BGE

BUNDESGESELLSCHAFT
FÜR ENDLAGERUNG

2024 Annual Report

FOCUS ON RADIATION PROTECTION

2024 ANNUAL REPORT

FOCUS ON RADIATION PROTECTION

Dear Reader,

LOOKING BACK, THE PAST YEAR WAS A SPECIAL ONE FOR OUR COMPANY IN MANY RESPECTS.

In autumn, the site selection team presented a working status of the representative preliminary safety investigations. By now, 18 per cent of the sub-areas have been classified as not or not really suitable. Around 5,000 letters with information or invitations to events were sent to mayors and district councillors, ministries and members of the Bundestag and federal-state parliaments in this context. We are now on the way to further analysing those sub-areas that are still in the running in order to propose a few siting regions by the end of 2027.

Backfilling of the Gorleben mine has begun as an important milestone towards its closing. Work is progressing rapidly, using salt from the salt heap that was piled up when the mine was excavated.

Work on all construction sites on Konrad also progressed. The static tests are still causing us problems, be it for the change of guide frame on Konrad 1 or for the construction of the above-ground facilities on Konrad 2. The structural checks are taking longer than expected.

Happily, nothing stands in the way of the safe operation of the Konrad repository and its long-term safety. This is the result of phase 2 of the review of the safety requirements for the Konrad repository. These results are the reassurance that we are building a safe repository with Konrad.

The changed salt water ingress conditions at the Asse II mine have kept us busy for a long time. Water ingress has been occurring at Asse for decades; however, the situation has fundamentally changed this year. The salt water is now collected at a different location. The root cause for this is the persistent mountain pressure that is deforming the mine structure, so that the flow paths of the salt water are also changing. Such changes must be explained in an understandable way, which is why dialogue with the regional public is so important to us.

Dismantling of the controlled area and development operations for the sealing structures are tasks for the decommissioning of the Morsleben repository that will take several years. The preparatory work for decommissioning also includes mapping the flora and fauna around the repository. Mapping is part of

Members of the Management Board of BGE
Dr Thomas Lautsch, *Technical Managing Director*
Iris Graffunder, *Chairwoman of the Management Board*
Marlis Koop, *Managing Director and Labour Director*

a comprehensive environmental impact assessment for the decommissioning phase. Subsequent concreting work will involve enormous material transports. These and other decommissioning measures are to be implemented in the most environmentally friendly way possible.

With our internal BGE 2025 project, we want to further develop BGE's organisation and position it properly for the future. This project involves a total of 80 highly committed employees from various departments.

This year, we recorded a total of ten reportable accidents at work, which fortunately did not result in any permanent injury for our own employees or those of our contractual partners. This shows us that we need to stay vigilant when it comes to ensuring occupational safety!

An important part of our human resources policy is to create a working environment where all employees – irrespective of origin, gender, religion, special needs or other personal characteristics – have equal opportunities to develop and be successful in their professional roles. To support these goals, BGE has signed the Diversity Charter, a nationwide initiative to promote diversity in companies and institutions. A new equality plan was also adopted in 2024 to implement these goals.

It has been a tradition for a couple of years now to use the annual report for a special topic to show the diversity and complexity of our work. This year's focus is on radiation protection, a multi-faceted topic involving extensive tasks.

The fact that we had a full management team again at the start of 2024 helped us to overcome the challenges of the year. In mid-2025, Dr Thomas Lautsch left BGE after ten years. We would like to express our sincere thanks for his outstanding work and his inspiration for BGE and welcome Jürgen Korth as the new Technical Managing Director from 1 July 2025.

Glückauf!
The Management Board

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REPORT OF THE SUPERVISORY BOARD

In 2024, the Supervisory Board was informed of the company's key business transactions through oral and written reports from the Management Board. In seven meetings of the Supervisory Board, the development of business and important individual transactions were discussed and the transactions submitted for review and approval in accordance with legal and statutory provisions were dealt with.

On 24 January 2024, Christian Kühn resigned from his position as Chairman of the Supervisory Board and his mandate on the Board as he moved to the Federal Office for the Safety of Nuclear Waste Management as its new President. He is succeeded as Chairman of the Supervisory Board by Dr Jan-Niclas Gesenhues, Parliamentary State Secretary at the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV). Prof Dr Karin Holm-Müller (University of Bonn), Dr Christian Greipl (BMUV) and Dr Andreas Kerst (Federal Ministry of Finance, BMF) also stepped down from the Supervisory Board during the 2024 financial year. Harald Ebner (Member of the Bundestag), Claudia Engelhardt (BMUV), Nicolaus-Alejandro Weil von der Ahe (BMF) and Dr Romy Strecker (BMF) have been appointed as members of the Supervisory Board. The latter succeeded Dr Holle Jakob (BMF), who already left the Board in 2023.

The Supervisory Board met for several special meetings, among other things to discuss the selection and appointment process for the vacant position of Technical Managing Director. This process was closely monitored by the Executive Committee of the Supervisory Board. On 12 December 2024, the Supervisory Board appointed Jürgen Korth as Technical Managing Director with effect from 1 July 2025. Special meetings of the Supervisory Board also addressed the changed situation in the first half of 2024 regarding the ingress of salt in the Asse mine and the company's economic situation. On 30 April 2024, the Supervisory Board recommended to the shareholder meeting the adoption of a second supplementary business plan for 2023 and on 24 September 2024 the adoption of a supplementary business plan for 2024.

The first regular Supervisory Board meeting was held on 12 March 2024 in Berlin and Parliamentary State Secretary Dr Jan-Niclas Gesenhues was elected Chairman of the Supervisory Board.

Dr Jan-Niclas Gesenhues

As part of the 27th Supervisory Board meeting on 2 July 2024 in Morsleben, the Supervisory Board members visited the mine to inform themselves about preparations for decommissioning the repository. At the meeting, the Supervisory Board discussed the 2023 annual financial statements after prior consultation in the Audit and Risk Committee and recommended that the shareholder meeting approve these and discharge the Management Board. The audit focus for the 2024 annual audit was on the adequacy of risk management and the existence of sufficient structures to implement mandatory sustainability reporting from 2025. The report from the Management Board at this meeting focussed on the company's economic situation. Another item discussed at the meeting concerned changes to BGE's organisational structure. The Supervisory Board recommended that the shareholder meeting approve the establishment of the organisational unit 'Set-up Group for Central Approval Management'.

At the meeting on 25 November 2024, the members discussed the 2025 business plan with a total volume of around €897 million and recommended that the shareholder meeting approve the business plan. In addition, a recommendation was made to the shareholder meeting to appoint Dr. Hesse und Partner mbB Wirtschaftsprüfungsgesellschaft as the auditor responsible for the audit of the 2024 annual financial statements.

The Supervisory Board would like to express its thanks and appreciation to the Management Board and all BGE employees for their work in 2024.

Dr Jan-Niclas Gesenhues
Chairman of the Supervisory Board

THE MEMBERS OF THE SUPERVISORY BOARD OF BGE ARE:

Dirk Alvermann
Foreman
Bundesgesellschaft für Endlagerung mbH,
Morsleben repository (employee representative)

Harald Ebner
Member of the Bundestag
(appointed since 28 August 2024)

Christina Egelkraut
Legal counsel
Bundesgesellschaft für Endlagerung mbH,
Asse mine (employee representative)

Claudia Engelhardt
Head of Division
Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, Berlin (appointed since 28 August 2024)

Dr Markus Fritschi
Former Deputy Chairman of the Management Board of the Swiss National Co-operative for the Disposal of Radioactive Waste *(Nagra, Schweizerische nationale Genossenschaft für die Lagerung radioaktiver Abfälle)*, Switzerland

Dr Jan-Niclas Gesenhues
Parliamentary State Secretary,
Chairman of the Supervisory Board
Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, Berlin (appointed since 22 February 2024, resigned from office on 6 May 2025)

Dr Christian Greipl
Head of Division
Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, Berlin
(resigned from office on 23 August 2024)

Prof Dr Karin Holm-Müller
Professor of Resource and Environmental EconomicsUniversity of Bonn
(resigned from office on 23 August 2024)

Franz-Gerhard Hörnschemeyer
Trade union secretary,
Deputy Chairman of the Supervisory Board
Industrial Union for Mining, Chemicals and Energy, Hanover (employee representative)

Dr Andreas Kerst
Head of Unit
Federal Ministry of Finance, Berlin
(resigned from office on 12 March 2024)

Sylvia Kotting-Uhl
Former member of the Bundestag
Bündnis 90/Die Grünen, Berlin

Christian Kühn
Former Parliamentary State Secretary and Chairman of the Supervisory Board
Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, Berlin
(resigned from office on 24 January 2024)

Carsten Meyer
Electrical engineering group leader
Bundesgesellschaft für Endlagerung mbH, Morsleben repository (employee representative)

Christina Offermanns
Clerk for repository preparation
Bundesgesellschaft für Endlagerung mbH, Konrad mine (employee representative)

Dr Thomas Schröpfer
Mining engineer
Bundesgesellschaft für Endlagerung mbH, Peine (employee representative)

Dr Romy Strecker
Senior official
Federal Ministry of Finance, Berlin
(since 15 February 2024)

Lilian Tschan
State Secretary
Federal Ministry of Labour and Social Affairs, Berlin

Marike Vornkahl
Trade union secretary
Industrial Union for Mining, Chemicals and Energy, Hanover (employee representative)

Nicolaus-Alejandro Weil von der Ahe
Senior official
Federal Ministry of Finance, Berlin
(since 18 April 2024)

Sebastian Zwetkow-Tobey
Employee
Bundesgesellschaft für Endlagerung mbH, Asse mine (employee representative)

RADIATION PROTECTION

Almost 37,000 cubic metres of low- and intermediate-level radioactive waste are stored in the Morsleben repository for radioactive waste.

Basic knowledge

WHAT IS RADIOACTIVITY, WHAT IS RADIATION?

Contaminated salt solution in the Asse mine must be handled with care. Protective clothing is a must.

RADIOACTIVITY

A word that carries a lot of weight and many associations. Although we cannot see, smell or taste it directly, it can cause enormous damage. It's no wonder that many people are even frightened by it. But there is more to radioactivity than that. Without it, modern imaging procedures in medicine or certain forms of therapy, for example, for cancer, would be unthinkable. So, as is so often the case, it is how we handle it that determines harm and benefit, caution or fear.

In order to better understand what our radiation protection staff do in their day-to-day work to protect people and the environment from potentially hazardous substances, the following pages provide a brief excursus into atoms, radioactivity and radiation.

Natural occurrence of radiation – mountains, Bali and bananas

Ionising radiation is everywhere. Naturally occurring radioactive nuclides are found in soil, air and water. Other sources include cosmic radiation from outer space or X rays from medical examinations. Depending on where you live, your diet habits or hobbies, natural exposure varies between 1 and 10 millisieverts per year; the average natural radiation exposure in Germany is 2.1 millisieverts per year.

Food contains radioactive nuclides. One example of this is naturally occurring potassium 40 which is found in all substances containing potassium and hence also in bananas, for example. In Germany, around 12 kilos are eaten per person per year, but the dose resulting from eating a banana is just 0.0001 millisieverts. In the mountains or during air travel, natural exposure to cosmic radiation is somewhat higher than at sea level; terrestrial radiation varies depending on the composition of soil and rock layers. And there is the specific exposure during medical procedures such as X ray examinations. All in all, however, these values are in the range of a few millisieverts per year and thus provide no cause for concern.

Radioactive decay and ionising radiation

Every atom consists of an atomic nucleus and the surrounding atomic shell. The nucleus contains protons and neutrons, with electrons moving around in the shell. The number of protons in an element is the same as the number of electrons, for example, only one for hydrogen, eight for oxygen or 26 for iron. However, the number of neutrons can differ – they are referred to as the isotopes of an element, which are often unstable. In the case of hydrogen, for example, there is the stable deuterium with one neutron and the unstable tritium with two. In order to characterise each atom precisely, regardless of whether it is stable or not, radiation protection also refers to it as a nuclide. This is a general term for an atomic nucleus with a certain number of protons and neutrons.

Put simply, an unstable nuclide has too much energy. To lose this excess energy, it will undergo radioactive decay – and radiation is released. This release of energy is called ionising radiation. Depending on which nuclide decays, energy is dissipated in different ways: through alpha, beta and gamma radiation.

Ionising radiation: There are many different types of radiation. Visible light is one. Radiation protection at BGE focuses particularly on ionising radiation. Only certain types of radiation can ionise other atoms – i.e., turn an electrically neutral atom into a charged particle.

Alpha radiation: Alpha radiation (α) emits a helium nucleus consisting of two protons and two neutrons. Heavy radionuclides in particular decay in this way.

The alpha particle is a nucleus without electrons, i.e., it is positively charged and can ionise other atoms. Due to their high mass and nuclear charge, they cannot penetrate far into matter. Even in air, they only have a range of a few centimetres at normal pressure and can be fully shielded by a sheet of paper. On this short path, however, the charged nucleus can produce a large number of ions and thus also cause major tissue damage, especially if an alpha emitter enters the body directly.

Beta radiation: There are two variants of this radiation – beta minus (β) and beta plus (β+). Here the nucleus emits negatively charged electrons or positively charged positrons. In β decay a neutron becomes a proton, in β+ it is the other way round.

Even if the β particles have much less mass than an alpha particle, as charged particles they can always ionise other atoms. They can travel a much longer distance through air and also penetrate solid matter. However, a few sheets of paper or a sheet of aluminium provide sufficient shielding.

Gamma radiation: After or during alpha or beta decay, the atomic nucleus can remain in an excited state. The subsequent reorganisation of the remaining protons and neutrons in the nucleus of the atom releases energy in the form of so-called gamma quanta.

As these gamma quanta have neither electrical charge nor mass, they can penetrate very deep into matter and can only be weakened by thick layers of lead, for example. On their way, they can ionise other atoms, for instance, through collision processes. Figuratively speaking, they collide with the electrons of an atom, transfer energy and push the electron out of the atomic shell.

Half-life
It is not possible to predict precisely when an individual nuclide will decay. However, as one gram of sand contains more atoms than there are grains of sand in the Sahara, many decay processes can be observed and statistics compiled. This makes it easy to predict how long it will take for half the nuclei of a nuclide to decay. This period of time is called the half-life and is different for each nuclide. It ranges from extremely short periods to trillions of years, making even scientific observation difficult. Beyond such extreme cases, the half-life can be determined very precisely for the vast majority of nuclides.

Radiation effect
Ionising radiation can damage living tissue. Ionisation in the body can, for example, damage genetic material and kill cells. In the case of alpha and beta radiation, the severity of damage depends heavily on whether the radionuclides enter the body or whether they 'only' act from outside. The effect also differs depending on which tissue is exposed to radiation – the skin, for instance, is less sensitive than the eye.

Radiation can cause changes in the genetic material of cells. If the body's repair mechanisms fail, mutations can occur. If the number of such mutations increases, cancer can develop, for example. In radiation protection, such damage is referred to as a stochastic effect. Its probability is never zero but increases with increasing radiation intensity. At high radiation intensities, cells are disturbed in their functions also due to the high energy exposure and the cells die directly. These immediate effects are called deterministic radiation damage. Although threshold values exist below which no direct damage is to be expected, stochastic radiation damage can only be reduced by consistently minimising radiation exposure.

