linz.

WP1.1.2: Technical Review

Before the planning process begins, the origin and characteristics of the radioactive waste intended for disposal must be accurately recorded and documented. The waste must then be assessed for its suitability for disposal and, if necessary, conditioned. This forms the basis for informed decision-making.

A fundamental definition of safety objectives and safety criteria will be developed. A disposal facility for radioactive waste is designed to ensure the protection of both humans and the environment. The release of radionuclides from a repository must be prevented or delayed as much as possible, although indefinite containment is not feasible. To achieve optimal containment and demonstrate safety, clearly defined and objectively verifiable safety objectives must be established and met.

Basic requirements for a repository:

- Permanent and maintenance-free isolation of radioactive waste
- Structural robustness sufficient to withstand environmental and operational stresses
- Repository planning and design must be based on comprehensive, previously collected waste data
- Site-specific safety analyses tailored to geological and environmental conditions
- Integrated safety concept, including the assessment of potential incident scenarios
- Long-term performance predictions of safety functions, supported by geological forecasting

Underlying objectives:

- Protection of human life and health, including future generations, from the harmful effects of ionising radiation
- Safe and secure disposal of radioactive waste
- Minimization of the volume and radiological activity of stored waste

Accountability of waste-generating generations for the regulated and responsible disposal of radioactive materials

The safety criteria for a repository must be tailored not only to the specific site but also to the type of repository. While these requirements vary depending on location and design, this stage should establish a general definition of safety objectives and.

As a further cornerstone, it is essential to define and justify which exposure scenarios are to be considered and which may be excluded. In the context of radioactive waste management, the potential exposure of the population or the environment to released radionuclides represents a significant safety concern. Radiological assessments must be site-specific

and encompass all plausible exposure pathways. These assessments should account for a range of scenarios, evaluate their likelihood, and incorporate them accordingly. Scenarios that could result in high exposure must either be excluded or demonstrated to be sufficiently improbable. Similar or similarly probable scenarios may be grouped, and detailed analyses of representative cases should be conducted. In particular, the development of a reference scenario—against which all disposal options can be evaluated—is critical for guiding the subsequent planning and safety validation process.

Deliverable:

Report "**Inventory of Radioactive Waste**" prepared by Nuclear Engineering Seibersdorf GmbH.

Report "**Proposal for Safety Criteria and Accident Scenarios**" prepared by University of Natural Resources and Life Sciences, Vienna - Institute for Safety and Risk Sciences, Nuclear Engineering Seibersdorf GmbH, Vienna University of Technology - Center for Labelling and Isotope Production, Austrian Agency for Health and Food Safety GmbH - Radiation Protection Division.

WP1.1.3: Requirements for Public Participation

At the outset of the participation process accompanying the disposal of Austria's radioactive waste, the focus is on establishing quality criteria, developing governance rules, and ensuring a functional interface between participation procedures and the political-administrative system. These foundational elements are designed to ensure transparency, prevent tokenistic participation, and guarantee that all phases of the process are supported by a coherent and well-structured participation concept. The criteria aim to enhance decision-making resilience, enable iterative feedback loops throughout the process, and clarify the legal framework underpinning participation.

Deliverable:

Report „**Austria and Its Radioactive Waste – What You Always Wanted to Know and What We Always Wanted to Ask You**“, prepared by Federal Environment Agency GmbH.

M1.2: Recommendation of the Advisory Board for Further Action

With the end of the current mandate of the Advisory Board, a set of formal recommendations will be issued addressing the topics covered during its term. These recommendations, encompassing all four areas of the mandate, will be consolidated into a final report that will serve as a strategic foundation for the continued advancement of the disposal process. Building on the findings of the report *“*Comparison of Options for Final Repositories*”*, the Advisory Board will evaluate the advantages and disadvantages of various repository types, as well as national, bilateral, and international disposal solutions. In addition, the Advisory Board advocates for the adoption of a structured timetable and roadmap, complemented by a comprehensive participation strategy.

The Advisory Board also underscores the importance of maintaining continuity in the disposal process. It assesses the necessity of extending the existing Joint Agreement in Seibersdorf, draws conclusions from supporting reports, and proposes safety objectives along with safety criteria for the development of a future repository.

WP1.2.1: Technical Framework

As a foundation for subsequent work, overarching site selection criteria will be developed and further specified following the decision on the repository type. These criteria should already incorporate technical, geological, economic, social, socio-economic, and environmental considerations. The final repository must be planned and operated to ensure the most effective possible isolation of radioactive waste from humans and the biosphere. The repository’s engineered and natural barriers are intended to provide sufficient containment time to allow for the in-situ decay of radionuclides with short half-lives. Any potential release of long-lived radionuclides should occur at a rate slow enough to pose no significant

risk. Accordingly, the long-term behaviour of radioactive substances within the repository must be modelled, with particular attention to the performance of natural and technical barriers. The objective is to identify and understand the processes that significantly influence the migration of radionuclides through these barriers. An overview of the calculation methods used to estimate such migration should be provided.

Additionally, a conceptual framework will be developed to address the management of radioactive waste generated in the future. The insights gained should inform the broader disposal strategy, with a particular focus on identifying measures to minimize future waste generation.

Deliverable:

Report **"Methods for Estimating the Long-Term Behaviour and Dispersion"**, prepared by the Institute for Isotope Physics (VERA) of the University of Vienna and the Austrian Agency for Health and Food Security (Radiation Protection Division).

Report **"Proposal for Site Selection Criteria",** prepared by the Montanuniversität Leoben (Department of Applied Geosciences and Geophysics), Nuclear Engineering Seibersdorf GmbH, University of Vienna (Institute for Science and Technology Research), Austrian Agency for Health and Food Safety (Radiation Protection Division) and the Austrian Institute of Ecology.

WP1.2.2: Comparison of Disposal Options

As part of a scientific study, various viable options for the disposal of radioactive waste will be compared using clearly defined and transparent criteria. An initial assessment of different repository types—such as deep geological disposal, borehole disposal, and near-surface disposal—will be conducted based on the specific characteristics of each option, their technical feasibility, and the projected implementation timeline. This preliminary evaluation may already identify repository types that are not realistically feasible.

In addition, the study will examine the potential for a national disposal solution, a bilateral approach, or a multinational concept. A "dual-track policy" will also be analysed, which involves pursuing two strategies simultaneously: on the one hand, seeking a joint repository with other countries, and on the other, developing a national repository. The first step will

be to outline the current status of multinational initiatives and identify which bilateral concepts appear feasible. Subsequently, the challenges, advantages, and disadvantages of bilateral and multinational solutions will be analysed in detail.

Given the expiration of the Joint Agreement in Seibersdorf at the end of 2045, the timeframe for establishing a final repository is highly constrained. For this reason, the Advisory Board recommends extending the duration of this agreement.

Deliverable:

Report „**Comparison of Options for Final Repositories**“, Oeko-Institut Consult GmbH (Germany).

WP1.2.3: Economic Framework

In parallel with the technical comparison of disposal options (see WP1.2.2), this work package focuses on estimating the costs associated with various repository types. It also includes an assessment and comparison of the economic implications of pursuing a national, bilateral, or international disposal solution, as well as the financial impact of a dual-track policy. The findings from this analysis will serve as a critical input for the subsequent decision-making process and will support the selection of a preferred repository concept based on both technical and economic considerations.

Deliverable:

The report **“Comparison of Options for Final Repositories”,** prepared by Oeko-Institut Consult GmbH (Germany), provides an initial cost estimate for the various types of repository configurations.

WP1.2.4: Framework for Public Participation

A comprehensive participation architecture is to be developed to accompany all subsequent phases of the project. Taking into account the previously defined quality requirements, unresolved legal questions regarding the participation process are to be clarified. Suitable participation formats and designs, an information centre, and proposals for advisory bodies will be elaborated. These results will be consolidated into the participation concept, which forms part of the final report of the Advisory Board.