Activity, dose and dose rate
In radiation protection, we repeatedly come across different units of measurement – especially becquerel and sievert.

Activity in becquerels (Bq) is the measure for one radioactive decay per second and thereby describes the activity of a radioactive substance. Since even the tiniest amounts of a substance contain a very large number of atoms, 1 Bq is also a very small unit. It is therefore usual to use prefixes such as kilo, mega or gigabecquerel or to use powers. The activity depends on the half-life and the amount of nuclides present in a material.

The **dose in sieverts (Sv)** describes the equivalent dose used to indicate the effect of ionising radiation on tissue. This not only considers the radiation energy that hits the body, but also the location impacted by this radiation, how long it has acted and the type of radiation: The skin is comparatively insensitive, the eye is much more sensitive and if a radionuclide enters the body, the harmful effect is much worse. 1 Sv is already a very large value that does not occur in practice, so that the dose is given in millisieverts or microsieverts.

The **dose rate in sieverts per hour (Sv/h)** describes the dose within a defined period of time and hence the effect of ionising radiation that is currently acting on the tissue.

BASICS OF RADIATION PROTECTION

Radiation protection is first and foremost a preventive task. Contact and contamination with radioactive substances should be prevented as far as possible, thus minimising radiation exposure. This can be addressed by some basic precautionary measures:

INCREASE DISTANCE!

Keeping as much distance as possible from radioactive materials reduces exposure.

MINIMISE EXPOSURE TIME!

Being near radioactive substances for the shortest possible time reduces exposure.

INCREASE SHIELDING!

Suitable and sufficiently thick shielding effectively reduces gamma radiation.

AVOID ABSORPTION INTO THE BODY!

Radioactive substances should not enter the body, as they can cause serious harm.

THE MOST COMPLEX WASTE DISPOSAL REGIME IN GERMANY

Since 1957, there have been nuclear facilities in Germany – and therefore radioactive waste. Even when the phase-out of nuclear energy has been completed and the nuclear power plants dismantled, their remains and the waste from industry and research will continue to keep us busy for a long time to come. The Federal Government's experts expect to see the following quantities of low and intermediate-level radioactive waste by 2080:

- 360,000 cubic metres of waste from the operation and decommissioning of nuclear power plants and public nuclear facilities as well as from industry, research and medicine
- 200,000 cubic metres of waste retrieved from the Asse mine
- 100,000 cubic metres of residues from uranium enrichment

In addition, there will be around 27,000 cubic metres of high-level radioactive waste. This waste is made up of spent fuel elements from nuclear power plants and research reactors as well as glass canisters from reprocessing operations. Although this waste is not even five per cent of the total amount, it contains 99 per cent of the activity.

High-level radioactive waste

27,000 m^3

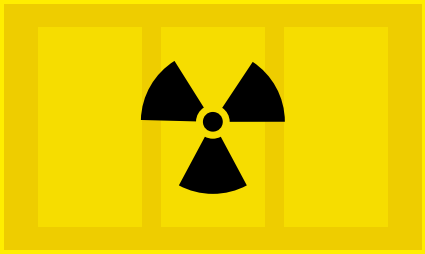
Fuel elements from nuclear power plants and glass canisters from reprocessing operations

99%

ACTIVITY

1%

Low- and intermediate-level radioactive waste



360,000 m^3

from operation and decommissioning of nuclear power plants and public nuclear facilities as well as from industry, research and medicine

200,000 m^3

waste retrieved from the Asse mine

100,000 m^3

residues from uranium enrichment

Interview with Iris Graffunder

THIS YEAR'S SPECIAL ISSUE FOCUSES ON RADIATION PROTECTION. SO, IT'S A GOOD OPPORTUNITY TO TALK TO IRIS GRAFFUNDER, CHAIRWOMAN OF THE MANAGEMENT BOARD. SHE STUDIED RADIATION PROTECTION.

Iris Graffunder
Chairwoman of the Management Board

Mrs Graffunder,
Why did you choose this specialisation back then?

I already had a passion for science at school. My advanced courses were maths and chemistry. I was looking for something to combine my interests and strengths and earn money at the same time. That's when I came across the dual study programme in radiation protection. This specialisation is very versatile. At university, we had lectures on medicine, physics, radiochemistry, ventilation, electrical and nuclear engineering, but we also had plenty of nuclear law.

The Chernobyl disaster occurred just a short time before you began your studies back in 1986. Did this affect your view of the topic?

In Germany, we saw more and more people opposing nuclear power. Some people around me were also unable to understand and even criticised my choice of university studies, but this encouraged me even more in my decision. I wanted to be able to assess the situation myself. I felt it was important to understand what had actually happened there. In the context of radioactivity, fear is often fuelled, ignoring the fact that everything in nature radiates – even we humans.

What happened after you graduated?

I completed a dual course of study and therefore had a direct follow-up contract with the Nuclear Research Centre in Karlsruhe. I spent the first three years working in administrative radiation protection in the occupational health and safety department where, for example, I appointed radiation protection officers, incorporated the new X-ray ordinance into the operational procedures of the research centre and organised and carried out safety inspections together with public authorities. During this time, I got to know various areas of the nuclear research centre. I was then offered a group leader role at the waste management organisation (main decontamination operations department). Since then, I have remained loyal to the field of radioactive waste and nuclear decommissioning.

In January 2024, you then came to BGE via several stations. How important and present is the topic of radiation protection for final disposal as a whole?

I think the topic is very important. Especially when it comes to the question of how to deal with radiation. Unlike other sources of danger, which we also cannot smell, see or taste, radioactivity can be measured. This is a crucial advantage. We can identify actual exposure at any time and act accordingly. I also see this as an opportunity to ensure greater acceptance among citizens.

BGE has three sites with different underlying conditions. Morsleben stores radioactive waste and the mine is being closed. Asse stores drums that are to be retrieved, and Konrad is being prepared for storage. How is radiation protection organised at BGE?

Our core business is the disposal of radioactive waste. We are responsible for protecting people and the environment from radiation. For radiation protection, it is initially irrelevant which site we are talking about. When it comes to radiation, three precautions must always be observed: Shielding, distance and exposure time. The current focus at Konrad is on radiation protection planning. Measures to this effect include, for instance, preparing the operations manual and planning the approval-compliant design of all radiation protection systems. Operational radiation protection only becomes important when the waste containers are delivered for storage.

How does operational radiation protection work?

Radiation protection basically accompanies all activities that involve radioactive substances. When the waste containers are received, the dose rate and contamination are checked on each container and compared with the information on the accompanying documents. The responsibility of radiation protection also includes verifying that all surfaces in the controlled areas are free of contamination. This is carried out by means of wipe tests and direct measurements. The radiation protection tasks also include evaluating the filters for

room air and exhaust air monitoring as well as environmental monitoring. In addition to distributing personal dosimeters and carrying out regular radiation protection training, radiation protection monitoring of personnel also includes the specification of personal protective equipment.

Many people are certainly worried and concerned when the containers are delivered by road or rail. Is this justified?

Not from a radiation protection perspective. Unfortunately, most people generally know too little about radioactivity. An X-ray in medicine releases more radiation than, for instance, a train carrying radioactive waste that passes by. I would be happy if forms of energy and their impact on people and the environment were an integral part of school curricula. People would then be better able to assess the effects of radiation for themselves and would probably be less concerned when it comes to the issue of final disposal.

Do you also see outreach measures as a task of BGE?

Definitely. We must be present in the selected siting regions in 2027 and conduct extensive educational work, particularly with regard to the search for a site for a repository for high-level radioactive waste. I understand that not everyone will be thrilled if their region is selected. However, it is very important to me that people understand final disposal issues better and that there is no reason to be afraid. It goes without saying that such a large construction project is an intervention in nature. But for reasons of radiation protection, storing radioactive waste in deep geological layers is simply the best and safest solution. BGE has the expertise needed to ensure safe final disposal.

K O N R A D

Active measuring devices for radon monitoring at Konrad can detect even short-term fluctuations in radon concentration.

OCCUPATIONAL HEALTH AND SAFETY IS A TOP PRIORITY

The Konrad mine in Salzgitter, Lower Saxony, is the first repository for low and intermediate-level radioactive waste in Germany that has been authorised under nuclear law. Storage of up to 303,000 cubic metres of low and intermediate-level radioactive waste is scheduled to begin in the early 2030s. Although not a single gram of radioactive waste has yet arrived in the future Konrad repository, radiation protection is already in place there. More than 550 people work on the site every day. Basically, everyone is exposed to natural, ionising radiation every day. Around half of the annual radiation exposure to humans in Germany is caused by inhaling radioactive radon gas. The gas is invisible and odourless, so that we don't notice it. It is produced by radioactive decay of natural uranium and thorium which are found everywhere in soil and rocks. Even in basements of residential buildings, cracks in the walls can lead to higher concentrations of the gas and pose a risk to health. At the Konrad mine, we are up to 1,200 metres underground. In the past, iron ore was mined here, and today there are the remains of the ore veins with surrounding limestone. As uranium and thorium occur naturally in this region, employees will inevitably come into contact with radon. However, two important cornerstones of radiation protection ensure occupational safety and protect health. On the one hand, there is an obligation to take measurements in underground mines and, on the other, a reference value of 300 Bq/m³ has been set for radon exposure at workplaces. Suitable measures such as the supply of fresh air – ventilation – are in place to ensure that the reference value is permanently maintained. The risk to health is hence no higher than above ground.

Yellow cans and electrical devices

Advanced measurement equipment is one of the most important tools in radiation protection. As natural radon is currently the main source of the radiation dose for personnel at the Konrad repository, the radon concentration of the mine air is monitored at critical points in the mine. Passive radon dosimeters in small yellow dust-protected cans are provided at around 20 locations in the mine. The detectors are energised. The radon in the air continuously reduces this voltage. The voltage drop is proportional to the radon concentration. This results in measured values for the relevant period. Electronic measuring devices are used at other points. They are used to determine the radon concentration over time in the mine air. Although active measuring devices require more maintenance, they also provide data on short-term fluctuations. The robust passive measuring instruments record long-term values. "We have a good overview of radiation exposure at key points in the mine at all times. As soon as we detect changes, we can react quickly. Occupational health and safety is a top priority for us," says Eric Teichert, Radiation Protection Engineer.

Passive measuring instruments are provided at around 20 locations in highly visible yellow cans.

Each of the yellow cans ...

... contains a passive radon measuring device.

Measurement campaigns are constantly being carried out to detect fluctuations in radon concentration in the mine air. By analysing the data, the radiation protection experts can identify critical areas where additional protective measures are necessary or existing ones need to be improved. For example, together with the mine air department, ventilation at workplaces is set according to the reference value to protect the health of employees.

Awareness of the invisible danger

Human behaviour is one of the most common causes of danger. Especially in familiar environments, such as the workplace, people tend to be careless in everyday life. This applies to the operation of heavy machinery, but also to the handling of ionising radiation. However, while the danger is obvious for some, radiation protection staff have to communicate complex issues in a clear and comprehensible way in order to raise awareness of the topic among all those who may be involved. Dedicated training and briefing are provided for employees to keep them up to date with regard to the current status of radiation protection regulations and the handling of protective equipment. These preventive measures reduce the risk and create a safe workplace for everyone.

When storage of waste containers begins and then each year after, all employees in the radiological part of the facility will be required to undergo radiation protection training before starting work. In addition to physical and legal content, this training also addresses the practical handling of radioactive substances and appropriate measures for safe working.

Active measurement ensures that short-term changes are detected.

The equipment at the measuring station is also checked.

“We have a good overview of radiation exposure at key points in the mine at all times. As soon as we detect changes, we can react quickly. Occupational health and safety is a top priority for us.”

Eric Teichert, Radiation Protection Engineer

Radiation protection is constantly evolving

Permanent radiological monitoring of the Konrad repository has generated data over many years. A valuable asset. This data is fed back into regular analyses, which in turn can serve as a basis for optimisation measures. The result is a constant cycle of data acquisition, data processing and resulting adjustments to the radiation protection concept. In this way, not only can acute dangers be avoided, but lasting improvements can also be achieved in cooperation with nuclear regulatory supervision authorities. The radiation protection officers, in close cooperation with other specialist departments, hence are making an important overall contribution to BGE’s holistic occupational safety system. This not only fulfils legal requirements, it also serves to identify potential and provide meaningful support in this regard.

At the time of this report, the Konrad radiation protection organisation is still a small group. In addition to underground radon monitoring and the preservation of radiological evidence above ground, the approval-compliant design of all radiation protection systems for the repository is planned and implemented together with other specialist departments. In future repository operations, radiation protection will be one of the largest departments at the facility. All work on and in the immediate vicinity of waste containers is carried out or assessed by the radiation protection department. All activities in the operational controlled area above and below ground are also accompanied by radiation protection technology. With advanced radiological environmental monitoring, radiation protection helps to ensure the safety of people and the environment as part of the overall occupational safety system.

ASSE

The storage basin for uncontaminated salt solution on the 490-metre level.

DISPOSAL OF SALT WATER

The Asse II mine is located in the district of Wolfenbüttel in Lower Saxony, and around 47,000 cubic metres of low and intermediate-level radioactive waste were stored in this old salt mine between 1967 and 1978. BGE's task is to retrieve this waste which is a considerable challenge because the Asse mine is unstable.

But why must the waste be retrieved? One of the reasons is that water has been seeping into the mine for decades, around 12.5 cubic metres per day. The salt solution is collected at different depths in the mine and most of it is brought to the surface. However, the salt solution also enters the mine at points where this is not so easy. A small part of the solution is radioactively contaminated and cannot simply be disposed of. Although this concerns only a few litres per day, even small quantities of radioactive material must be stored safely. So let's take a look at how mining operations and radiation protection at Asse deal with water.

Before entering the mine, everyone without exception has a personal dosimeter attached to their clothing to record even the smallest exposure. The fact that the measuring devices also show 0.00 microsieverts for colleagues who regularly work underground is no reason not to use them. The mine and the penetrating salt solution are also continuously monitored. It is therefore not only known what its chemical composition is, but also where radioactively contaminated salt solution can be found and which nuclides it contains.

Visitors usually arrive at a depth of 490 metres. On this level, the radiation protection department has also set up a sample preparation laboratory where the salt solution that is collected and pumped out deeper in the mine is examined and catalogued. It is by no means the case that every sample that arrives there is radioactively contaminated – but of course this must always be checked. In addition to normal work at the laboratory, special care is also required to avoid contamination, i.e., the accidental spread of radioactive substances. A single drop can already be too much. The sampled solution is then stored in the reference sample store and sealed securely. "That the samples have so many different colours looks really exciting. But I'm not worried about standing here. Because if our radiation protection officers say that I can be here, then that's fine," says Anna-Lena Zimmermann, visitor guide at Asse standing in front of the rack.

Once the salt solution, most of which is collected at the 725-metre level, has been measured, it can be brought to the surface. It is first collected in a large basin at a depth of 490 metres before being pumped out through pipelines. However, hardly any of the water can be seen as it is covered by huge tarpaulins. Their purpose is to ensure that radioactive water – tritium – from air does not bind to the water and thus contaminate it. Sometimes radiation protection can be that simple.