Additionally, processes will be developed to ensure that the public is kept informed and up to date about the site selection procedure beyond the legally mandated participation processes.

Deliverable:

Preparation and resolution of the "**Participation Concept"** by the Advisory Board.

M1.3: Preliminary Decision by the Federal Government on the Repository Type and Next Steps

By mid-2027, a preliminary decision on the type of repository and the further course of action is to be made by the Federal Government. This decision will be based on the development of safety criteria and a generic safety analysis. In addition, a generic site selection procedure is to be designed.

WP1.3.1: Responsibilities and Organizational Structure

The allocation of roles and responsibilities for the site selection process is not yet clearly defined under current legal provisions and is to be established as part of this work package. Additionally, it must be clarified who will develop the criteria and procedures described in WP1.4.1 and WP1.4.2, and when and in what form an advisory body will be established. Furthermore, organizational structures must be defined for the subsequent steps, such as

site search, planning, and construction of a final repository. The functions and responsibilities of a future project sponsor must also be clarified, including the designation of the entity intended to assume this role.

The development of the site selection procedure and its framework conditions should be conducted within the scope of a comprehensive participation and information strategy. The “Coordinating Project Team” is responsible for ensuring that all relevant areas are implemented in a well-coordinated and integrated manner.

Responsibilities for the post-monitoring phase must be clearly defined. Additionally, oversight bodies should be established to accompany the ongoing process, particularly in relation to public participation. Appropriate control mechanisms must also be implemented for both the site selection and the operation of the repository.

Efforts should be initiated to strengthen existing expertise within the institutions responsible for the disposal of radioactive waste and to develop new competencies. Personnel requirements for site selection, subsequent construction, and eventual operation of a repository should be assessed through targeted surveys. Based on these assessments, qualified professionals should be recruited or trained in a timely manner. It is essential to consider that, depending on the specific role, a multi-year training period may be required before responsibilities can be effectively fulfilled.

Furthermore, a research and development (R&D) program should be launched to support the ongoing process through scientific and technological innovation. These initiatives in capacity building and research should be documented in a comprehensive project plan that outlines the long-term structure, required resources, and clearly defined responsibilities.

WP1.3.2: Launch of Participation Concept

The participation concept developed in WP1.2.4, including all associated processes, is to be launched in alignment with the recommendations of the Advisory Board and will continuously support the overall process. Beyond the legally mandated participation, the public should be informed in a comprehensive and transparent manner through a broad participation framework. This approach aims to raise awareness of the issue and provide opportunities for public engagement. A central component of this concept is the establishment of an information center.

In the spirit of representative democracy and to ensure the representation of citizens and federal states, both the National Council and the Federal Council are to be actively involved.

To strategically prepare the implementation of the participation concept and ensure the coordinated involvement of all relevant stakeholders, the “Coordinating Project Team” will be responsible for its operational planning. This includes the development of an information strategy, the design of participation formats during the creation of the site selection procedure, and the integration of feedback gained through these formats.

Deliverable:

An operationalized participation process to be established by mid-2027.

WP1.3.3: Specification of Safety Criteria and Generic Safety Analysis

In accordance with the recommendations of the Advisory Board, the safety criteria are to be further specified. To support the decision-making process regarding the type of repository, a generic (site-independent) safety analysis—or safety case—is to be developed. The scenarios to be considered were defined in WP1.1.2.

This analysis must account for temporal changes that may affect both the site and the repository system over the defined demonstration period. It must demonstrate that the established safety requirements are met, including detailed specifications for all operational states and deviations from normal operations.

The safety case must address both the expected development of the repository and potential unexpected events. It must ensure that any release of radioactive material in such cases does not exceed a defined dose reference level. To achieve this, the safety case will include technical specifications, operational procedures, monitoring and control measures, as well as emergency response and long-term protection plans.

The overarching goal of the generic safety analysis is to develop and compile methodologies that enable a systematic, comprehensive, and internally consistent exploration of reposi-

tory system development options. Internationally referred to as a safety case, this document is considered a living document that evolves alongside the disposal process, gaining detail and precision from the planning phase through to decommissioning.

Chapter 7 of the study “Proposal for Safety Criteria and Accident Scenarios” provides a more detailed concept for such a document.

Deliverable:

Finalization of preliminary safety criteria and completion of the generic safety analysis by the end of 2026.

WP1.3.4: Draft of a Generic Site Selection Procedure

Based on the report “Proposal for Safety Criteria and Accident Scenarios” and the developed fundamentals therein, a generic procedural framework for the site selection procedure is being designed. This generic structure is applicable to all repository options. It outlines the fundamental principles and framework conditions for the site selection procedure, as well as the general sequence of procedural steps, and serves as the basis for the stakeholder engagement process according to WP1.3.2. The outcome of the engagement process will be a unified draft of the generic site selection procedure.

It remains to be determined whether the site search will be conducted through a process of negative mapping (i.e., the successive exclusion of unsuitable areas followed by further narrowing down), or whether the search will focus on identifying a number of suitable regions. Additionally, the possibility that municipalities may voluntarily nominate themselves as candidate sites must be considered, provided this is foreseen in the site selection procedure. In such a case, it must be ensured that a sufficient number of candidate sites can still be identified even in the absence of voluntary nominations.

WP1.3.5: Detailed Considerations of Repository Type

Building on the results of WP1.2.2 and WP1.2.3, and the recommendations of the Advisory Board, a more detailed evaluation of national, bilateral, and multinational disposal solutions

will be conducted if necessary. This may include pursuing a “dual-track strategy” — a bilateral approach involving participation in an existing repository project of another country — or making a final decision for or against a purely national solution. Alternatively, it may be considered to revisit the decision if certain conditions arise, such as a previously excluded option becoming highly advantageous due to unforeseen circumstances. In doing so, attention must be paid both to the feasibility within the further course of the project and to ensuring that the decision does not lead to disproportionate delays in the disposal process.

Public opinion regarding national, bilateral, or international repository solutions, as well as the dual-track policy, will be surveyed and incorporated into the final repository concept.

In addition, based on the comparison of repository options conducted in WP1.2.2, the recommendations of the Advisory Board, and any further detailed assessments, a decision will be made regarding the type of repository—for example, near-surface, deep geological, or borehole disposal. The Federal Government will make a preliminary decision on the repository type and the subsequent steps, taking into account the aforementioned analyses and recommendations. This decision is a prerequisite for progressing with the subsequent work packages.

WP1.3.6: Continuity in the Disposal Process

In line with the recommendation of the Advisory Board regarding continuity in the disposal process, the work of the Advisory Board should be continued. To ensure consistency in such a long-term process as the search for a final repository and to avoid stagnation, the work should proceed seamlessly and without any loss of knowledge.

M1.4: Adoption of the Revised National Waste Management Programme

Following the preliminary decision by the Federal Government regarding the repository type and the further course of action, the National Waste Management Programme is to be revised by 2031. In addition to the selected repository type, it must include the catalogue of criteria and all necessary steps of the site selection procedure. Before the National Waste

Management Programme is adopted, a strategic environmental assessment must be carried out.

WP1.4.1: Development of the Catalogue of Criteria

Building on the report “Proposal for Site Selection Criteria”, criteria for selecting a repository site (site selection criteria) are to be developed based on the current state of science and technology and the Austrian waste inventory. In line with Recommendation 2.5 of the Disposal Act, these criteria must give equal consideration to both scientific and societal aspects.

A comprehensive catalogue of criteria, including a scoring system for evaluating potential repository sites, will be developed. This will be based on the repository type provisionally defined in WP1.3.5, the safety criteria specified in WP1.3.3, and previously conducted studies, generic safety analyses, and adopted recommendations—such as socio-economic criteria (see WP1.2.3) and long-term behavior. The catalogue of criteria serves two main purposes: first, to determine the suitability of a site as a candidate location for a repository, and second, to enable the comparison and evaluation of candidate sites. In a future site selection procedure, this catalogue will form the basis for a transparent and comprehensible site ranking, based on objectively defined and weighted criteria.

The development of the criteria catalogue, including the scoring system, and the design of the site selection procedure in WP1.4.2 will be carried out as a participatory process, in accordance with the concepts developed in WP1.2.4. Only through the active involvement of the public in the development of both the criteria catalogue and the site selection procedure can acceptance for the later implementation of the process and the resulting site decision be achieved.

WP1.4.2: Site Selection Procedure in Austria

Following the preliminary decision on a repository type, the generic site selection procedure developed in WP1.3.4 through stakeholder involvement can be further refined to reflect the specific requirements of the chosen repository type and the criteria catalogue. The aim of the site selection procedure is to identify candidate sites that offer the highest possible safety for long-term disposal.

The quality of the site selection procedure is a key factor in gaining public acceptance of the final site decision. Therefore, the process must be transparent, well-justified, and based on clearly traceable rules.

Moreover, it is essential that the procedure includes a participatory process that meets the previously defined quality standards. As outlined in WP1.4.1, the criteria catalogue is intended to enable objective and transparent site evaluation. In addition, concepts for potential compensation for the future host community and measures to enhance public acceptance in affected regions will be developed as part of the site selection procedure.

WP1.4.3: Knowledge Management

To ensure long-term expertise and a extensive data base for a future repository, a knowledge management concept for radioactive waste disposal is to be developed. This includes addressing how information and documentation can be preserved over very long time periods, as well as how knowledge and practical experience can be passed on across multiple generations. A key challenge lies in maintaining the interdisciplinary and highly specialized knowledge required for repository development. The information center initiated in WP1.3.2 can serve both as a platform for disseminating knowledge and as a long-term archive. It may be designed as a central hub for the exchange, documentation, and preservation of information.

In addition, a decision must be made on whether a monument should be constructed after the closure of the repository to mark the site for centuries, or whether the loss of knowledge about the site should be intentionally pursued—e.g., through reforestation and renaturation to render the site unrecognizable. All of these aspects must be planned and implemented in close coordination with the recommended participation concept.

WP1.4.4: Implementation of the Participation Concept

The participatory process outlined in WP1.3.2 is now set to be launched. The information center will begin operations and is intended to make the topic of radioactive waste disposal tangible while providing ongoing updates about the process. To achieve this, results and decisions must be continuously updated and clearly communicated.

In parallel with ongoing information efforts, interactive participation formats will be conducted on various topics (e.g., WP1.4.1 and WP1.4.2) and at different stages of the process. The insights gained from these formats must be presented transparently and integrated into the work of the respective work packages.

WP1.4.5: Revision of National Waste Management Programme (NWMP)

Based on the previously developed criteria catalogue, the decision on the repository type, and the established site selection procedure, the NWMP is to be revised accordingly to outline the next steps. This substantial revision of the NWMP requires a SEA in accordance with § 142 Art. 4 of the Radiation Protection Act 2020. This process provides stakeholders and the public—both nationally and internationally—with the opportunity to participate, and their input must be appropriately taken into account.

WP1.4.6: Outline of Newly Required Legal Foundations

Based on the findings from the legal review conducted in WP1.1.1, the site selection procedure—including the criteria catalogue—should be formally established in law. It is also common practice for the final site decision to be enacted through legislation or an official administrative decision. These elements should be documented in the outline of newly required legal foundations for the disposal process. To improve the feasibility of conducting the EIA, transferring the procedure to federal jurisdiction should be considered. This could be achieved by amending § 10 para. 9 item 1 of the Federal Constitutional Law. If necessary, newly established organizations or project sponsors—as defined in WP1.3.1—must also be legally formalized. Furthermore, while §§ 53(5) and 142 of the Radiation Protection Act 2020 already contain provisions that could be applied to subsequent steps, they are not sufficient as a legal basis for the site selection procedure and the required public participation processes, especially in light of relevant EU directives.

M1.5: Enactment of Regulatory Framework for Site Selection and Criteria Catalogue

As the basis for site selection in Phase 2, the criteria catalogue, the site selection procedure, the corresponding financing, and the modalities of a site decision must be legally established. To achieve this, the necessary legislative process must be completed by mid-2033.

WP1.5.1: Legislative Process

The outline of newly required legal foundations developed in WP1.4.6 is to be finalized in preparation for the legislative process. Once the draft law has passed through all necessary stages, it will be submitted to the National Council and the Federal Council for approval and can subsequently enter into force. Depending on the complexity of the content and the prevailing political context, the duration of this process may vary. As described in WP1.5.3, the legislative process will be accompanied by a participatory approach.

WP1.5.2: Cost Assessment for Site Selection

The costs expected to arise from the planned site selection procedure must be estimated, and their coverage demonstrated through a detailed financing plan. In Austria, a treatment and disposal fee are generally levied for every acceptance of radioactive waste. These fees cover not only the costs of conditioning and interim storage, but also contribute to the identification, construction, and operation of a final disposal facility. Should these fees prove insufficient to cover the full costs, the Republic of Austria is legally obligated to bear the remaining expenses. As part of the legislative process, an impact-oriented regulatory impact assessment must be prepared, incorporating the aforementioned plans. This assessment will transparently outline and itemize the total costs associated with the final repository project.

WP1.5.3: Public Participation in the Legislative Process

The public is to be actively involved in the legislative process and the resulting legal framework. This participation should, where possible, go beyond the established mechanisms such as submitting comments and engaging during the consultation phase of legislation. The specific implementation of this extended participation is to be developed within the framework of a continuously evolving participation architecture.

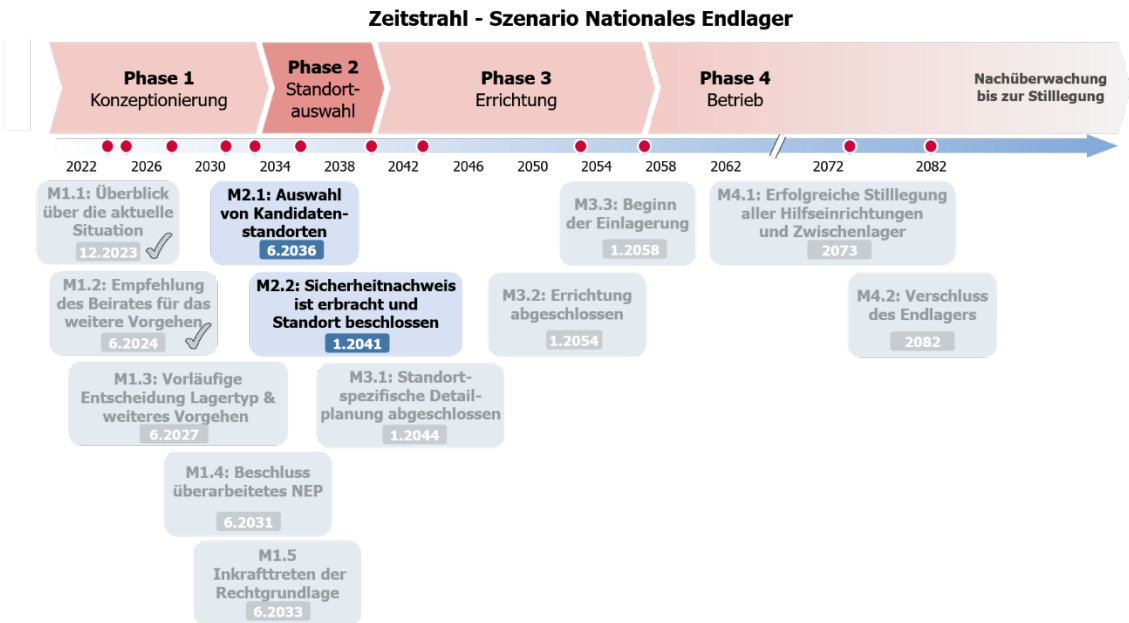
Phase 2: Site Selection Procedure

Once the decision has been made and legally formalized regarding how the site selection procedure will be conducted and which criteria will be applied, the site selection phase begins. This phase is accompanied by a public participation process, the framework of which has also been previously defined in a legal basis. As part of this, an information center will continue to operate throughout the entire duration of the process. Once a site has been selected, further technical investigations will commence.