Sample container before testing

Stored reference samples

This is different in the case of the radioactive solution which must not only be stored in securely sealed containers, but additionally always in radiation protection areas. More heavily contaminated solution is first collected in these safer and clearly separated areas and then taken to the federal-state collection centre of Lower Saxony. Less radioactively contaminated solution may be used for the production of building materials underground. For this purpose, Sorel concrete is produced at a depth of 800 metres at the bottom of the mine. This is a special salt concrete made from magnesium oxide, magnesium chloride solution and rock salt. It is used in many different places in mines to seal cavities that are no longer needed and to stabilise the mine. Underneath the emplacement chambers at a depth of 750 metres, however, old excavations can be backfilled with Sorel concrete which is mixed with radioactive solution. For this purpose, a temporary radiation protection area is set up on site, strictly in accordance with radiation protection regulations, and protective clothing must be worn to prevent any possible spread of contamination. Even the forks of the forklift truck transporting the containers with the radioactive solution are tested for contamination. The radioactivity of the finished concrete is very low. The average activity of tritium is around 100 becquerels per gram and hence at the level of the exemption limit, that of caesium-137 is around 1 Bq/g – above the exemption limit, but still not highly radioactive. In order to minimise potential radiation exposure for employees, this concrete is only used below the

Sample preparation laboratory for radiation protection

The area surrounding the mine is also closely examined for radiation levels.

emplacement chambers and only in areas where no more work will be carried out during future retrieval operations. A total of 134 cubic metres of radioactively contaminated salt solution have been processed in this way so far, which means that they do not have to be transported to the federal state's collection point – another way of avoiding further radiation exposure.

Even if while underground you never saw a radiation protection area, didn't pass by the sample preparation laboratory and weren't involved in the production of radioactive Sorel concrete, you won't be able to ignore the topic of radiation protection on your way out, as the personal dosimeters are read out once again and placed back in the storage compartments.

Radiation protection colleagues are not only responsible for monitoring the mine below ground, but also its surroundings above ground. They regularly tour the area to take various measurements of air and soil and to take soil and plant samples. Just like our salt water samples from the 490-metre level, these samples are also tested in detail in the above-ground radiation protection laboratory on the mine site – sometimes with measurement times of up to three days, as with the gamma spectrometer. Because at Asse, there is always one imperative: No matter which route the water takes – safety comes first.

MORSLEBEN

Entering the Morsleben repository

SAFE AND SECURE

All-clear measurement of objects is a very complex task. Their surfaces are tested for contamination, measurements are taken over hours, and then everything is analysed on site in measuring containers.

Morsleben is the first German repository to be decommissioned under nuclear law, leaving 37,000 cubic metres of low and intermediate-level radioactive waste in place. Located in Saxony-Anhalt, it is close to the border with Lower Saxony. Until 1969, miners extracted potash and rock salt in the Marie and Bartensleben mines. Radioactive waste was stored from the early 1970s until the late 1990s. Final approval of decommissioning is still pending, with BGE keeping the mine open and preparing for closure until approval is granted.

Even though the radioactive waste is safely stored, radiation protection continues to play an important role at the facility. People and materials enter the mine every day. Since radioactive waste took the same route many years ago, there is always a risk that people or objects will be contaminated in the process. For this reason, it is a general rule for parts of the mine that nothing and no-one leaves the mine without first being tested for radioactive contamination.

A controlled area has been set up to practically implement this. It is the centrepiece of radiation protection at the facility and extends from parts of the surface facilities via the shaft to the 4th level of the mine, where the radioactive waste is stored. It is separated from the rest of the mine, access is controlled and special regulations apply. Collective dosimeters and digital dosimeters for personal monitoring are provided. This is supplemented by full-body scans with checks of clothing and skin surface. There are over 80 radiation protection regulations that must be complied with at all times. They mainly relate to the operation of measuring devices, the performance of analyses and compliance with work processes and behavioural principles.

To ensure that an object is not contaminated with radioactive substances, all-clear measurements are carried out. This procedure can be very time-consuming and depends on the size and complexity of an object. The entire process can take a week or even several months. However, this is not only due to the work involved in the all-clear measurement itself, but also because each step must also be authorised. “There is a rule in the controlled area: Don’t do anything unless it is expressly permitted,” says Kerstin Fiola, Head of Repository Monitoring.

There is no alternative to this rule. Leaving items underground is not an option. On the one hand, storage volume is limited and, on the other, the Circular Economy Act (KrWG, *Gesetz zur Förderung der Kreislaufwirtschaft und Sicherung der umweltverträglichen Bewirtschaftung von Abfällen*) stipulates that as many resources as possible must be recycled. At the same time, it must be ensured that contaminated objects never leave the facility.

The following example shows how the all-clear measurement process actually works. The room air at the storage areas is constantly monitored. The signals are sent online to the central control room, the control centre of the repository. This means, for instance, that cables for signal transmission need to be laid or, if necessary, replaced. What remains then is a cable reel. And that's when the process of getting it out of the mine begins.

1. **The person responsible for the facility informs the radiation protection officer that an all-clear measurement for the cable reel is required.**

2. **The radiation protection officer reports this process to the Federal Office for the Safety of Nuclear Waste Management (BASE).**

3. **The cable reel is placed in the all-clear measurement part of the controlled area.**

4. **At first, preliminary tests are carried out by radiation protection specialists. This involves, among other things, testing the surfaces for contamination.**

5. **The results are recorded in an initial report and further measurements preceding a decision are described. These are the measurements required to verify that the limit values from the Radiation Protection Ordinance (StrlSchV, *Verordnung zum Schutz vor der schädlichen Wirkung ionisierender Strahlung*) are not exceeded.**

6. **Only now is the cable reel analysed using a mobile gamma spectrometer. The individual measurement takes four to eight hours. Four measurements are required per cable reel.**

7. **The result is determined on the computer using special software and recorded in a further measurement report which is also reviewed and approved by the radiation protection officer.**

8. **Before the cable reel can then be disposed of, BGE sends the radiation protection reports and approvals to the supervisory authority BASE. If the approval is acknowledged there and if there are no queries, the release procedure is complete and the cable reel can be removed from the controlled area.**

Care must also be taken on the way out in order to avoid contaminating the cable reel. Radiation protection is therefore involved and ensures contamination-free transport through measurements and a defined procedure. But that’s still not enough.

In addition to the complex procedure of clearance, personnel measurements and air measurements in the controlled area, air and soil samples are also regularly taken in the surrounding area. Nothing is left to chance. True to the motto: Safe and secure.

Radiation protection colleagues check the measurements on site and prepare reports.

DUAL STUDIES

Sample preparation laboratory at the Asse mine

MADE BY BGE – RADIATION PROTECTION EXPERTISE FOR THE FUTURE

The dual study programme in radiation protection at Bundesgesellschaft für Endlagerung

The long-term tasks of complex repository projects require them to be carried out with precision and responsibility for people and the environment. Safe and reliable handling of radioactive waste also means having well-trained specialised personnel on board.

There is a high level of understanding for this responsibility at all our sites, which is not least represented by radiation protection. And radiation protection first and foremost means safety.

Be it the retrieval of waste from the Asse mine or the decommissioning of the Morsleben repository and the subsequent operation of the Konrad repository. Radiation protection is already being intensively considered even during the site selection process.

Theory meets practice

In cooperation with Baden-Württemberg Cooperative State University in Karlsruhe, BGE has also been a dual practice partner for the dual study programme in radiation protection since 2008. Today, the degree programme is called Sustainable Science and Technology with specialisation in radiation protection, which leads to a Bachelor of Science (B.Sc.) degree.

Twelve graduates have already emerged from this in-house training initiative. Four are currently still studying.

Students alternate between spending a few months at BGE sites for the practical phases and at the university in Karlsruhe for theoretical studies. The teaching modules there include scientific principles of mathematics, physics, chemistry, law and, of course, radiation protection. The curriculum also includes content from the fields of incident management and emergency protection as well as energy and nuclear technology.

Direct hands-on application of the theoretical knowledge is possible at our sites. Under the guidance of our radiation protection instructors, students are deployed in laboratories, controlled areas or in environmental monitoring. A practical

Dr Nina Krieger and Stefanie Koch are instructors for students and also explain how to use the various instruments.

work topic, which is closely linked to current projects at the company, accompanies the time at the BGE sites. The use of radiation protection measurement equipment is also always an integral part of the programme – for example, in contamination measurements or gamma spectrometry.
In practice, skills in communication, teamwork and, of course, technical expertise are also consolidated. Close interaction between theory and practice creates a deep understanding of the complex requirements associated with protection against ionising radiation.

Stefanie Koch completed her dual study programme in 2011.

> **"I was one of the first female students at BGE in 2008 and am still with the company today. The solid combination of theory and practice in the degree programme prepared me extremely well for the job. Switching between project planning tasks and practical work across all areas and sites still inspires me."**

Looking to the future – why the role of radiation protection expert is NOT an obsolete model.
Thirty-two nuclear power plants are currently being dismantled in Germany. Dismantling a reactor unit takes an average of 28 years. Some of the radioactive waste will continue to radiate for hundreds of thousands of years. Radiation protection is essential for dismantling, waste treatment and safe transport, interim storage and later final disposal, for instance, in the future Konrad repository or the site for high-level radioactive waste that is still being sought.

> **“Once the Konrad repository starts operating, demand for radiation protection engineers will increase. We are thus competing with industry and medicine. A good reason to push ahead with our training initiative in the future. We must succeed in making jobs in radiation protection so attractive that people enjoy coming to us,”** says Marlis Koop, Labour Director and Managing Director of Bundesgesellschaft für Endlagerung.

The dual study programme in radiation protection is not the only training initiative. BGE is also actively involved in the Radiation Protection Qualification Network that aims to strengthen radiation protection expertise in Germany. Qualification, recruitment, knowledge transfer and the use of synergies are the objectives of the network. A full overview of the various job profiles can be found at the Qualification Network for Radiation Protection under ‘The BfS’ – ‘About us’ – Radiation Protection Qualification Network.

Even with the end of nuclear energy in Germany, radiation protection is a profession that will remain for many generations. We at BGE see it as our responsibility to secure the radiation protection experts of tomorrow.

WHAT DO I NEED TO STUDY RADIATION PROTECTION?

- Enjoy maths and natural sciences (physics and chemistry)
- Interest in learning new things, especially in the fields of nuclear technology, medicine (anatomy and oncology) as well as nuclear and radiation protection law
- Enthusiasm for measurement technology
- A good command of English is always helpful
- Diligence, assertiveness, a querying mind and a sense of responsibility are what characterise radiation protectors

More information about the dual study programme in radiation protection can be found here:

FINANCIAL DATA

Bundesgesellschaft für Endlagerung mbH (BGE), Peine

BALANCE SHEET AS PER 31 DECEMBER 2024

Assets

		31 Dec. 2024	31 Dec. 2023
		€1,000	€1,000
A.	Fixed assets		
I.	Property, plant and equipment		
	Land, rights equivalent to land and buildings, including buildings on third-party land	3,841	3,909
		3,841	3,909
II.	Financial assets		
	1. Shares in affiliated companies	690	690
	2. Other loans	0	0
		4,531	**4,599**
B.	**Current assets**		
I.	Inventories	10,432	11,446
		10,432	11,446
II.	Receivables and other assets		
	1. Trade receivables	220	223
	2. Receivables from the shareholder	196,847	155,812
	3. Receivables from affiliated companies	98	147
	4. Other assets	7,867	12,514
		205,032	168,696
III.	Bank balances	828	448
		216,292	**180,590**
C.	Prepaid expenses	**2,445**	**1,141**
		223,268	**186,330**
Trust assets		**1,128**	**1,137**

Liabilities

		31 Dec. 2024	31 Dec. 2023
		€1,000	€1,000
A.	Equity		
	I. Subscribed capital	2,825	2,825
	II. Capital reserve	37	37
	III. Retained earnings	1,942	1,942
	IV. Net income for the year	0	171
		4,804	**4,975**
B.	Provisions		
	1. Provisions for pensions and similar obligations	17,110	15,423
	2. Provisions for tax	30,622	0
	3. Other provisions	61,668	70,734
		109,400	**86,157**
C.	Liabilities		
	1. Payments on account received	132	0
	2. Accounts payable	69,889	65,721
	3. Liabilities to the shareholder	4,920	3,550
	4. Due to affiliated companies	1,334	1,439
	5. Other liabilities	32,789	24,305
		109,064	**95,015**
D.	Prepaid expenses	**0**	**183**
		223,268	**186,330**
	Fiduciary obligations	**1,128**	**1,137**

INCOME STATEMENT

for the period from 1 January to 31 December 2024

		2024	2023
		€1,000	€1,000
1.	Sales revenues	734,454	641,507
2.	Other operating income	4,994	3,538
		739,448	645,045
3.	Cost of materials		
	a) Expenditure on raw materials, consumables and supplies and on purchased goods	63,946	49,873
	b) Expenditure on services purchased	358,477	337,483
		422,423	387,356
4.	Personnel expenses		
	a) Wages and salaries	203,357	183,935
	b) Social security contributions and expenses for pensions and other benefits	51,152	43,917
		254,509	227,852
5.	Depreciation of property, plant and equipment	68	68
6.	Other operating expenses	33,497	29,873
		710,497	645,149
7.	Income from holdings	0	171
8.	Other interest and similar income	145	3
9.	Interest and other expenses	3,927	439
10.	Taxes on corporate income and business profits	-11	-610
11.	Earnings after taxes	**25,180**	**241**
12.	Other taxes	25,180	70
13.	Net income for the year	**0**	**171**

NOTES FOR THE 2024 FINANCIAL YEAR

General Remarks

The annual financial statements of Bundesgesellschaft für Endlagerung mbH (BGE) for the financial year from 1 January 2024 to 31 December 2024 were prepared on the basis of the accounting provisions of the German Commercial Code (HGB, *Handelsgesetzbuch*). In addition to these regulations, the provisions of the Act on Limited Liability Companies (GmbHG, *Gesetz betreffend die Gesellschaften mit beschränkter Haftung*) and the articles of association had to be observed. According to the size categories specified in section 267 HGB, BGE is a large share capital company.

The income statement is prepared using the nature of expense method in accordance with section 275 (2) HGB.

BGE is entered in the commercial register of Hildesheim Local Court (Amtsgericht Hildesheim) under HRB 204918. The sole shareholder is the Federal Republic of Germany, represented by the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV). The company has its registered office in Peine.

Information on accounting and valuation methods

In principle, the company does not have its own property, plant and equipment to be capitalised because BGE transfers ownership or expectant rights to movable assets procured for operation purposes and financed by the BMUV to the BMUV at the time BGE itself acquires such rights.

The property, plant and equipment recognised relates to the recognition of the administrative building (including land) in Peine acquired in 2021. Financing was primarily provided from own funds of the predecessor company Deutsche Gesellschaft zum Bau und Betrieb von Endlagern für Abfallstoffe mbH (DBE). The property is recognised at cost under fixed assets and was offset against the tenant loan granted to PALEA Grundstücks-Verwaltungsgesellschaft mbH & Co. KG in the same amount. Fixed assets are depreciated on a straight-line basis over their useful life (administration building over 33 years, outdoor facilities over ten years).

Other property, plant and equipment in conjunction with the Peine property was also recognised at acquisition cost less investment grants, so that the respective asset is recognised at a carrying amount of zero. Accordingly, no depreciation is recognised.

The shares in affiliated companies recognised in financial assets are recognised at acquisition cost. Loans were recognised at nominal value.

Payments on account are recognised at nominal value.

Inventories, receivables and other assets are recognised at nominal value. Impairments are recognised as necessary.

Cash and cash equivalents are recognised at their nominal amount.

Prepaid expenses relate to expenses prior to the balance sheet date that represent expenses for a certain period after this date.

Subscribed capital is recognised at nominal value.

Provisions are recognised at the settlement amount required according to prudent business judgement.

With the exception of provisions for pensions, provisions with a remaining term of more than one year are discounted, corresponding to their remaining term, at the average market interest rate of the past seven years.

Provisions for pensions are recognised on the basis of actuarial calculations using the projected unit credit method, taking into account the 2018 G mortality reference tables by Prof Dr Klaus Heubeck, Cologne. The pension obligations recognised as liabilities are based exclusively on individual commitments in accordance with the benefit regulations and the contribution-based pension scheme of Bochumer Verband. Provisions for pensions are recognised using the average market interest rate of the past ten years published by Deutsche Bundesbank (section 253 (2) HGB). Assuming a remaining term of 15 years, this corresponds to 1.90% (previous year: 1.83%). The salary trend remained unchanged at 2.75% and the pension trend remained unchanged at 2.0% or 1.0% for awards with guaranteed adjustment. Age and gender-dependent probabilities are applied to the expected employee development (churn).

The difference resulting from the different recognition of pension provisions at the seven-year and ten-year discount rate totalled a negative €107,000 on the balance sheet date.

Furthermore, provisions are recognised for contingent liabilities from pension entitlements. Provisions are generally discounted in accordance with their term (section 253 (2) HGB). Since the remaining term is less than one year, the provisions were not discounted.

Anniversary provisions within other provisions are also recognised on the basis of actuarial calculations using the projected unit credit method, taking into account the 2018 G mortality reference tables by Prof Dr Klaus Heubeck, Cologne. The current actuarial interest rate is 1.96% (previous year: 1.75%).

Provisions for death benefit obligations are also recognised on the basis of actuarial calculations using the projected unit credit method, taking into account the 2018 G mortality reference tables by Prof Dr Klaus Heubeck, Cologne. The current actuarial interest rate is 1.96% (previous year: 1.75%).

Other provisions additionally include amounts for services rendered by contractors that have not yet been paid out, fees for the ongoing application procedure for decommissioning the Morsleben repository for radioactive waste and for decommissioning the Asse II mine as well as provisions for tax risks arising from a tax audit. Other provisions (personnel obligations and costs of the annual financial statement) take into account all recognisable risks and uncertain obligations

Liabilities are recognised at the settlement amount.

Deferred tax assets were not recognised. The recognition of deferred taxes is based on a tax rate of 29.3% (15.82% for corporation tax, including solidarity surcharge and 13.48% for trade tax). Differences between commercial and tax law exist in particular in the provisions for pensions, long-service awards and death benefits as well as costs for the process of decommissioning the Morsleben repository for radioactive waste and the Asse II mine.

The accounting and recognition methods have not changed compared to the previous year and have been consistently applied.

Information on the balance sheet

Fixed assets primarily include property, plant and equipment as well as shares in the subsidiary BGE TEC. The statement of changes provides information on developments in the reporting year.

Receivables from the shareholder (€196,847,000; previous year: €155,812,000) result from accounting of services provided by BGE. Receivables from affiliated companies (€98,000; previous year: €147,000) relate exclusively to BGE TEC and result from services invoiced under the agency and service agreement. As in the previous year, all receivables, with the exception of receivables relating to non-current provisions (€26,491,000; previous year: €25,795,000) and other assets, have a remaining term of up to one year.

Other assets (€7,867,000; previous year: €12,514,000) relate, among other things, to claims from recharges to waste producers as part of product control and tax refund claims.

Cash and cash equivalents (€828,000; previous year: €448,000) consist of short-term bank balances.

The capital reserve of €37,000 is made up of capital shares of the predecessor companies DBE and Asse-GmbH that were not contributed to increase subscribed capital.

BGE exercised the option under Art. 67 (1) first sentence of the Introductory Act to the German Commercial Code (EGHGB, *Einführungsgesetz zum Handelsgesetzbuch*) and, since the introduction of the German Accounting Law Modernisation Act (BilMoG, *Bilanzrechtsmodernisierungsgesetz*) as of 1 January 2010, has been spreading conversion expenses for provisions for pensions on a straight-line basis over a maximum period of 15 years. The annual amount of €214,000 is included for the last time in other operating expenses.

Other provisions include the following items:

Other provisions	2024	2023
	€1,000	€1,000
Provisions for outstanding invoices	41,176	48,389
Provisions for personnel obligations	9,113	7,853
Provision for costs for the process of decommissioning the Morsleben repository for radioactive waste	4,867	5,614
Tax risks	3,517	5,538
Provision for costs for the process of decommissioning the Asse II mine	2,917	3,282
Year-end closing costs	78	58
Total	**61,668**	**70,734**

The provision for year-end closing costs for 2024 were recognised at €78,000.

Personnel-related provisions mainly include obligations from holiday and time credits.

Liabilities to affiliated companies result in full from the service relationships with BGE TEC. Liabilities to the shareholder result primarily from the product control accounts settled in the name and for the account of the BMUV.

Other liabilities totalling €32,789,000 (previous year: €24,305,000) essentially include obligations from sales and wage taxes still to be paid (€32,697,000; previous year: €24,161,000) for the months of November and December as well as other payment obligations to personnel (€81,000; previous year: €123,000).

As in the previous year, all liabilities have a remaining term of up to one year.

There is no security in the form of liens or similar rights.

The amount of €1,128,000 recognised in the balance sheet relates to security deposits held in trust for obligations under the Lower Saxony Nature Conservation Act (NNatSchG, *Niedersächsisches Naturschutzgesetz*) for compensation and replacement measures in the Gorleben area. The trust assets are matched by trust obligations in the same amount.

Information on the income statement

les revenues are broken down by area of activity as follows:

	31 Dec. 2024	31 Dec. 2023
	€1,000	€1,000
Konrad	382,782	337,043
Asse	178,789	152,212
Morsleben	82,274	75,816
Site selection	52,631	42,526
Gorleben	19,448	17,426
Product control	18,141	16,050
Other sales revenues	389	434
Total	**734,454**	**641,507**

Other sales revenues include services for the subsidiary BGE TEC (€291,000; previous year: €346,000) and income from canteen operations (€98,000; previous year: €88,000). All sales revenues were generated in Germany.

Other operating income (€4,994,000; previous year: €3,538,000) includes income relating to other periods (€4,344,000; previous year: €3,065,000). This includes provisions no longer required for outstanding invoices from contractors (€3,691,000; previous year: €2,649,000), income from a settlement with a contractor (€303,000), reimbursements from energy suppliers from previous years (€170,000), reimbursements from the employers' liability insurance association for the raw materials and chemical industry (€91,000; previous year: €69,000) and other reimbursements from previous years (€89,000).

Cost of materials includes the cost of raw materials and supplies (€63,946,000; previous year: €49,873,000) and expenditure on services purchased (€358,477,000; previous year: €337,483,000). Expenditure on services purchased mainly includes provisions for outstanding invoices, contracts for work and services, labour leasing, security services, maintenance measures and energy costs.

Personnel expenses include pension expenses totalling €2,792,000 (previous year: €251,000). The expenses are influenced by the annual actuarial calculation and adjustment of pension obligations.

Depreciation and amortisation (€68,000; previous year: €68,000) relates to the acquisition of the administration building with outdoor facilities in the company's own name in 2021.

Other operating expenses (€33,497,000; previous year: €29,873,000) mainly include general administrative costs, including rental expenses, expert and external support services, ancillary personnel costs and fees in conjunction with nuclear regulatory supervision. This item includes for the last time the pro-rata conversion expense from the introduction of the German Accounting Law

Modernisation Act with regard to the underfunding of pension provisions as per 1 January 2010 in the amount of €214,000 per year.

At €145,000, interest income mainly includes income from the discounting of non-current provisions.

Interest expenses totalling €3,927,000 (previous year: €439,000) primarily relate to expenses from expected interest receivables from a tax audit (€3,516,000) and from the compounding of provisions (€376,000; previous year: €429,000).

Income taxes totalling €11,000 are attributable to refunds from the previous year's assessments. Due to the tax loss carried forward, there are no income taxes for the 2024 financial year.

Contingent liabilities and other financial obligations

The company conducts its business operations in Peine. The property was acquired in the company's own name in 2021. In order to achieve its objectives, the company rented additional building parts and storage space and has obligations totalling €29,530,000. Financial obligations from other existing rental, hiring or leasing agreements totalled €1,688,000 for the agreed terms on the balance sheet date. The existing contracts result in financial obligations totalling €31,218,000.

To secure existing and future receivables of Volksbank BRAWO eG from BGE TEC, a guarantee in the amount of €750,000 is in place for individual receivables. Utilisation is not expected since BGE TEC has sufficient liquidity.

Other information

Bodies

Management Board
The company was managed by the following managing directors in 2024:

Iris Graffunder, Stutensee,
Chairwoman of the Management Board

Marlis Koop, Hildesheim,
Managing Director and Labour Director

Dr Thomas Lautsch, Peine,
Technical Managing Director

At its meeting on 29 November 2022, the Supervisory Board resolved to fill the position of a member of the Management Board with a woman in 2023 in accordance with the statutory requirements (section 77a GmbHG) and to appoint at least one female Labour Director in accordance with the German Co-Determination Act (MitbestG, *Gesetz über die Mitbestimmung der Arbeitnehmer*). In the course of replacing the two departing Managing Directors, both vacant positions were filled with female Managing Directors from 1 January 2024.

Remuneration of the Management Board in the 2024 reporting year comprises fixed salary payments including fringe benefits. No performance-related remuneration components are paid.

Managing Director	Basic remuneration	Fringe benefits	Other remuneration	Total remuneration acc. to sec. 285 HGB	Allocation to provisions for pension schemes acc. to sec. 249 HGB
	€1,000	€1,000	€1,000	€1,000	€1,000
Iris Graffunder	295	73	-	368	0
Marlis Koop	275	73	-	348	0
Dr Thomas Lautsch	275	12	-	287	314
Total amount	**845**	**158**	**-**	**1.003**	**314**

Provisions totalling €7,925,000 have been recognised for pension obligations to former members of the management of a merged legal entity, whose current remuneration amounted to €616,000.

Supervisory Board

BGE has been subject to the German Co-determination Act (MitbestG) since 2021. Among other things, this act stipulates equal representation on the Supervisory Board. In 2024, eight elected employee representatives and eight shareholder representatives appointed by the shareholder were members of the Supervisory Board:

In 2024, the Supervisory Board comprised the members listed below:

- Dirk Alvermann,
  employee representative of BGE
- Harald Ebner,
  Member of the Bundestag,
  appointed since 28 August 2024
- Christina Egelkraut,
  employee representative of BGE
- Claudia Engelhardt,
  Head of Division at the BMUV,
  since 28 August 2024
- Dr Markus Fritschi,
  formerly Deputy Chairman of the Management Board of Nationale Genossenschaft für die Lagerung radioaktiver Abfälle (Nagra)

- Dr Jan-Niclas Gesenhues,
  Parliamentary State Secretary at the BMUV (Chairman), since 22 February 2024
- Dr Christian Greipl,
  Head of Division at the BMUV,
  resigned from office as of 23 August 2024
- Prof Dr Karin Holm-Müller,
  Professor of Resource and Environmental Economics at University of Bonn, resigned as of 23 August 2024
- Franz-Gerhard Hörnschemeyer,
  Trade Union Secretary of IG BCE (Deputy Chairman)
- Dr Andreas Kerst,
  Head of Division at the Federal Ministry of Finance (BMF), resigned as of 12 March 2024)
- Sylvia Kotting-Uhl,
  Former Member of the Bundestag
- Christian Kühn,
  Parliamentary State Secretary at the BMUV (former Chairman),
  retired as of 24 January 2024
- Carsten Meyer,
  employee representative of BGE
- Christina Offermanns,
  employee representative of BGE
- Dr Thomas Schröpfer,
  employee representative of BGE
- Dr Romy Strecker,
  senior official at the BMF,
  since 15 February 2024
- Lilian Tschan,
  State Secretary at the Federal Ministry of Labour and Social Affairs (BMAS)
- Marike Vornkahl,
  trade union representative of IG BCE
- Nicolaus-Alejandro Weil von der Ahe,
  senior official at the BMF, since 18 April 2024
- Sebastian Zwetkow-Tobey,
  employee representative of BGE

Contrary to section 6.2.2 of the German Public Corporate Governance Code (PCGC), no age limit was set for serving as a member of the Supervisory Board of BGE in order to enable the company and the Board to benefit from additional specific expertise and experience.

The Management Board reports to the Supervisory Board in accordance with section 90 of the German Stock Corporation Act (AktG, *Aktiengesetz*). In addition, BGE's articles of association provide that transactions of fundamental importance are subject to approval by the Supervisory Board.

These are, in particular, decisions and measures that could lead to a significant change in business activities within the scope of the articles of association or to a fundamental change in the company's net assets, financial position or results of operations or the risk structure.

By way of a resolution of the shareholder meeting on 23 August 2017, the attendance fee for Supervisory Board members who are neither members of the German Bundestag nor members of the Federal Government, nor in a service or employment relationship with the Federal Republic of Germany, was set at €4,000.00 per year. By way of a superseding resolution of the shareholder meeting on 8 September 2023, each member of the Supervisory Board who is not also a member of the Federal Government or a Parliamentary State Secretary was granted remuneration of €4,000.00 per year for their work on the Supervisory Board with retroactive effect from 1 June 2023.

The following Supervisory Board members received the following remuneration for 2024:

• Dirk Alvermann	€ 4,000.00
• Harald Ebner	€ 1,333.33
• Christina Egelkraut	€ 4,000.00
• Claudia Engelhardt	€ 1,333.33
• Dr Markus Fritschi	€ 4,000.00
• Dr Christian Greipl	€ 2,666.67
• Prof Dr Karin Holm-Müller	€ 2,666.67
• Franz-Gerhard Hörnschemeyer	€ 4,000.00
• Sylvia Kotting-Uhl	€ 4,000.00
• Dr Andreas Kerst	€ 666.67
• Carsten Meyer	€ 4,000.00
• Christina Offermanns	€ 4,000.00
• Dr Thomas Schröpfer	€ 4,000.00
• Dr Romy Strecker	€ 3,666.67
• Marike Vornkahl	€ 4,000.00
• Nicolaus-Alejandro Weil von der Ahe	€ 2,666.67
• Sebastian Zwetkow-Tobey	€ 4,000.00

For 2024, these members of the Supervisory Board were paid attendance fees totalling €55,000.