This phase is divided into two key milestones:

- M2.1: Selection of Candidate Sites
- M2.2: Safety Case is Completed, and a Final Site Decision is Made

Figure 2: Milestones from phase 2 of the four-phased timetable and roadmap (only in German)



M2.1: Selection of Candidate Sites

In accordance with the legal framework and based on the established criteria for site selection, the site selection procedure is expected to be completed by the end of 2036. By that time, one or more potential repository sites should be identified and formally designated for further evaluation.

WP2.1.1: Advisory Committee

With the start of the second phase, an Advisory Committee will be established to ensure transparent communication among all stakeholders and the public throughout the site selection procedure. The committee's role is to oversee the procedure, facilitate dialogue between involved parties, and act as a mediator. Additionally, it serves as an independent oversight body with the authority to commission its own studies and evaluations on various processes, implementations, and decisions.

WP2.1.2: Public Participation in the Site Selection Procedure

Public participation is a central element of the site selection concept. Comparisons with other European countries show that successful site selection procedures typically depend on close involvement of the public. Detailed concepts for this phase are to be developed as part of WP1.4.2 and WP1.4.6.

WP2.1.3: Site Selection

Based on the criteria catalogue and the defined site selection procedure, the search for a suitable location within Austria will be conducted. Once the preliminary site analyses have been satisfactorily completed, the candidate sites will be evaluated according to the system outlined in the criteria catalogue. This approach ensures a transparent and comprehensible assessment of the candidate sites.

If, during Phase 1, a decision is made to pursue multiple repository solutions for different categories of radioactive waste, this must be appropriately considered during the site selection procedure. It is conceivable to implement two different types of repositories at a single site, or to designate separate sites for the disposal of different waste categories. At the end of the process, a proposal will be submitted to the decision-maker(s), recommending a yet-to-be-defined number of potential sites.

WP2.1.4: Legal Review

All candidate sites proposed by the project organiser must be reviewed by the competent authority. This review will assess whether the site selection procedure has been properly conducted and whether the requirements defined in the legal framework have been met. Maximum transparency is to be ensured throughout the process. Upon successful review, the sites will be officially designated as candidate sites. From this point onward, preparations for the EIA may begin.

M2.2: Safety Case is Completed, and a Final Site Decision is Made

By early 2041, the detailed evaluation of all candidate sites is expected to be completed, leading to the selection of the most suitable location. The required safety case must be provided to enable the formal site decision. Following this decision, detailed planning for the construction phase can begin.

WP2.2.1: Local Oversight Committees at Candidate Sites

At each candidate site, a local oversight committee will be established to ensure transparent access to information and to accompany each step of the site evaluation process. The creation of these local committees is based on a recommendation from the Advisory Board in its final report. By involving the local population early in the process, the aim is to build broad acceptance, increase public knowledge, and secure long-term support. The overarching goal is to foster mutual understanding through open and visible dialogue among all stakeholders. This approach was developed in WP1.4.2 and forms part of the overall site selection procedure. Additionally, the implementation of potential compensation concepts

for candidate sites will begin. These are intended to enhance acceptance in the affected regions or municipalities even during the evaluation phase.

WP2.2.2: Technical Assessment

For all candidate sites identified in M2.1, a detailed evaluation must be conducted in accordance with the criteria catalogue adopted in M1.3. Additionally, all exposure scenarios defined in WP1.1.2 must be assessed, and the results of these analyses must be compatible with the environmental criteria already established. A particular focus will be placed on verifying compliance with the defined safety criteria.

WP2.2.3: Economic Review

All candidate sites must be evaluated based on social, ecological, economic, and spatial planning aspects. The assessment of these factors will feed into a site-specific socio-economic concept that will accompany both the construction and operation of the repository. The socio-economic concept may include, among other elements: opportunities for public involvement in the planning and monitoring of the repository, financial contributions to the municipality, and a strategy for regional development. In addition, a cost and financing plan for the next steps must be prepared and formally approved.

WP2.2.4: SEA of Candidate Sites

Once the site-specific technical implementation plans have been developed—incorporating insights from the legal and economic reviews—these plans must undergo a SEA for each candidate site. According to the authors of the report “Legal Framework for the Disposal of Radioactive Waste”, it is insufficient to subject the site selection process to a SEA at the abstract procedural level within the NWMP. Instead, the specific environmental and human health impacts of the planned repository must be assessed, taking into account the specific conditions of each site. The procedure for this SEA process is currently not clearly defined and is expected to be formalized as part of the new legal framework for final disposal, outlined in WP1.5.1. In any case, in accordance with the SEA Directive, all stakeholders will be given the opportunity to submit comments, which must be appropriately considered in the decision-making process.

If exploration activities are required that fall under the scope of the Mineral Resources Act—such as deep drilling—then the associated plans must be included in the SEA. In specific cases, such exploration measures may also be subject to an EIA, particularly if they are to be carried out in specially protected areas.

Based on the results of exploratory drilling and the findings of the SEA, a final determination of the technical suitability of each site will be made. This will be followed by a transparent ranking of the candidate sites according to the criteria catalogue. The process culminates in a formal site decision, as defined in the legal framework developed under WP1.5.1. It is important to note that if a decision was made under WP1.3.5 to pursue different types of repositories, implementation in Phase 3 may involve multiple sites.

Phase 3: Construction

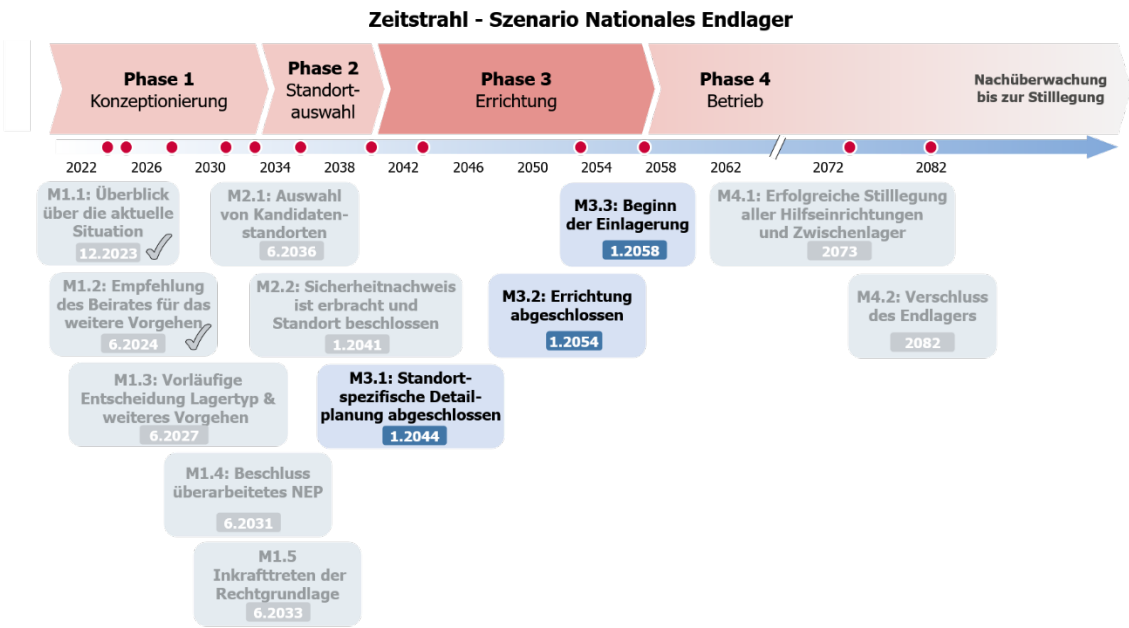
With the decision on a site for the construction of a final repository, Phase 2 is concluded, and the process of construction and subsequent commencement of operations begins, accompanied by an EIA procedure. Once construction is completed, the operating license is granted, allowing the storage of radioactive waste to begin.

If, during Phase 1, a decision is made to construct different types of repositories for various waste categories—potentially at different locations—the processes described below must be carried out in parallel for each repository. In such parallel procedures, the greatest possible synergies between the sub-projects must be leveraged. The committees and the information center established in Phase 2 will continue their work.

This phase is divided into three milestones:

- M3.1: Completion of the Detailed Planning of the Repository
- M3.2: Completion of Construction
- M3.3: Start of Waste Emplacement

Figure 3: Milestones from phase 3 of the four-phased timetable and roadmap (only in German)



M3.1: Completion of the Detailed Planning of the Repository

Following the successful completion of the site selection procedure (M2.2), the details of the repository's construction must be clarified by early 2044, as the planning must take into account the specific characteristics of the selected site. This includes the economic and technical detailed planning carried out by the project organisers(s). Subsequently, the EIA procedure will be initiated.

WP3.1.1: Technical Detailed Planning

In the technical detailed planning phase, the site-specific implementation is to be developed in accordance with the state of the art in science and technology at that time. The safety analysis will be adapted to reflect the technical design and the selected site, and compliance with all relevant criteria under the given conditions will be assessed. If required, a tendering process including a competitive bidding procedure for the construction contract will be conducted by the project developer. In addition to the detailed planning of the repository itself, all necessary auxiliary facilities will also be planned in detail. To mitigate the risk that the top-ranked site may be deemed unsuitable during the EIA procedure, plans should be prepared not only for the primary site but also for one or more reserve sites. This ensures that, in the event the primary site is found unsuitable, the process can continue without significant delays using a technically equivalent reserve site.

Furthermore, it must be determined in what form the waste will be placed into the repository. Specifically, whether individual drums—similar to those currently stored in the transfer facility—will be emplaced, or whether, for example, a certain number of drums will be consolidated into a larger containment unit that provides an additional level of enclosure.

WP3.1.2: Economic Detailed Planning

In addition to the technical detailed planning, the site-specific cost planning must also be finalized. If a procurement procedure is conducted by the project organiser(s), all bids must

be evaluated in terms of their economic advantages and disadvantages. These considerations will inform the selection of the preferred offer.

WP3.1.3: Final Design of Waste Packages and Definition of Waste Acceptance Criteria

The properties and requirements of the waste packages will be finalized based on the selected repository type, site-specific characteristics, and in compliance with safety criteria. The requirements and criteria for waste acceptance will be defined, along with the inspection procedures and techniques necessary to verify compliance with the established acceptance criteria for waste packages.

WP3.1.4: Initiation of the EIA Procedure

In accordance with Annex 1 of the Environmental Impact Assessment Act (UVP-G), an EIA procedure must be carried out for the construction of a repository for radioactive materials. Therefore, preparations and the compilation of all necessary documentation for the EIA can begin in parallel with the technical detailed planning. The submission must include an Environmental Impact Statement pursuant to § 6 UVP-G, which outlines the type and quantity of expected radionuclide releases and their impact on water, air, soil, and subsoil during both the operational phase and the long-term existence of the repository. Additionally, project-related risks of severe accidents must be addressed. Existing studies prepared as part of the site-specific safety assessment may be used for this purpose. Any further studies required—such as those focusing on environmental aspects, forestry, or water management—should also be conducted.

Once all submission documents are complete, the EIA authority initiates the first stage of the procedure, which must result in a formal decision within nine months at first instance. Under current legislation, the competent authority is the respective state authority, while the Federal Ministry of Agriculture and Forestry, Climate and Environmental Protection, Regions and Water Management (BMLUK) acts as a participating authority in matters of radiation protection. However, since planning authority for the repository lies with the federal government and differing regional regulations may apply, the legal framework report recommends transferring competence for the EIA procedure to the federal level through an

amendment to the relevant constitutional provision. This would be similar to the arrangements for federal highways and high-performance railway lines. Such a change would make BMLUK solely responsible for conducting the EIA procedure.

If, during the EIA procedure (WP3.2.1), a legally binding negative decision is issued for the assessed site, the next-ranked candidate site—already subject to detailed analysis under WP3.1.1—will be considered. In the event of a positive outcome, the next steps toward construction of the repository can be initiated.

M3.2: Completion of Construction

By 2054, the construction of the repository and all potentially necessary peripheral facilities should be completed. The ongoing safety assessment accompanying the construction, as well as the relevant components of the EIA procedure, should have reached a positive conclusion. All facilities required for test operations must be ready. In parallel, preparatory work for waste conditioning should also be finalized.

WP3.2.1: Environmental Impact Assessment and Licensing Procedure

Following the initiation of the EIA procedure (see WP3.1.4), a formal decision should be issued within nine months. However, this timeline may be extended in the event of appeals that require adjudication by higher authorities. The competent court in such cases is the Federal Administrative Court. The EIA procedure includes extensive participation rights for individuals, citizen initiatives, and the general public. If the top-ranked site is deemed unsuitable during the EIA process, the previously developed plans for the next-ranked reserve site (see WP3.1.1) can be utilized. Should the EIA procedure ultimately result in a negative decision, the site selection procedure must be restarted entirely.

As the EIA procedure consolidates all relevant legal aspects—such as forestry, water, and environmental law—a positive EIA decision is equivalent to a construction permit and also includes the radiation protection approval for construction. The project should be continuously monitored by the EIA responsible authority and appointed experts in close coordination. All conditions arising from the EIA must be incorporated into both the repository planning and the safety assessment. During construction, a safety assessment must be carried

out, and the detailed plans must be reviewed for compliance with environmental criteria and to ensure adequate safety regarding defined exposure scenarios. Once construction is complete, its completion must be formally reported, and the second stage of the EIA procedure (WP3.3.1), including the radiation protection approvals for repository operation, will be initiated.

WP3.2.2: Construction of the Repository

The construction of the repository and any potentially necessary peripheral facilities shall be carried out in accordance with the then-current state of science and technology and based on the plans developed under WP3.1.1.

During the construction phase, continuous safety verification must be conducted to ensure that all safety criteria are effectively implemented throughout the execution of the project.

WP3.2.3: Waste Processing into Packages / Type Approval

Following the prior determination of the most suitable waste package dimensions, type approval must be obtained for the selected package design. As part of this process, the packages will undergo materials science testing, among other evaluations. It must be demonstrated that the packages meet the required specifications, such as the expected barrier performance.

WP3.2.4: Preparation of Radioactive Waste

The radioactive waste must be prepared for final disposal either at the interim storage site or, if necessary, at another designated location. Final conditioning is then to be carried out using the waste packages intended for repository disposal. These measures follow the technical detailed planning of the repository as outlined in WP3.1.1. Once type approval has been granted, any required final conditioning can begin, followed by the transfer of the waste into the approved packages. For each completed package, type conformity must be demonstrated.

M3.3: Start of Waste Emplacement

Following the successful completion of construction, the EIA procedure—including the radiation protection licensing—should be finalized by early 2058, and the repository should be officially approved for operation. By that time, the conditioning and transport of the radioactive waste should also be completed, enabling the start of waste emplacement.

WP3.3.1: Licence Procedure

The second stage of the EIA procedure, from a radiation protection perspective, involves conducting a test operation in compliance with all conditions set by the EIA authority. This may include a non-active test phase to ensure that all operational procedures can be carried out reliably and routinely. Structural measurements will then be performed to confirm that radiation protection objectives have been met, after which the completion of construction is formally reported. Upon successful conclusion of the EIA procedure, responsibility transitions from the EIA authority to the competent regulatory authority. A practical approach may also involve reporting partial completions, allowing the relevant aspects of the procedure to be applied progressively to already completed sections.

In parallel, the necessary licensing procedures for the preparation and eventual transport of radioactive waste to the repository must be carried out.