The Executive Committee and the Audit and Risk Committee were established in May 2022 in addition to the existing Mediation Committee. The committees have an equal number of shareholder and employee representatives. The task of the committees is to prepare decisions for the plenary session which is responsible for the final resolution.

Public Corporate Governance Code

In July 2024, the company issued the declaration of compliance with the German Federal Government's Public Corporate Governance Code (PCGK) for 2024 and published it on the company's website. The declaration of compliance for 2024 is to be published in July 2025.

German Sustainability Code

In November 2024, BGE published the 2023 Sustainability Report that was prepared in 2024. The 2024 Sustainability Report is to be published during the course of 2025. These reports replace the non-financial statement pursuant to section 289 et seqq. HGB.

Auditor's fee for the financial statements

The total fee charged by the auditor for the financial year is presented in BGE's consolidated financial statements.

In accordance with section 267 (5) HGB, the company employed an annual average of 2,220 direct employees.

Shareholding

The shareholding relates to the 100% interest in BGE TEC, Peine.

BGE TEC generated net profit of €85,000 in 2024.

BGE TEC's equity totalled €2,765,000 as per 31 December 2024.

Sites	Annual average number of employees	of whom female
Peine / Berlin	771	325
Konrad	462	47
Morsleben	181	29
Gorleben	53	4
Salzgitter	135	69
Wolfenbüttel / Remlingen (Asse)	618	122
Total employees	**2,220**	**596**

Peine, 31 March 2025

Iris Graffunder
Chairwoman of the Management Board

Marlis Koop
Managing Director and Labour Director

Dr Thomas Lautsch
Technical Managing Director

Bundesgesellschaft für Endlagerung mbH (BGE)

DEVELOPMENT OF FIXED ASSETS 2024

	Acquisition and production costs				
	As per 1 Jan. 2024	Additions	Grants	Disposals	As per 31 Dec. 2024
	€1,000	€1,000	€1,000	€1,000	€1,000
I. Property, plant and equipment					
1. Land, rights equivalent to land and buildings, including buildings on third-party land	4,073	0	0	0	4,073
	4,073	**0**	**0**	**0**	**4,073**
II. Financial assets					
1. Shares in affiliated companies	690	0	0	0	690
2. Other loans	0	0	0	0	0
	690	**0**	**0**	**0**	**690**
Total fixed assets	**4,763**	**0**	**0**	**0**	**4,763**

	Impairments			Book values	
Accumulated depreciation 1 Jan. 2024	Additions to depreciation and amortisation	Disposals	Accumulated impairments 31 Dec. 2024	As per 31 Dec. 2024	As per 31 Dec. 2023
€1,000	€1,000	€1,000	€1,000	€1,000	€1,000
164	68	0	232	3,841	3,909
164	**68**	**0**	**232**	**3,841**	**3,909**
0	0	0	0	690	690
0	0	0	0	0	0
0	**0**	**0**	**0**	**690**	**690**
164	**68**	**0**	**232**	**4,531**	**4,599**

MANAGEMENT REPORT FOR THE 2024 FINANCIAL YEAR

FUNDAMENTALS OF THE COMPANY

The Act on the Reorganisation of the Organisational Structure in the Field of Final Disposal (*Gesetz zur Neuordnung der Organisationsstruktur im Bereich der Endlagerung*), which came into force on 30 July 2016, reorganised the responsibilities of the institutions involved. The Federal Government established Bundesgesellschaft für Endlagerung mbH (BGE) to fulfil the tasks of final disposal in accordance with the Act on the Peaceful Use of Nuclear Energy and Protection against its Hazards (AtG, *Atomgesetz*) and to carry out the site selection procedure in accordance with the Act on the Search for and Selection of a Site for a Repository for High-level Radioactive Waste (StandAG, *Gesetz zur Suche und Auswahl eines Standortes für ein Endlager für hochradioaktive Abfälle*). It is organised as a company under private law and is owned by the Federal Government. BGE's sole shareholder is the Federal Republic of Germany, represented by the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV).

By way of a decision dated 24 April 2017, last amended by decision dated 28 February 2022, the BMUV (itself acting as the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety) transferred to BGE the performance of federal tasks pursuant to section 9a (3) first sentence AtG and the sovereign powers required for this pursuant to section 9a (3) third sentence first half-sentence AtG.

The transfer includes:

1. the construction, operation and decommissioning of repositories as well as the operation and decommissioning of the Asse II mine pursuant to section 57b AtG with all associated tasks pursuant to section 9a (3) first sentence AtG,
2. the sovereign powers to issue administrative acts
   a. pursuant to section 3 (1) second sentence of the Ordinance on Requirements and Procedures for the Disposal of Radioactive Waste (AtEV, *Verordnung über Anforderungen und Verfahren zur Entsorgung radioaktiver Abfälle*) which confirms the suitability of waste containers for final disposal,
   b. pursuant to section 2 (5) first sentence number 1 in conjunction with the second and third sentences of the Waste Management Transition Act (EntsorgÜG, *Entsorgungsübergangsgesetz*) with which the eligibility for delivery of containers with radioactive waste with negligible heat generation to the third party pursuant to section 2 (1) first sentence of the Waste Management Transition Act is determined,
   c. pursuant to section 7 (2) of the Ordinance on Requirements and Procedures for the Disposal of Radioactive Waste, with which the waste is retrieved for disposal in a repository and
   d. pursuant to section 34 (1) or (2) in conjunction with section 35 (1) of the Geological Data Act (GeolDG, *Geologiedatengesetz*), which decide on the public provision of non-governmental specialised or assessment data

in accordance with the provisions set out in the notice of transfer.

By transferring the fulfilment of the tasks of the Federal Government pursuant to section 9a (3) first sentence AtG, BGE also becomes the project sponsor within the meaning of the Act on the Search for and Selection of a Site for a Repository for High-level Radioactive Waste.

With the exception of the Konrad project, BGE is also the building owner within the meaning of the relevant building regulations. With effect from the

end of June 2019, ownership of the Konrad project was transferred to the Federal Government. In order to fulfil its tasks, the latter set up a construction administration at the German Environment Agency ('privileged construction' pursuant to section 74 of the Lower Saxony Building Code (NBauO, *Niedersächsische Bauordnung*) and supervision of the construction work); on the other hand, BGE was authorised to fulfil all of the building owner's tasks/duties not incumbent on the German Environment Agency in the Konrad project on behalf of the Federal Government.

Furthermore, in a letter dated 13 September 2019, the BMUV (acting, on its part, as the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety) transferred responsibility for the development of the repository containers for high-level radioactive waste exclusively and fully to BGE.

On 3 June 2022, following approval by the Supervisory Board, BGE's shareholder meeting decided to close the Gorleben mine after the Gorleben salt dome had been eliminated in the first stage of the site selection process on the basis of the statutory geological requirements and criteria. BGE was commissioned with decommissioning. Decommissioning includes the backfilling of the mine and shafts using the salt from the salt pile and the dismantling of the facilities above ground, provided that no other use can be considered for these above-ground facilities.

BGE has been subject to the German Co-determination Act (MitbestG) since 2021. Among other things, this act stipulates equal representation on the Supervisory Board. As per 31 December 2023, eight employee representatives elected in accordance with the provisions of the German Co-determination Act and eight shareholder representatives appointed by the shareholder were members of the Supervisory Board.

The Federal Office for Radiation Protection (BfS) deploys personnel to BGE as part of personnel secondment or assignment.

The company's contracts with third parties are awarded in accordance with public procurement law.

BGE TECHNOLOGY GmbH (BGE TEC) is a wholly owned subsidiary of BGE.

Its field of activity includes, amongst other things, consulting and engineering services as well as operational services for the planning, construction, operation and decommissioning of nuclear and conventional facilities.

CONTROL SYSTEM

BGE's task is the safe final disposal of radioactive waste. In this way, it helps to protect people and the environment and contributes to solving a socio-political problem.

In order to accomplish this, BGE ensures that the tasks assigned to it are implemented in a responsible and transparent manner. This includes construction and operation of the Konrad repository, retrieval of radioactive waste from the Asse II mine and its decommissioning, keeping open and decommissioning the Morsleben repository, decommissioning the Gorleben mine and the selection of a site for a repository for high-level radioactive waste, including container development. The tasks also include product control which ensures that only confirmed waste containers are stored in the Konrad repository.

Safety comes first in the fulfilment of tasks. This includes the occupational safety aspects of radiation protection, health protection as well as operational and long-term safety.

BGE is equally committed to the responsible use of the financial resources available to it for these tasks and to compliance with all legal requirements and obligations to provide evidence that govern the awarding of contracts and use of funds by a public sector company. In this respect, the principles of efficiency and economy pursuant to section 7 (1) of the Federal Budget Code (BHO, *Bundeshaushaltsordnung*) must also be observed. It is not the purpose of the company to make a profit. Further special guidelines for action result from nuclear and mining law.

The guiding principles for accomplishing the company's tasks are its mission statement and corporate goals. These guidelines are supplemented by the articles of association, the rules of procedure for management and the 'Statutes on the economic management and financial and asset management of BGE' (financial statutes) stipulated by the shareholder, the internal regulations based thereon, the business plan approved by the shareholder, as well as the project schedules and flowcharts.

BGE's integrated management system is being further developed. In an internal project involving a tiered procedure, the technical system components – such as compliance, data protection, energy, quality, risk, safety, environmental and sustainability management, including sustainability reporting in accordance with the CSR Directive – are to be further merged into an integrated management system focussed on safety. The project ends with a successful certification audit in accordance with ISO 9001 (quality management) and ISO 45001 (occupational health and safety management) as well as successful validation in accordance with EMAS (Eco Management and Audit Scheme). EMAS includes the requirements of ISO 14001 (environmental management) and ISO 50001 (energy management).

Key financial performance indicators are project costs and the overheads contained therein (overarching costs). In the 2024 business plan in the version of the 1st addendum, net costs including investments in BGE's fixed assets and the acquisition of land for the Federal Government were budgeted in the amount of €734,624,000, with actual costs amounting to €733,424,000 (net).

Project costs (net)	Actual 2023	Actual 2024	Budget 2024*)	Budget 2025
	€1,000	€1,000	€1,000	€1,000
Konrad	333,328	382,187	377,035	383,219
Asse	152,676	178,673	179,001	181,384
Morsleben	75,958	82,346	83,703	85,502
Gorleben	17,430	19,448	22,718	28,446
Site selection	42,532	52,629	54,478	56,615
Product control	16,052	18,141	17,689	18,605
Total (net)	**637,976**	**733,424**	**734,624**	**753,771**

*) Values according to supplementary economic plan dated 16 September 2024

The aforementioned costs resulted in a liquidity requirement of €832.7 million for 2024, which was made available from the federal budget.

The difference between the costs of €733.4 million and revenue of €734.5 million recognised in the income statement (see notes) results from the balance of advance payments made and reversed as well as the acquisition of property on behalf of the Federal Government. In addition, project costs include amounts charged to BGE TEC and from the Asse canteen operations.

The development of the performance indicators is explained in the following chapters, in particular in the course of business and in the results of operations, financial position and net assets.

Forecast net costs including investments in BGE's fixed assets in the 2025 business plan amount to €753,711,000.

The company's activities are not only scrutinised and monitored by the shareholder, the Supervisory Board, the Federal Office for the Safety of Nuclear Waste Management (BASE) and other authorities, but are also the focus of public attention. The company therefore provides regular and ad hoc information about its projects and seeks to engage in dialogue with experts and the public. The main developments and decisions in the projects are documented and generally made public.

RESEARCH AND DEVELOPMENT (R&D)

In 2024, 42 R&D projects were handled for the site selection procedure with a continued predominant focus on the representative preliminary safety investigations. These projects encompass ongoing and newly initiated R&D projects. As part of the representative preliminary safety investigations, the R&D projects are primarily concerned with

1) geogenic processes such as subrosion, fluviatile and glacial erosion, tectonic processes,
2) analogy considerations such as the transfer of knowledge where site-specific data (rock properties, internal salt structures) is missing,
3) dealing with uncertainties such as the creation of geological models, development of methods for dealing with uncertainties,
4) safety investigations such as release rates, radionuclide transport, inventory, future climate developments.

Cooperation with universities and other research institutions was stepped up and diversified by continuing and initiating new R&D projects in 2024. The research projects as part of the European EURAD (European Joint Programme on Radioactive Waste Management) research programme were completed in 2024. In the EURAD 2 follow-up programme, BGE is continuing its involvement in seven projects.

Furthermore, BGE is involved in several international cooperations schemes such as IGD-TP (Implementing Geological Disposal of radioactive waste – Technology Platform), DECOVALEX (Development of Coupled models and their Validation against Experiments), CatchNet (Catchment transport and Cryo-hydrology Network), OECD/NEA clubs and underground laboratories (Mont Terri rock laboratory, Grimsel rock laboratory, Bedretto Underground Laboratory and Horonobe underground laboratory).

In the Asse project, the project entitled ‘Development of an optimized, combined and high-resolution seismic imaging method for the site investigation of radioactive repositories 3D Seismics (DOSIS)’, which is expected to enable more detailed and more accurate evaluations of seismic surface measurements for exploration, was continued. Work on the 3D implementation of full waveform inversion (FWI) has been completed. FWI was extended to include an inversion of the source signal and first inversion calculations were carried out using data from the Asse 3D seismic survey. A full-area first-use tomography was carried out, work on Fresnel volume migration was completed and underground measurements of the 3D seismic Asse were processed with Fresnel volume migration. The results of the DOSIS project were presented at several conventions and conferences (AGU, EGU, EAGE, DGG).

Furthermore, the R&D projects ‘Demonstration structure in anhydrite with MgO shotcrete and bitumen’ and ‘FUNGUS – functional assessment and geomechanical and fluidic properties of a MgO drift sealing structure – interactions with salt solution and mine atmosphere’ were continued in the Morsleben project. The ‘Demonstration structure in anhydrite with MgO shotcrete and bitumen’ project is designed to determine the special properties of drift sealing, reconcile data for the long-term safety analysis and demonstrate the technical feasibility of the sealing structures.

The ‘Thermodynamic Reference Database (THEREDA)’ project was continued across all projects in the Konrad, Morsleben, Asse and site selection projects to create an internally consistent database for geochemical model calculations in 2024.

The R&D strategy regarding the R&D topics and issues relevant to the performance of the company’s tasks was published in April 2024 and presented to the public during the site selection days (18/19 April 2024). The English version will be published in spring 2025.

Net costs for BGE’s R&D activities totalled €17,104,000 in 2024 (previous year: €14,413,000).

ECONOMIC REPORT

Business performance

The company's financial management is based on its articles of association, the delegation of duties, the business plan and the resolutions of the Supervisory Board and the shareholder meeting. The details of economic management are set out in the 'Statutes on economic management as well as financial and asset management' (as per 2021).

Construction of the Konrad repository

The Konrad mine is being converted into a repository for low and intermediate-level radioactive waste. Subsequently, up to 303,000 m³ of low and intermediate-level radioactive waste will be stored. It is the first repository in Germany to be licensed under nuclear law. Approval for the construction and operation of the repository was granted in 2002 with the planning approval decision.

The tasks of the Konrad project include the above-ground and underground planning and construction measures for the construction of the Konrad repository as well as the safe operation of the mine in line with requirements.