WP3.3.2: Application of Article 37 of the Euratom Treaty

During activities related to the treatment of radioactive waste prior to final disposal, as well as during the emplacement of such waste, planned or unforeseen releases of radioactive substances into the environment may occur. Under Article 37 of the Euratom Treaty, each Member State is obliged to submit general data to the European Commission concerning any plan involving the discharge of radioactive substances of any kind. This enables the Commission to assess whether the implementation of such a plan could result in radioactive contamination of the water, soil, or airspace of another Member State. Routine activities that have no, or negligible radiological impact do not need to be reported to the Commis-

sion. The application of Article 37 serves to provide the European Commission with a comprehensive overview of developments in nuclear activities across the Union. Accordingly, prior to the commencement of repository operations, relevant information must be submitted to the Commission, which in turn allows Member States the opportunity to comment and raise questions.

WP3.3.3: Site Preparation

Following the completion of construction, all necessary preparations for the operation of the repository must be carried out on site. After the relevant licensing procedure (WP3.3.1), a non-active test operation may begin, followed—once all required permits have been issued—by the active test operation. All activities will be continuously monitored from a safety perspective, and a final safety assessment must be completed prior to the commencement of repository operations.

WP3.3.4: Transfer of Waste to Final Repository

The waste shall be transported to the final repository in full compliance with all required safety measures and prepared for final disposal. If final conditioning is carried out at a location different from the interim storage site, transport must be scheduled accordingly earlier to ensure timely processing.

Phase 4: Operation and Decommissioning

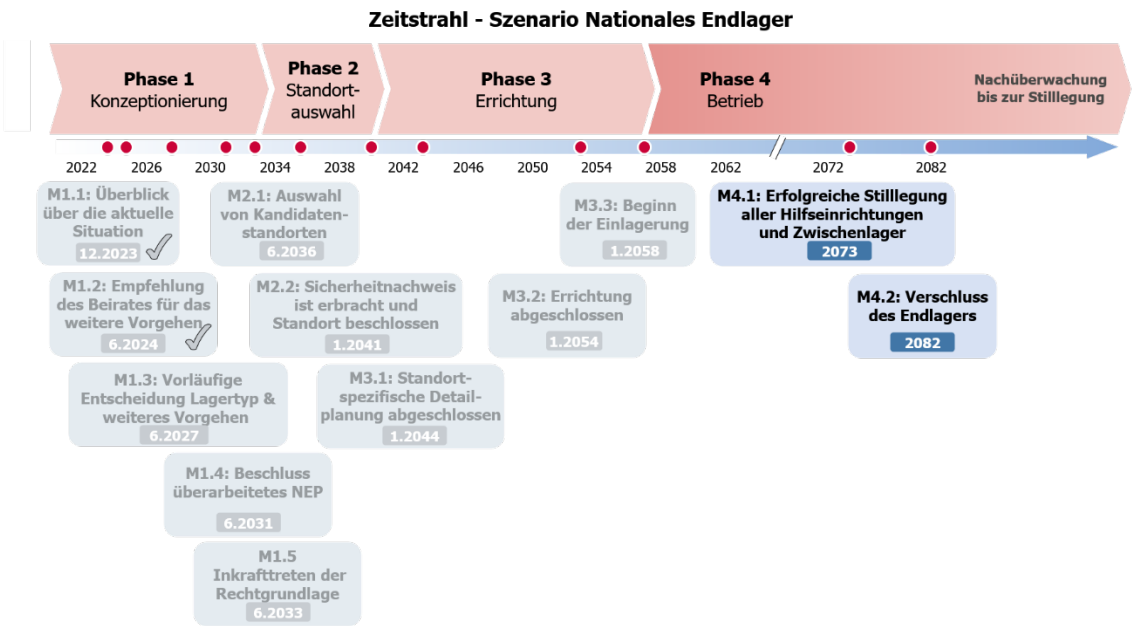
The fourth phase includes the operation, closure with any necessary post-monitoring measures, and the final decommissioning of the repository.

The closure phase is divided into two stages. In the first, the monitoring phase, active monitoring of the repository is still carried out. With decommissioning, the repository is permanently sealed, and from that point onward, only passive safety measures should be required.

This phase is structured into three milestones:

- M4.1: Successful Decommissioning of all Auxiliary Facilities and Interim Storage Sites
- M4.2: Closure of Final Repository
- M4.3: Decommissioning of the Repository

Figure 4: Milestones from phase 4 of the four-phased timetable and roadmap (only in German)



M4.1: Successful Decommissioning of all Auxiliary Facilities and Interim Storage Sites

By early 2073, all interim storage facilities and auxiliary installations are to be decommissioned alongside the ongoing operation of the final repository. This process will be completed upon the expiration of the operating licenses for these facilities.

WP4.1.1: EIA Procedure for the Decommissioning of the Interim Storage Facility

The decommissioning of the interim storage facilities and any associated auxiliary installations is to be addressed within the framework of an EIA procedure. The relatively low risks to the environment and human health—including that of future generations—following decommissioning are to be demonstrated through expert assessments. As part of this procedure, the release of inactive materials and the clearance of decontaminated areas may be carried out. The process concludes with the official release of the interim storage facilities and auxiliary installations, and with the termination of the relevant authorizations for handling radioactive substances.

WP4.1.2: Ongoing Operation of the Final Repository

Once the operational license (M3.3) has been granted, the final repository enters its ongoing operational phase, during which transported radioactive waste is stored. This process is continuously monitored from a safety and technical perspective to ensure that all aspects of the storage are implemented according to the approved plans and that all safety criteria are fully met.

WP4.1.3: Decommissioning of Interim Storage Facilities

All interim storage facilities used up to that point for radioactive waste are to be decommissioned, along with any auxiliary installations no longer required, such as buffer halls, delivery systems, and monitoring stations. All remaining radioactive waste stored in these facilities is to be transferred to the final repository, and inactive materials are to be cleared. Subsequently, decontamination and clearance measurements of these installations may be carried out where necessary. Any radioactive waste generated during this process must also be conditioned and transported to the final repository. The potential additional volume resulting from this must be considered in the design of the repository. The process concludes with the expiration of the relevant authorizations. However, small quantities of radioactive waste from medicine, industry, and research may continue to arise, and appropriate provisions must be made for their future conditioning and disposal.

M4.2: Closure of Final Repository

The disposal of waste is to be completed by 2082. Afterward, the final repository will be closed or sealed, and the post-operational monitoring phase will begin.

WP4.2.1: Closure

Following the completion of radioactive waste disposal, the operational phase of the repository will come to an end. At the conclusion of this phase, a renewed safety assessment must be conducted to demonstrate that the planned closure of the repository and the containment of radioactive waste meet all previously defined safety and environmental criteria. The repository will then be sealed through structural measures specified in the detailed technical planning, which will depend on the type of repository. For example, whether a near-surface facility is covered with soil or a deep geological repository is backfilled with concrete remains to be determined, as does the question of future accessibility. Both the IAEA definition and the EURATOM Directive 2011/70 state that retrieval of waste from a final repository is not foreseen. However, this does not exclude regular inspections or unplanned recovery operations, such as in the event of unforeseen barrier failure.

M4.3: Decommissioning of the Repository

With the conclusion of post-operational monitoring and the decommissioning of the final repository, the project for the disposal of Austria's radioactive waste will be complete. The duration of the post-monitoring phase still needs to be defined. Typical timeframes range from 50 to over 100 years, making a project completion date beyond 2100 a reasonable assumption.

WP4.3.1: Post-Operational Monitoring

Following the closure of the final repository, continuous post-operational monitoring is to be carried out to detect any unexpected failure of containment barriers and the potential release of radioactive substances into the environment at an early stage. The specific form this monitoring will take—whether it will rely solely on passive instrumentation or include active sampling (e.g., analysis of groundwater, soil, and vegetation)—is to be determined during the detailed technical planning phase.