Konrad 1

In 2024, the conveyor and loading system at the Konrad 1 mine was completed (apart from certain remaining work yet to be completed) and the new workshop was put into operation. The conveyor and loading system is used to convey and load debris from the mine.

The construction material silos of the backfill preparation plant, which will be used to produce the concrete material for closing the emplacement chambers, were installed in the shaft hall.

Konrad 2

Work began on the shell of the reloading hall at the Konrad 2 mine, and the walls and internal supports of the cellar have been concreted. With a total length of 140 metres, the reloading hall with adjoining buffer hall is the largest building to be erected at the Konrad 2 mine. In the building complex, the containers of low and intermediate-level radioactive waste delivered are lifted from lorries and railway wagons, followed by incoming radiological inspection and transport of the waste containers to the underground structures.

Concreting of the floor slab of the fan building and formwork and reinforcement work of the outer walls have been completed.

The excavation pit for the shaft cellar was dug and extensive subsoil improvement measures were carried out. The old shaft head was demolished and construction of the new shaft cellar began. The existing shaft cellar was no longer able to bear the loads from the winding tower and therefore had to be demolished and rebuilt.

Concreting of the lower shaft bell has begun on the last remaining inner shell of the support system for the infrastructure of the Konrad repository at the shaft landing on the 2nd level. The shaft landing is the area of the future repository where the waste arrives at the bottom of the shaft and is then transported to the emplacement chambers via the transport drifts.

Mine

Installation of the inner shells and carriageways continued underground. Work began on setting up the workshop on the 2nd level.

Mobile storage technology and overarching issues

Progress was also made with the vehicles for future repository operations. The Federal Office for the Safety of Nuclear Waste Management (BASE) has approved the preliminary inspection document for the spray manipulator vehicle. The revised preliminary inspection document for the transport vehicle was submitted to BASE and production of the first side stacker vehicle was finalised.

As part of the review of the technical safety requirements for the Konrad repository, the results of phase 2 were presented to the expert public.

Overall, actual costs for 2024 in the Konrad project are below the budgeted figures in the supplementary economic plan. Significant changes in work and costs resulted from the following measures:

Plan overruns resulted, among other things, from shaft sealing work in the Konrad 2 shaft, due to the increased use of materials in response to the soil found, the technically more complex inner shell installation in the underground workshop complex, greater work requirements in fully continuous operation and higher wage escalation due to index developments. In addition, compensation claims due to the delayed start of construction of the reloading hall are leading to additional costs for general business expenses and loss of profit.

This is offset by reduced work requirements and costs as a result of the delays in the construction of the Konrad 2 shaft cellar due to the missing building permit, delays in delivery and services in the construction of the backfill processing plant, delays in services for the fan building due to the need for clarification regarding the technical construction process and delays in the Konrad 2 shaft hoisting system due to approvals yet to be obtained.

Decommissioning of the Asse II mine

Between 1967 and 1978, around 47,000 m³ of radioactive waste were stored in a total of 13 emplacement chambers at the 511, 725 and 750-metre levels. Section 57b of the Act on the Peaceful Use of Nuclear Energy and Protection against its Hazards (‘Lex Asse’) stipulates that the Asse mine must be shut down immediately. Before decommissioning, the stored radioactive waste is to be retrieved.

The year 2024 at the Asse mine was characterised by the changed salt solution collection procedure in the mine workings and the measures introduced by BGE. Salt solution collection has shifted from the former main collection point on the 658-metre level to the 725-metre level and to roof level of the 700-metre level. The movement of the solutions in the mine workings from the access to the mine workings to the 725-metre level is still subject to constant changes. However, there is no immediate danger to the operational safety of the facility, as the assumed inflow volume of 12.8 m³/day is currently being managed in the mine. Further developments in the mine are unpredictable.

In the first half of 2024, BGE drew up a package of measures to stabilise the overall system for managing the salt solution, which will be continuously reviewed in light of new findings and the changing situation. The aim of all measures is to ensure that the salt solutions are collected at a greater distance from the radioactive waste. To this end, intervention measures are being carried out at various depths between the level of the former main collection point (658-metre level) and the current

de facto main collection point (725-metre level) (drifting, boreholes, sealing, etc.).

A qualified draft of the report entitled ‘Criteria for determining uncontrollable solution ingress’ (emergency criteria report) was submitted to BASE at the end of November 2024.

Stabilisation of the mine workings continued in 2024. Approx. 7,500 m³ of Sorel concrete was poured and three flow barriers were constructed. In total, 50 flow barriers have thus been installed.

Since March, BGE has been negotiating with a potential provider for the rental of up to two caverns for storing the counterflooding solution.

The purpose of the Remlingen 18 (R18) surface exploratory borehole is to definitively confirm the suitability of the planned site for the new Asse 5 shaft required for retrieval and to determine the basis for planning the shaft extension. The results of the drilling campaign are currently being analysed. Design planning for the sinking and lining of the Asse 5 shaft began in May. Since autumn, the subsoil for the above-ground facilities of the Asse 5 shaft has been explored.

During the exploration of emplacement chamber 12/750, the first, unsuitable straight borehole was partially backfilled. The second, deflected borehole (curved directly into the chamber) had to be interrupted due to unwanted ingress of building material. Following repair of the drilling rig, drilling will resume at the beginning of 2025.

Grabbing and loosening tools for the retrieval of radioactive waste were further developed and tested. Design planning for retrieval procedures for all levels is underway.

The necessary documents for the regional planning procedure will be submitted to the Braunschweig Regional Development Agency.

The letter of application for application complex I (construction of the new Asse 5 shaft with replacement of exhaust air) is in preparation and the strategy report for application complex III (characterisation, conditioning and interim storage) is being revised.

The K513 district road needs to be upgraded, as its width and load-bearing capacity are not designed for heavy goods traffic during the upcoming construction phase. Wolfenbüttel district authorities reject the upgrading of the K513 district road because it is linked to the construction of the interim storage facility and also the subsequent termination of the road that runs through the new site for the retrieval operations. The required feasibility study on alternative transport connections in the area around Asse is being prepared for negotiations with the Wolfenbüttel district authorities on the termination of district road K513.

The land required for the waste treatment plant with interim storage facility has still not been secured.

Interior work was carried out on the new radiation protection laboratory. The new office building has also been under construction since autumn.

In the Asse project, the costs in 2024 were below budget estimates in the supplementary economic plan. There were deviations in work and costs for the following measures:

Additional costs result from work brought forward and supplements for planning of the waste treatment plant and the interim storage facility, the reorganisation and transfer of cross-sectional personnel to the Asse project and from work brought forward for the construction of office building 20 (including soil removal).

This is offset by lower costs due to undercutting of the backfill volume as part of the emergency and precautionary measures to stabilise the mine.

The measures to stabilise the salt solution collection system due to the changed ingress of solution in the mine required shifts in personnel from backfilling operations to mine maintenance, so that only a small backfilling volume was implemented in 2024.

Further delays occurred in the subsoil exploration for the Asse 5 shaft due to weather-related interruptions, in planning of the emergency construction materials plant and in geotechnical work.

In addition, a provision recognised for the settlement of the contract for the facility for the disposal of solutions II and the refund of VAT on construction services was reversed to income in 2024 following the settlement reached with the contractor.

Decommissioning of the Morsleben repository for radioactive waste (ERAM)

Between 1971 and 1991 and from 1994 to 1998, a total of around 37,000 m³ of low and intermediate-level radioactive waste was disposed of in the Morsleben repository. Radioactive waste was also stored temporarily. The tasks in conjunction with the Morsleben repository for radioactive waste include the planning approval procedure for decommissioning and the maintenance of decommissioning capability.

Completion and submission of the application documents in the planning approval procedure is scheduled for 2026. The planning approval decision for decommissioning is expected in 2028. In 2024, important progress was made with the demonstration structures and the approval documents for decommissioning. Radioactive waste must be safely separated from the biosphere in the long term. To this end, technical measures are to be implemented during the course of future decommissioning. Existing mine chambers will be backfilled, access drifts to the emplacement chambers, the Bartensleben and Marie shafts as well as safety-relevant boreholes and the southern ventilation hole must be sealed.

Sealing structures will be built for this purpose. Among other things, they seal the access drifts to the emplacement chambers in the most tight and permanent way possible. Most of the more than 20 sealing structures planned for the Morsleben repository will be built in rock salt.

The following realisation concepts with different construction materials and combinations of construction materials are available for these drift seals:

- MgO bulk building material in anhydrite,
- MgO bulk building material in rock salt,
- MgO shotcrete and bitumen/asphalt in anhydrite.

Demonstration structures serve to determine the special properties of drift seals, to compare the data for the long-term safety analysis and to demonstrate the technical feasibility of the sealing structures.

For the demonstration structure in anhydrite at the Morsleben repository for radioactive waste (ERAM), the focus in 2024 was on preparing and carrying out concreting work. Backfilling of the drift sealing segment was completed in 2024 and the temperature and pressure development has been recorded since then.

Preparations were made for subsequent concreting in the external demonstration structure in rock salt, which is being built with magnesia clay at the Glückauf Sondershausen potash plant. The boreholes for backfilling and ventilation were driven and the components of the building materials facility delivered. The measurement equipment was also tested in 2024 (large borehole).

Testing began in 2024 for the external demonstration structure in anhydrite made of shotcrete/bitumen at the Bernburg mine. Various tests were carried out at technical institutions, on site as well as in the laboratory to select and determine the MgO shotcrete mix design and to select the bitumen.

As part of the planning approval procedure, a total of eleven approval documents for the planning approval procedure for decommissioning were submitted to the Saxony-Anhalt Ministry of Science, Energy, Climate Protection and the Environment (MWU) in 2024. The environmental impact assessment (EIA) for decommissioning the Morsleben repository for radioactive waste was prepared together with MWU. The report on the preparation of the EIA was submitted to MWU at the end of 2024.

A modular building was erected at the Bartensleben facility entrance gate as a temporary solution until the security building has been renovated. A warehouse was also built in front of the Bartensleben mine.

The costs for decommissioning the Morsleben repository for radioactive waste in 2024 were below budget estimates in the supplementary economic plan. The deviations are mainly due to the following measures:

Earlier than planned procurement of vehicles required for mining operations resulted in the budgeted amounts being exceeded.

This is offset by delays in work and hence also expenditures for work on the access control system and the expansion of the burglar alarm system in the administration building, in the contract award procedure for monitoring the Bartensleben waste rock pile, in maintenance measures (such as wastewater/rainwater pipes, Morsleben information centre) and lower energy consumption.

Decommissioning of the Gorleben mine

The Gorleben site is no longer part of the site selection procedure for a repository for high-level radioactive waste. In the interim report on sub-areas published on 28 September 2020, the Gorleben-Rambow salt structure is not designated as a sub-area and is therefore excluded from the further site search process. The Gorleben mine is therefore no longer to be kept open in accordance with section 36 (2) third sentence StandAG. Following approval by the Supervisory Board, the shareholder meeting commissioned BGE in 2022 with the decommissioning of the Gorleben mine.

Backfilling operations to close the mine began in November 2024, thus reaching an important milestone. For backfilling, salt, which was accumulated during excavation of the Gorleben mine, will be taken from the salt heap and brought underground. Talks were held with potential

disposal companies to clarify the handling of any remaining material from the residual waste dump.

Preparation of the final operating plan, which includes the description of all measures required for decommissioning the mine, began in 2024.

In 2024, the costs in the Gorleben project were below budget estimates in the supplementary economic plan, as backfilling of the mine was delayed until after the main operating plan was approved at the end of November 2024. This also resulted in lower energy costs.

Site selection procedure

The site selection procedure consists of three phases. The first phase with two steps concludes for BGE by informing the Federal Office for the Safety of Nuclear Waste Management (BASE) about siting regions for above-ground exploration. After reviewing BGE's proposals and the public participation procedure, phase I ends with the determination of the site regions to be explored above ground and the definition of the exploration programmes by the Bundestag. Phase II includes the above-ground exploration with a proposal for underground exploration of the sites. Phase III concludes the underground explorations with a site comparison and proposal.

The site selection process is currently in step two of phase I where work to achieve the milestone 'submission of the proposal for the siting regions including above-ground exploration programmes' is underway. In 2024 specifically, methodological work on carrying out the representative preliminary safety investigation, the repeated application of the geoscientific assessment criteria (geoWK), the possible application of the planning science assessment criteria (planWK) and the site-related exploration programmes were continued. The representative preliminary safety investigation has a significant restrictive effect in narrowing down the 90 selected sub-areas as a result of step 1 of phase I to a few siting regions for above-ground exploration. At least one representative preliminary safety investigation must be carried out in each sub-area; according to current planning, these will continue until the end of 2026. Submission of the proposal for the siting regions to be explored above ground to BASE is planned for the end of 2027. On the way to the siting regions, BGE published on 4 November 2024 work progress information from the representative preliminary safety investigations in the form of initial areas in category D (unsuitable) and category C (low suitability) from test steps 1 and 2 of the representative preliminary safety investigation that have already been completed as well as the remaining areas (no classification has yet been made and areas in categories B (good suitability) and A (best suitability) may be included in addition to areas in categories D and C). Overall, the number of sub-areas thus decreased by 18%. The sub-areas will be narrowed down further in 2025.

As an important information tool, BGE introduced the Repository Search Navigator as a web tool that can be used to visualise and track the progress of the site selection process on the Internet.

Work was also carried out on cross-phase tasks. These either have no direct influence on the achievement of the milestone 'submission of the proposal for the siting regions including above-ground exploration programmes' or extend beyond this milestone.

These operations include, for example, repository container development and above-ground facility

planning for the future repository. Site selection costs in 2024 were below budget estimates in the supplementary business plan. The main deviations result from the following measures:

The additional costs in the GeoMeter R&D project are offset by lower costs for repository container development in the host rock 'clay' due to the termination of a contract as well as lower costs for legal support and the processing and evaluation of geological, hydrogeological and seismic data, for which fewer external support services were required.

Product control

As part of product control, checks are carried out to ensure that waste complies with the applicable final disposal conditions at Konrad and the requirements of water law.

An annual plan coordinated with the applicants was drawn up for the qualification of waste containers. For 2024, the submission of 394 application documents by waste producers was planned; 536 applications were actually received. This corresponds to a target/actual deviation of +36%. The technical assessment in the area of product control of radioactive waste and container type testing was carried out with the involvement of experts. They were commissioned with a total of 537 test procedures in 2024 and submitted 514 test results and opinions. During the same period, product control issued 397 notices within the scope of radiological examination and 27 notices as part of container design tests. In 2024, a total waste container volume of 8,454 m³ underwent radiological product control, of which 3,924 m³ were already packed Konrad containers and 4,530 m³ for waste products (drums). The waste products are treated as if they were packed in order to derive the potential container volume (simplified approach: number of waste products * 0.71 m³).

The cost-covering and cost-by-cause billing system for waste producers for product control purposes was introduced in the second half of 2024 following approval by the shareholder.