WP4.3.2: Decommissioning of the Final Repository

According to current legal regulations, the decommissioning of the final repository must be assessed and approved through an EIA procedure. This procedure must demonstrate that the decommissioning poses no undue risk and must include a comprehensive decommissioning plan. Once approval is granted, the decommissioning measures will be carried out as authorized in the EIA process. With the completion of decommissioning, the post-operational monitoring phase comes to an end, as the EIA must provide sufficient proof that no further risk of radioactive release from the repository exists.

Key Performance Indicators (KPI)

Title/ Topic	No	Metric	Description	Evaluation	Consequence	Measurement Method	Responsibility	Review Interval	Appl. from
Waste Minimization and Reconditioning	1	Project Progress - Reconditioning	Each year, either 300 drums containing 100-liter drums with legacy waste (so-called "inhomogeneously cemented drums") or 800 drums with homogenously distributed and cemented sludges ("homogeneously cemented drums") should be processed in the caissons.	Target values should not fall below 90%.	Conduct error analysis and optimize workflows	NES documentation system	NES	Annually	Immediately
	2	Waste Minimization during Reconditioning	Reconditioning of historical waste should result in at least a 15% reduction in total waste mass. The mass of disposed material is compared to the generated material.	≥ 15 % Target achieved		NES documentation system	NES	Annually	Immediately
				< 15 % Expectations not met	Conduct error analysis and optimize workflows				

Information Needs of the Advisory Board	3	Compliance with Study Plan	If the Advisory Board (or successor body) requires further studies, these can be transparently recorded in a study plan. The board should annually define its information needs for the following year to ensure gaps are addressed.	Target achieved: Content needs covered		Client considering input from Advisory Board / successor body	Advisory Board, Secretariat, BMLUK	Annually	M1.1
				Content has been covered and the need for further studies has been identified	Study plan is adjusted and additional studies commissioned				
				Target not achieved: Content gaps exist	Report must be revised				
Fulfillment of the Timetable and Roadmap (Timely Achievement of Milestones)	4	Achievement of Milestones	Timely achievement of milestones defined in the time and roadmap plan is reviewed.	On schedule: up to 6 months delay		Project progress plan	Project organiser, reviewed by authority and Advisory Board /Committee (evaluation)	Every 2 years and before phase end	Immediately
				Delay > 6 months but with target date	Schedule is adjusted and evaluated				
				Delay indefinite	Schedule must be reconsidered				

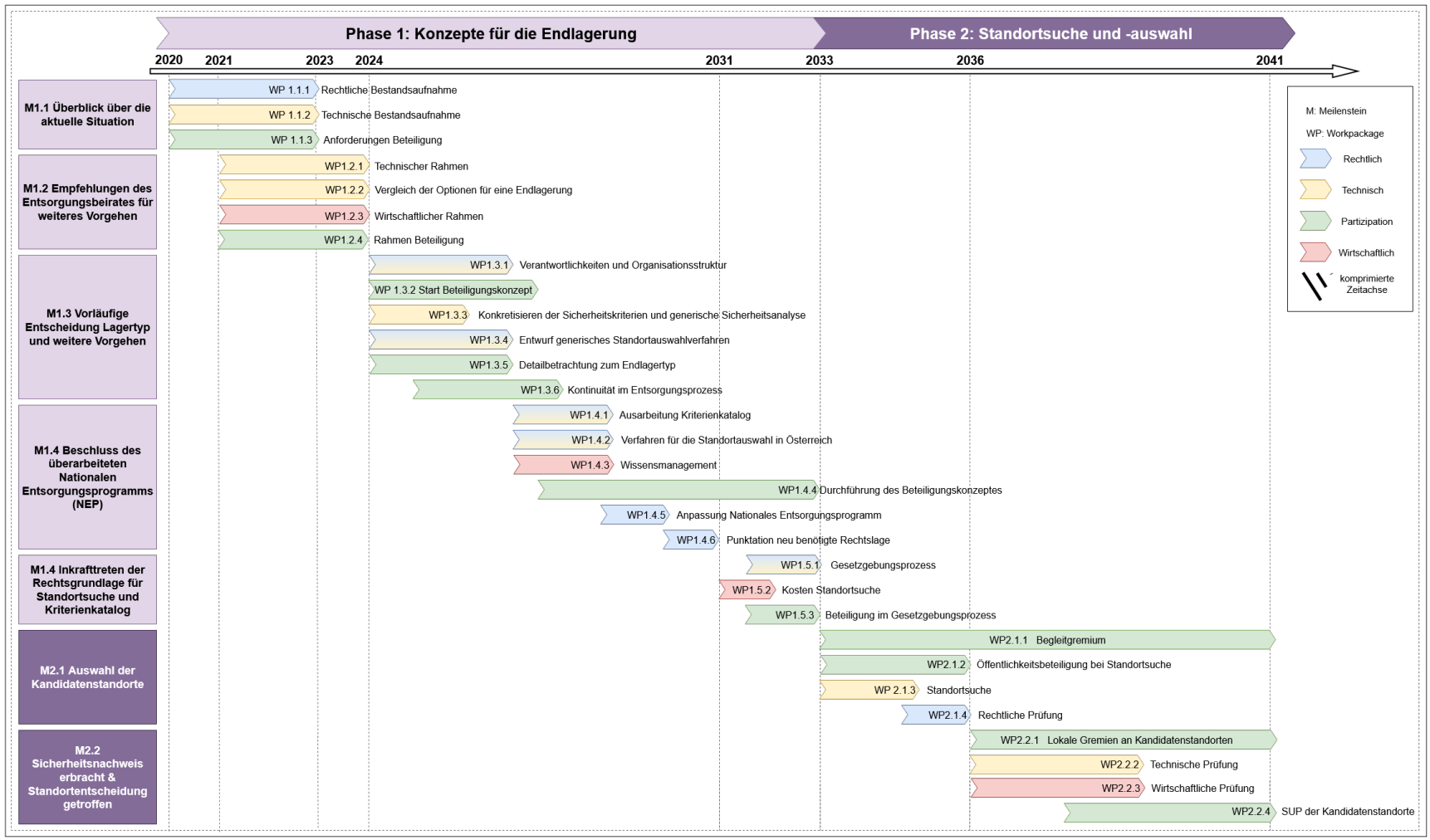
Capacity Building	5	Evaluation of Personnel Plan	Personnel resource planning (part of WP on organizational structure and R&D program) is reviewed based on task fulfillment across institutions.	Tasks fulfilled satisfactorily and on time		Internal evaluation and fulfillment of external deadlines	Project organiser, authority, experts	Every 3 years	M1.3 or completion of WP1.3.2
				Delays occur	Measures adapted to staffing (capacity building)				
				Tasks cannot be completed adequately	Capacity building plan and/or role distribution must be adjusted				
	6	Evaluation of Networking and Training Activities	The project organiser for disposal conducts at least three major activities per year (e.g., studies, analyses, conferences, IAEA joint projects).	Fewer than 2 activities	Intensified monitoring of international activities	Annual report of project organiser	Project sponsor	Annually	M1.3 or completion of WP1.3.2
Project Documentation	7	Evaluation of Annual Report	Review of the sponsor's annual report for completeness, transparency, timeliness, and clarity.	Graded evaluation with recommendations	Grade 4 or worse: adjustments required	Review by Advisory Board / Advisory Committee	Advisory Board / Advisory Committee	Annually	M1.3