In 2024, coordination with the waste originators and the Lower Saxony State Agency for Water Management, Coastal Defence and Nature Conservation (NLWKN, *Niedersächsischer Landesbetrieb für Wasserwirtschaft, Küsten- und Naturschutz*) on the material description of radioactive waste was continued on an ongoing basis as part of the extended water law permit (gwE, *gehobene wasserrechtliche Erlaubnis*). Work with energy utilities focussed, among other things, on the description of existing mixed waste and future mixed waste. In addition, coordination continued with the energy utilities subject to the process of the Commission for Reviewing the Financing of Nuclear Energy Phase-out (KFK, *Kommission zur Überprüfung der Finanzierung des Kernenergieausstiegs*) regarding the adaptation of work within the framework of the complete list of relevant substances established under this process.

BGE is constructing the Konrad repository on the basis of the planning approval decision and, among other things, the pending extended water law permit. The quantities of non-radioactive substances that can be stored are limited for the Konrad repository. In order to be able to store the 303,000 m³ of waste container volume envisaged for the Konrad repository, a procedure was developed by the Federal Office for Radiation Protection (BfS) together with the Lower Saxony State Agency for Water Management, Coastal Defence and Nature Conservation (NLWKN) in

2011 to implement the ancillary provisions of the extended water law permit. However, the implementation of this procedure has not as yet led to the desired result due to the reduction of the limit values in conventional water law.

As part of an internal project on the handling of the extended water law permit for Konrad, examinations are thus underway as to how the storage of all waste can be realised. To this end, the current procedure and possible alternatives were reviewed with the involvement of legal experts. In the interim result, the results were weighed up. In particular, a distinction was made between technical and legal risks. With regard to the next steps, a decision was made to focus on a review of the technical verification methodology.

Development work on solutions relating to the total inventory to be stored in conjunction with the requirements of the water law permit is being continued on an ongoing basis.

Overarching

In November 2024, BGE organised the 9th International Conference on Clays in Natural and Engineered Barriers for Radioactive Waste Confinement (Clay Conference) in Hanover in cooperation with the Federal Institute for Geosciences and Natural Resources (BGR, *Bundesanstalt für Geowissenschaften und Rohstoffe*). 466 participants from over 25 countries met to present and discuss the latest research and development findings on clay rocks. The scientific programme was divided into seven overarching plenary sessions and 18 sessions dedicated to specific technical topics. A total of 130 lectures and 221 poster presentations were given.

Development of the traffic management and collision prevention system continued in the ‘fleet management’ project. The first sections of the test drift were built at the technical centre. At the same time, technical development of the ‘collision warning’ and ‘rescue management’ modules is also underway.

In 2024, ‘Building Information Modelling (BIM)’ was further expanded and supplemented by two new approaches. Firstly, photo documentation of construction progress was tested using 360° cameras. This method enables employees to compare the current status (photo documentation), the model and the plans (target status) at any location. Secondly, a platform-based review of planning content was introduced. The platform supports project teams in structuring planning content, coordinating review processes and efficiently organising communication between those involved.

The main areas of communication in 2024 were the work progress publications from the representative preliminary safety investigations of the site selection process to determine the site regions with the disclosure of the first areas of category D (unsuitable) and C (low suitability), the review of the safety requirements for the Konrad repository, in particular, the presentation and discussion of the preliminary results of phase 2 to the expert public, and the changed salt water ingress situation in the Asse mine.

An environmental management system in accordance with EMAS (Eco-Management and Audit Scheme) is gradually being introduced at all BGE sites. In 2024, the first monitoring audit for energy management in accordance with ISO 50001 was successfully completed.

The assessment notice for inspection carried out by the Federal Office for the Safety of Nuclear Waste Management (BASE) in 2022 in accordance with section 58 (4) AtG has been received. BGE will address the findings listed therein in 2025 and the following years.

Overheads were significantly higher than planned, as a provision for VAT risks from the tax audit at BGE was recognised as a precautionary measure (see also the explanations on tax risks from the tax audit in the 'Opportunity and risk report' chapter).

RESULTS OF OPERATIONS, FINANCIAL POSITION AND NET ASSETS

Net assets and financial position

Total assets increased by €36,938,000 compared to the previous year and now amount to €223,268,000 (previous year: €186,330,000). This is mainly the result of the increase in receivables from the shareholder (due to liabilities and provisions that have not yet become cash-effective) and, on the liabilities side, the increase in liabilities and provisions.

Fixed assets totalling €4,531,000 (previous year: €4,559,000) include €3,841,000 (previous year: €3,909,000) in property, plant and equipment (land, rights equivalent to land and buildings) and €690,000 (previous year: €690,000) in financial assets (shares in affiliated companies).

The reported property, plant and equipment (Peine property) was recognised at cost and offset against the tenant's loan granted to the seller. Other property, plant and equipment in conjunction with the property in Peine was recognised at cost and offset against the investment grants paid by the shareholder in the same amount (net method), so that the respective assets are recognised at a carrying amount of zero. Accordingly, no depreciation is recognised for these assets.

In addition to receivables from the shareholder totalling €196,847,000 (previous year: €155,812,000), current assets include advance payments to contractors (€10,432,000; previous year: €11,446,000), other assets (€7,867,000; previous year: €12,514,000) and bank balances (€828,000; previous year: €448,000).

On the liabilities side, current assets are mainly offset by accounts payable, other liabilities and provisions.

Provisions increased to €109,400,000 (previous year: €86,157,000) and result from the following circumstances: pension provisions and similar obligations (€17,110,000; previous year: €15,423,000), outstanding invoices (€41,176,000; previous year: €48,390,000), procedural costs for the decommissioning of the Morsleben repository for radioactive waste (€4,867,000; previous year: €5.614,000) and for the decommissioning of the Asse II mine (€2,917,000; previous year: €3,282,000), tax risks arising from a tax audit (€34,139,000); previous year: €5,538,000), personnel obligations (€9,113,000; previous year: €7,853,000) and costs for the annual financial statements (€78,000; previous year: €58,000).

Within liabilities (€109,064,000; previous year: €95,015,000), accounts payable are the largest item at €69,889,000 (previous year: €65,721,000). Other liabilities (€32,789,000; previous year: €24,305,000) mainly include sales tax and wage tax liabilities still to be paid. Further liabilities totalling €6,254,000 (previous year: €4,989,000) exist towards the shareholder and the subsidiary BGE TECHNOLOGY GmbH.

Equity was reduced to €4,804,000 in 2024 due to the distribution of the 2023 profit of BGE TEC (€171,000) to the shareholder. The equity ratio is 2.2% (previous year: 2.7%).

The financial position is secured at all times thanks to the financing provided by the shareholder from federal budget funds. For this reason, separate credit lines with banks are not required and are therefore not maintained.

Earnings position

The company’s revenue increased by €92,947,000 to €734,454,000 in 2024 (previous year: €641,507,000). This includes sales to the shareholder totalling €734,065,000 (previous year: €641,073,000), to subsidiary BGE TEC from services billed as part of the management and service agreement totalling €291,000 (previous year: €346,000) and from canteen operations totalling €98,000 (previous year: €88,000).

Other operating income (€4,994,000; previous year: €3,538,000) mainly includes income from the reversal of provisions due to risks that did not materialise totalling €3,691,000 (previous year: €2,649,000), from offset benefits in kind, from ticket sales and sponsorship income for the organisation of the 2024 Clay Conference as well as from reimbursements from energy suppliers and the employers’ liability insurance association totalling €1,303,000 (previous year: €889,000).

Operations management costs totalling €739,593,000 (previous year: €645,048,000) are broken down as follows:

	2024	2023
	€1,000	€1,000
Cost of materials	422,423	387,356
– Expenditure on raw materials, consumables and supplies	63,946	49,873
– Expenditure on services purchased	358,477	337,483
Personnel costs	254,509	227,852
Depreciation	68	68
Other operating expenses	33,497	29,873
Interest and other expenses	3,927	439
Income taxes	-11	-610
Other taxes	25,180	70
Total	**739,593**	**645,048**

Expenditure on services purchased includes, in particular, services purchased under contracts for work and services, energy costs, employee leasing, maintenance measures and security services.

Personnel costs include all wages and salaries, social security contributions and pension expenses.

Other operating expenses totalling €33,497,000 (previous year: €29,873,000) mainly include general administrative costs, including rental expenses, expert and external support services, ancillary personnel costs and fees in conjunction with mining law and nuclear regulatory supervision.

Expenses for the formation of a provision for tax risks from the tax audit are recognised under other taxes.

PERSONNEL AND SOCIAL REPORT

Personnel development

As per 31 December 2024, the company had 2,482 employees at a total of eight sites, divided into 2,332 direct employees (annual average 2,200), 69 civil servants and public sector employees assigned by the Federal Office for Radiation Protection and 81 temporary employees.

In 2024, a total of 65 new hires were made on the basis of 176 job advertisements; this includes 19 temporary employees who were taken on mainly on fixed-term contracts. In addition, the employment contracts of 50 employees were changed from fixed-term to open-ended contracts. As per 31 December 2024, the company had a total of 59 fixed-term employment contracts.

On the balance sheet date, seven of the 16 Supervisory Board mandates were held by women (43.8%). On the balance sheet date, two of the three management positions were held by women (66.7%).

For management levels 1 3 (division, staff unit, department and group management), BGE has set a continuous increase in the proportion of women at level 1 to 40%, at level 2 to 35% and at level to 3 to 30% in the 2024-2027 equality plan. As per 31 December 2024, the proportion of women was 33.33% at management level 1, 21.67% at level 2 and 25.0% at level 3.

A large number of different company regulations, including general works/company agreements, were revised, reorganised and negotiated.

Training and professional development

As part of professional development, 3,419 training measures were organised for employees, which mainly served to maintain or develop their skills and qualifications.

In 2024, all 16 apprenticeships and two places on the dual study programme were filled. Forty-seven trainees were employed at four locations as per 31 December 2024. Eight trainees successfully passed their exams, four of whom were offered fixed-term contracts and three permanent contracts. One training contract was not converted into an employment relationship.

Occupational health and safety

Occupational safety is a top priority when planning and executing any kind of work.

Just like the previous year, the total number of accidents at the company comprises seven reportable accidents at BGE (2023: seven) and three at contractors (2023: three).

In 2024, occupational safety also focused on behavioural prevention as part of the occupational health and safety culture development programme ‘Safe and healthy? What else!’ As part of these efforts, employee courses were held under the leadership of managers and partner companies were also integrated into the programme for occupational health and safety-compliant leadership. BGE’s occupational health and safety management system was successfully recertified with the ‘Systematically safe’ seal awarded by the employers’ liability insurance association.

BGE 2024 also launched an initiative to standardise the implementation of statutory risk assessments across BGE and carried out activity and health days at all sites with offerings that included screenings, bio-impedance analyses and additional activities.

A workplace programme for the prevention and reduction of work-related strain on the musculoskeletal system was carried out in defined small groups for operational areas in shift work (including the Asse drilling operation, Konrad maintenance, Morsleben above ground). A similar programme is being implemented for the ‘white collar’ colleagues target group.

FORECAST, OPPORTUNITY AND RISK REPORT

Opportunity and risk report

Risk strategy

BGE’s risk management is based on and forms an integral part of the overarching corporate strategy. BGE’s risk strategy is focussed on safety. Safety-related risks are considered in such a way that safety is always given due priority. In this sense, BGE is risk-averse with regard to all forms of safety impact. This applies equally to non-compliance with laws and sub-legal regulations as well as with regard to reputation. Avoidance of these risks is a basic prerequisite for the successful realisation of BGE’s repository tasks.

Provided that the aforementioned aspects remain unaffected, BGE pursues an opportunity-orientated strategy, particularly with regard to deadline-related risks of major projects. This means that risks are consciously taken while weighing up various factors in order to successfully realise the repository projects with their size, complexity, external deadline expectations and normative requirements.

Structure and organisation of risk management

BGE has a company-wide risk management system that is based on DIN ISO 31000 and DIN EN 31010. It works closely with the internal control system (ICS) and is supported by Internal Audit as a process-independent control and advisory body as required. A binding company-wide guideline with procedural instructions regulates the requirements for risk management.

BGE’s risk management system is organised in such a way that primary responsibility for risks lies with the project and division managers, who are responsible for identifying, analysing and assessing risks and initiating suitable risk management measures. Within these organisational units, risk

coordinators are responsible for the respective risk management activities. At company level, Central Risk Management is responsible for standardised processes and procedures in the implementation of risk management. Central Risk Management is also the point of contact for the risk coordinators and is responsible for reporting, identifying strategic risks and coordination at company level, among other things. At the same time, Central Risk Management is responsible for the further development of the company-wide risk management system. The quality and effectiveness of the risk management process is ensured by the continuous improvement process (CIP).

The holistic risk management process is carried out on a quarterly basis. The relevant risks in all areas of the company are identified, analysed and evaluated in terms of their quality and quantity using a stochastic scenario analysis. Identified risks are divided into nine categories according to their causes. Following the risk assessment, risk management measures are defined and their effectiveness is regularly reviewed and a new risk analysis carried out. The results of risk analyses are taken into account in the planning estimates.

Central Risk Management collates the risk registers and determines the aggregated overall risk situation. The key information on the overall risk situation and priority risks is presented in a quarterly risk report and submitted to the Management Board, the shareholder and the Supervisory Board. In addition to the quarterly risk report, special reports on specific topics are prepared as required.

The risk situation is covered by regular risk reporting. The project-specific risk situation and the prioritised risks of major projects are discussed in the steering committees that meet several times a year. In addition, further dialogue formats are available for an integrative view of risk-relevant issues. In preparation for important operational and strategic decisions, risks and opportunities associated with the decision are analysed in detail and formulated in a proposed resolution.

BGE's Supervisory Board is regularly informed about risks relevant to the company.

Risks that are identified between the reporting dates are immediately reported to the risk owners in the form of an ad hoc report.

Internal Control System (ICS)

The internal control system is another key component of company-wide risk management. The ICS ensures the integration of controls and processes in order to strengthen BGE with a view to its risk management. It is designed to ensure that process risks, in particular, violations of internal and external regulatory requirements, are identified, minimised or avoided in good time. The ICS addresses all aspects of BGE, both financial and non-financial.

As part of the ICS, all areas of the company (with the exception of product control) were reviewed in 2024. The area of product control was not considered in 2024 because no issues were found there in audits of previous years. The area will be reviewed as scheduled in 2025.

The tax compliance controls were reviewed with the involvement of the compliance officer and the tax compliance officer. Furthermore, in 2024, all risks covered by the ICS were mapped with the associated controls in business process management software and linked to the corresponding processes (where modelled).

Overall risk situation

There are no going concern risks that could have a significant impact on BGE's net assets, financial position and results of operations and jeopardise its continued existence, as the costs of economic management are reimbursed by the BMUV from the federal budget on a cost price basis.

The risk complexes relevant to the company from BGE's perspective are presented below.

Delays in approval procedures and legal action against decisions

A large number of approvals from various areas of law, such as nuclear and mining law, must be obtained and complied with for the search for, construction and decommissioning of repositories. If approval risks materialise, this generally has a major impact on schedules, which can lead to time-critical effects in major projects. One of the reasons for these risks is delays in approval procedures. Firstly, the application documents are submitted to the approval authorities later than planned because the process of preparing documents such as earthquake calculations or technical preliminary test documents for components is very complex. Furthermore, there is not always consensus regarding the requirements for the application documents, or experts are involved too late.