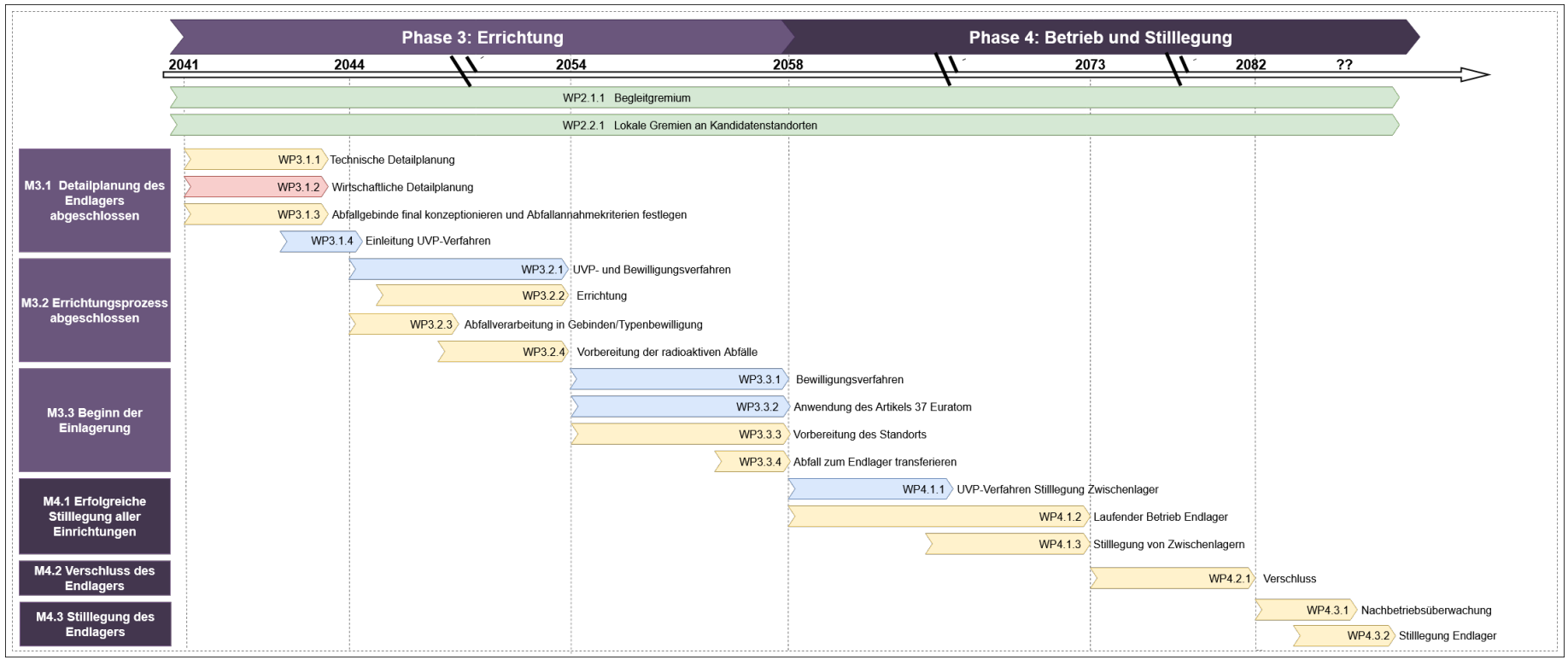
Activities of the Advisory Committee	8	Evaluation of Regularity and Documentation of Meetings	Review whether meetings occurred at required intervals and were properly documented.	1: Sufficient meetings, transparent and complete documentation 2: Fewer meetings than planned 3: Incomplete documentation 4: Too few meetings and insufficient documentation	From grade 3 onwards, improvements are necessary.	Self-assessment and review by responsible authority	Advisory Committee and responsible authority	Annually	From establishment of advisory committee
Site Selection	9	Availability and Comparability of Data Sets for Criteria Review |	Proportion of the federal territory for which the data situation allows an assessment based on the criteria of the already established criteria catalog (broken down by individual site criteria). For example, if groundwater age is selected as a criterion, assess for what proportion of the federal territory this has been determined.	> 90 % of the federal territory, data is available. 70-90 % of the federal territory, data is available. < 70 % of the federal territory, data is available.	Sufficient data Focused follow-up if needed Systematic data collection required	Data review	Responsible authority	After site selection criteria definition, if improvem-ents needed, re-evaluation after 3 years	M1.3

These KPIs are only relevant starting from Phase 2 and will be further detailed at a later point.					
Research and Development	10	Development of a KPI to monitor how well the R&D program achieves its goals and provides information needed for site selection.	Utilization and results of the R&D program	Managing entity of the R&D program	Every 2 years
Public Awareness	11	Development of additional KPIs for: awareness and acceptance of the site selection process and decision, and participation in engagement formats.	Surveys or other social science methods	Social science institute, responsible authority	Every 5 years
Project Progress – Repository Construction	12	Development of a KPI to monitor the timeline of the repository construction project.	Annual report of the project organisor	Client of the construction project	Annually
	13	Development of a KPI to monitor the cost planning of the repository construction project.	Annual report of the project organisor	Client of the construction project	Annually
	14	Development of a KPI for the Advisory Committee to rate its satisfaction with the quality of repository construction implementation using a grading system	Site visit of the repository/construction site	Advisory Committee	Annually
Project Progress – Final Conditioning	15	Development of a KPI for quantitative evaluation of progress in final conditioning of containers.	Annual report of the project organisor	Project organiser	Annually

Scheduled Operation of Repository	16	Development of a KPI to monitor the timeline of the repository operation.	Annual report of the project organisor	Project organiser	Annually, less frequently if needed
	17	Development of a KPI to monitor the cost planning of the repository operation.	Annual report of the project organisor	Project organiser	Annually, less frequently if needed
	18	Development of a KPI for the Advisory Committee to rate its satisfaction with the quality of repository operation implementation using a grading system.	Begehung des Endlagers/der Baustelle	Advisory Committee	Annually, less frequently if needed
Documentation of Operations	19	Development of a KPI for qualitative evaluation of the repository condition during operation and post-closure phase.	Site visit of the repository, environmental monitoring measurements	Independent experts	Annually

Timeline Overview (in German)




Phase 3: Errichtung
Phase 4: Betrieb und Stilllegung
2041
2044
2054
2058
2073
2082
??
WP2.1.1 Begleitgremium
WP2.2.1 Lokale Gremien an Kandidatenstandorten
M3.1 Detailplanung des Endlagers abgeschlossen
WP3.1.1 Technische Detailplanung
WP3.1.2 Wirtschaftliche Detailplanung
WP3.1.3 Abfallgebinde final konzeptionieren und Abfallannahmekriterien festlegen
WP3.1.4 Einleitung UVP-Verfahren
M3.2 Errichtungsprozess abgeschlossen
WP3.2.1 UVP- und Bewilligungsverfahren
WP3.2.2 Errichtung
WP3.2.3 Abfallverarbeitung in Gebinden/Typenbewilligung
WP3.2.4 Vorbereitung der radioaktiven Abfälle
M3.3 Beginn der Einlagerung
WP3.3.1 Bewilligungsverfahren
WP3.3.2 Anwendung des Artikels 37 Euratom
WP3.3.3 Vorbereitung des Standorts
WP3.3.4 Abfall zum Endlager transferieren
M4.1 Erfolgreiche Stilllegung aller Einrichtungen
WP4.1.1 UVP-Verfahren Stilllegung Zwischenlager
WP4.1.2 Laufender Betrieb Endlager
WP4.1.3 Stilllegung von Zwischenlagern
M4.2 Verschluss des Endlagers
WP4.2.1 Verschluss
M4.3 Stilllegung des Endlagers
WP4.3.1 Nachbetriebsüberwachung
WP4.3.2 Stilllegung Endlager

Abbreviations

AGES	Austrian Agency for Health and Food Safety
BMLUK	Federal Ministry of Agriculture and Forestry, Climate and Environmental Protection, Regions and Water Management
EIA	Environmental Impact Assessment
IAEA	International Atomic Energy Agency
KPI	Key Performance Indicator
LLW	Low-Level Waste
LILW-LL	Low and Intermediate Level Waste – Long Lived
NES	Nuclear Engineering Seibersdorf GmbH
NWMP	National Waste Management Programme
R&D	Research and Development
SEA	Strategic Environmental Assessment
UVP-G	Environmental Impact Assessment Act
WP	Work Package

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