In addition, the quality of the application documents submitted may be inadequate, which can result in unnecessary revision cycles. What's more, authorisation procedures can be delayed due to additional requirements and change requests from experts as well as a lack of human resources at authorities and expert bodies. Moreover, executing approvals may require additional time for approval-compliant processing of conditions and ancillary provisions, which BGE can only predict with a high degree of uncertainty.

In particular, the nuclear approval procedures required for implementation planning for the construction of buildings with nuclear relevance are particularly risky, as extensive requirements exist in this area, for instance, for the verification of design-relevant criteria, such as the consideration of earthquake conditions.

Possible legal action against decisions by the approval authority can also cause considerable delays. Legal action generally has a suspensive effect unless immediate enforcement applies by law or is specifically ordered by the authority. If an appeal has no suspensive effect, BGE could – at its own risk – continue its projects as planned for the time being, unless the court orders or restores the suspensive effect upon a party's request.

Risk management measures:

The implementation of risk minimisation measures is a particularly high priority due to the significant time impact. Depending on how it is organised, the newly created Central Approval Management department will consider the diverse and complex tasks across the company and develop overarching approval strategies where necessary.

What's more, BGE initiates the approval procedures as early as possible and works closely with all approval authorities in good time in order to identify the requirements for the application documents and enable the necessary resource planning. In order to manage risks, the public in particular is also involved in the run-up to the approval procedures through exchange formats with environmental and nature conservation associations. Furthermore, should changes to plant parts, systems and components become necessary, for example, the necessary requirements for the documents in the approval procedure under nuclear law are coordinated with the authority at an early stage in order to speed up

this procedure. The risk of litigation itself cannot be ruled out. The aforementioned measures are designed to increase acceptance of the projects. In addition, an order for immediate enforcement is sought.

Radiological damage

There is a risk of employees and/or the general public being exposed to radiation from waste in BGE's mines. Incidents can lead to long downtimes at the facilities. BGE's reliability and professional competence may be called into question. One focus is the risk of radiation exposure in the event of an inflow of salt solution beyond design levels in the Asse mine without sufficient time remaining for the full implementation of the contingency measures under the contingency planning regime. The main reasons for this are, on the one hand, the precautionary measures defined in contingency planning but not yet fully implemented, which are realised in advance to establish contingency preparedness and, on the other hand, the contingency measures that have not yet been fully prepared, which are implemented after the emergency has been identified (inflow of salt solution beyond design levels) and will take some time. Keeping the mine open for a long time increases the probability of an inflow of salt solution beyond design levels. Proper operation and the retrieval of waste from the Asse mine are no longer possible when the inflow of salt solution beyond design levels occurs.

Risk management measures:
BGE has a comprehensive safety and radiation protection management system that has been approved by federal-state ministries and the Federal Office for the Safety of Nuclear Waste Management (BASE). The main focus of risk reduction at the Asse mine is on the further implementation of the precautionary measures under the emergency plan to reduce the probability of occurrence and impact of an inflow of salt solution beyond design levels in the Asse mine.

Hazards of the continuous storage operation at Konrad

Due to pending determinations and open application procedures as part of the supervisory procedure for the implementation of the ancillary provisions of the extended water law permit for the Konrad repository, approval of substance list entries by the competent authority is currently not possible. This is due to changes in conventional water law, which must also be applied to Konrad (dynamic reference). A final material characterisation by the applicants and the subsequent evaluation and approval of waste containers for storage in the Konrad final repository by Product Control is therefore not possible, meaning that only interim notices or notices confirming compliance with radiological requirements can be issued now.

Changes in water law must always be taken into account and usually lead to stricter limit values that must be complied with. Such changes also apply to waste containers that have already been approved.

There is a risk that not enough waste containers will be available to ensure continuous storage in the Konrad repository.

Risk management measures:
Extensive coordination meetings between BGE and the relevant authority are being held on an ongoing basis for approval of substance list entries. In addition, possible alternatives for dealing with the extended water law permit are being examined.

Land acquisition not successful in time/ lack of rights of use and access

BGE's projects require the acquisition of additional land not yet owned by BGE. Land acquisition negotiations with owners are often difficult and can fail in the worst case. Land acquisition negotiations harbour the risk of additional financial expenditure on the one hand and critical delays on the other, which could seriously jeopardise project objectives. The risk currently specifically relates to the planned retrieval of radioactive waste from the Asse II mine. It is not yet foreseeable whether it will be possible to acquire all the land required for the construction of the waste treatment plant and the interim storage facility.

Furthermore, access and use rights must sometimes be obtained in the run-up to planning and executing construction projects, for instance, for subsoil exploration or for above-ground exploration in the site selection process. The risk of use and access rights not being obtained is also of particular relevance for the sites to be explored, as this could significantly delay the site selection process.

Risk management measures:
These risks will be minimised through targeted communication measures.

Accidents (damage) and serious industrial accidents

There is a risk of serious or fatal injury to employees as well as considerable material damage. Accidents and serious industrial accidents can result in long downtimes of facilities. BGE's expertise and professional competence may be called into question by identified stakeholders, leading to a risk of reputational damage.

Risk management measures:
BGE has an occupational safety management (system) that goes beyond legal requirements. Staff units have been set up at the sites and across all sites to support the responsible managers and authorised officers in their area of responsibility for occupational safety. Internal audits, inspections, methodical systemic analyses of incidents or information from employees are used to identify, implement and review the effectiveness of measures in an interdisciplinary manner with the relevant roles and stakeholders.

Plans exist to introduce occupational safety management software throughout the company to control, implement and document the binding obligations relevant to occupational safety and health.

As part of preparatory activities for the introduction of the safety-orientated integrated management system, potential for improvement in the company's organisational structure was identified (including company-wide harmonisation of hazard assessment procedures, integration of the existing occupational health and safety management manual into the higher-level management manual and transfer of employer duties in occupational health and safety).

As the organisation's decision-making body that meets semi-annually, the Occupational Safety Steering Committee advises and decides on the strategic implementation of occupational safety at BGE. Based on the membership of this steering committee, effective decisions can be made regarding, for instance, occupational safety-related programmes or fundamental adaptation requirements for the process organisation.

Shortage of skills and applicants

The phase-out of commercially utilised nuclear energy and the extraction of fossil fuels is leading to a shortage of young talent in occupational groups relevant to BGE. As a result of the phase-out, training centres such as nuclear facilities, mines or mining-related companies as well as research and teaching (universities, research institutions) will no longer be available. This makes it increasingly difficult to maintain long-term expertise and recruit staff in the German-speaking market. The required specialists are not sufficiently available on the labour market for certain technical and scientific subjects. This means that BGE may experience a shortage of young talent and delays in project work. In addition, changes in the staffing of key positions can lead to a loss of experience and expertise. This can also have a negative impact on securing the availability of personnel needed to comply with approval prerequisites (such as personnel required under nuclear law).

Risk management measures:

The aim of prospective personnel planning is to recognise the need for skilled employees at an early stage and recruit them accordingly. This includes recruitment of university graduates and their training and long-term familiarisation with the specialist topics relating to repositories.

A pool of experts for specific tasks will be set up for the technical department and made available to the projects according to the tasks at hand. HR marketing activities and tools are being further expanded in order to increase awareness of BGE on the labour market.

The Knowledge Management and Change group was integrated into the Human Resources department at the end of 2024 in order to pool the experience available at BGE in one unit.

Risks arising from the tax audit

There is a risk that BGE, as the legal successor to Asse-GmbH, will have to pay to the tax authorities the double VAT payments of over €30 million plus interest for the years 2013 and 2014 that were wrongly recognised in the VAT assessments from the pre-tax audit of Asse-GmbH (in accordance with the current legal interpretation of the tax authorities). According to the new legal interpretation of the tax authorities based on ECJ case law, incorrectly stated VAT amounts in invoices to end consumers are also not owed by the company issuing the invoice. This means that the invoice adjustments due to cancellation of the 2013 and 2014 annual accounts of Asse-GmbH to remedy the VAT allegedly reported twice in the 2013 and 2014 accounts do not lead to a VAT refund claim (as there was no double VAT payment), which means that the VAT claims from 2013 and 2014 from the pre-tax audit are no longer offset. The incorrectly issued VAT assessments for 2013 and 2014 can no longer be amended, as the statute of limitations applies to the VAT assessments for 2013 and 2014.

Risk management measures

As a result, BGE would be subject to a double VAT assessment for turnover in 2013 and 2014. This is fundamentally contrary to the legislation, which is why BGE believes that it must at least enjoy protection of confidence with regard to the tax assessment from the pre-tax audit pursuant to section 176 of the Fiscal Code of Germany (AO, *Abgabenordnung*). Alternatively, the tax authorities could issue a different tax assessment notice on the grounds of equity (section 163 AO) or grant tax remission (section 227 AO). If the tax authorities do not accept the arguments, BGE would have to take legal action against the taxation.

Compliance violations in conjunction with possible corruption cases

According to the national corruption situation report published by the Federal Criminal Police Office in September 2024, the number of corruption offences rose by 6.7% to 3,841 in 2023, following a significant decline in 2022. Just under half of corruption offences in 2023 were directed against the economy and more than a quarter against the general public administration.

As an economic player, but also as a federal company with sovereign tasks in the area of product control, BGE is in the direct target and risk area of corruption, even if there were no indications of corruption in 2024. Against this backdrop, the cross-divisional corruption risk, in particular, potential reputational damage, is considered to be high, although the probability of occurrence is only classified as possible.

Risk management measures:
Key measures to reduce the risk of corruption at BGE are derived from the Federal Government's directive on the prevention of corruption in the federal administration of 30 July 2004. The aim of implementing the regulations contained therein at BGE is to protect BGE and its employees from the risk of corruption. BGE's Code of Conduct, which has been in force since June 2023, also raises awareness of legal risks and helps to prevent violations of laws. In 2024, communication and training measures to create knowledge and understanding of the corruption prevention measures contained in these regulations were once again stepped up significantly.

In order to be able to intensify organisational control measures in addition to measures to raise employee awareness in the future, a systematic process was also employed to identify work areas at risk of corruption.

To support the detection of corruption, a whistleblowing system in the form of a reporting and complaints centre was set up at BGE at the end of 2023 and further developed in 2024. The whistleblower system is designed to give both employees and external parties the opportunity to report suspected cases of corruption as well as compliance issues.

The key elements of the anti-corruption programme are also part of BGE's compliance management system which is designed in accordance with 'IDW Auditing Standard for the Audit of Compliance Management Systems (CMS) – IDW PS 980'.

FORECAST REPORT

With regard to the costs forecast, reference is made to the table in the ‘control system’ section. The milestones on which the 2025 business plan is based are reported on a quarterly basis. Changes are presented in the quarterly reports.

Due to the persistently high level of inflation, further price increases are to be expected, which will have a direct impact on the costs of ongoing projects. This development must be closely monitored to ensure compliance with the 2025 budget provided by the BMUV from the federal budget.

Construction of the Konrad repository

Completion of the remaining work to construct the conveyor and loading facility at the Konrad 1 mine is scheduled for 2025.

At the Konrad 2 mine, assembly of the winding tower is scheduled to begin, construction of the puffer hall will start and work on the reloading hall will continue. Installation of the inner shells in the area of the shaft landing on the 2nd level is also to be continued.

In the mine, installation of the workshop equipment on the 2nd level is to be continued and installation of the backfill processing system is to be completed.

Decommissioning of the Asse II mine

From the second quarter of 2025 – starting with the application letter – the application documents for application complex I (new construction of the Asse 5 shaft and conversion of the exhaust air) are to be submitted to the licensing authority, i.e., the Lower Saxony Ministry for the Environment, Energy and Climate Protection (MU). Furthermore, the spatial compatibility assessment for the overall project is to be finalised with regional planning approval by the Braunschweig Regional Development Agency.

In order to stabilise the mine workings, backfilling of roof gaps and residual cavities in unused mine workings is to be continued. Construction of two flow barriers is also planned. Work on stabilising the collection system for the salt solution entering the mine will continue in 2025.

Construction of the technical equipment for the new underground emergency storage facilities (cavern drifts on the 825-metre level) and of the emergency construction materials facility is due to begin.

The draft plans for the waste retrieval procedures from the 511-metre level and the 725-metre level are due to be finalised.

Furthermore, planning for the retrieval of radioactive waste from the 750-metre level and the development of retrieval techniques (retrieval machinery) for all three levels will continue.

Construction of office building 20 is also to be continued and construction of the radiation protection laboratory completed.

Revision of the retrieval schedule is scheduled for 2025.

Decommissioning of the Morsleben repository for radioactive waste

Decommissioning planning for 2025 focuses on continuing construction of the external demonstration structures, finalising the measurements at the demonstration mine at the Morsleben repository for radioactive waste (ERAM), and preparing procedural documents, in particular on the topics of ‘Fundamentals’, ‘Forecasts with/without technical measures’, ‘Decommissioning measures’ and ‘Safety assessment’.

Mapping and reporting for the EIA will continue in 2025.

In preparation for decommissioning the ERAM, dismantling of the special sewerage system inside the container hall is to begin and approval planning for dismantling the above-ground controlled area is to be finalised.

Gorleben

As part of the closure of the Gorleben mine, backfilling of the workings and dismantling of the salt dump will continue.

Planning for backfilling the shafts has also begun.

Site selection procedure

The site selection project for 2025 is also focussing on work to identify site regions for above-ground exploration.

During the identification of potential siting regions, the implementation of the representative preliminary safety analyses is the most effective tool to narrow down the size of the sub-areas and thus constitutes the greatest workload in 2025. In 2025, geoscientific work will be continued as part of the representative preliminary safety investigation. This specifically includes the preparation of geological overviews, the evaluation of geological data and the assessment of sub-areas on the basis of a total of four test steps, each with assigned host rock-specific criteria of the representative preliminary safety investigation. In the first test step, criteria derived from the exclusion criteria and minimum requirements are evaluated. This is followed by an assessment of potentially suitable areas as part of a test step for the qualitative assessment of safe containment, where, for example, the spatial characterisability or the configuration of the rock bodies is assessed. A detailed geoscientific characterisation is carried out for areas that pass an evaluation of previous test steps, which then forms the basis for determining the most suitable areas.

As part of the tasks relating to the preliminary safety investigations, which essentially comprise the assessment of safe containment, expected and deviating developments will also be recorded in 2025 and the mass and material discharge will be assessed in accordance with the Ordinance on requirements for conducting preliminary safety investigations in the site selection process for the final disposal of high-level radioactive waste (*Verordnung über Anforderungen an die Durchführung der vorläufigen Sicherheitsuntersuchungen im Standortauswahlverfahren für die Endlagerung hochradioaktiver Abfälle*) and the Ordinance on safety requirements for the final disposal of high-level radioactive waste (EndlSiAnfV, *Verordnung über Sicherheitsanforderungen an die Endlagerung hochradioaktiver Abfälle*).

In 2025, work will continue on developing concepts for repository containers in the host rocks, i.e., clay and crystalline host rock. Development work on concepts for the containers in rock salt is to begin. Furthermore, concept planning of the required above-ground nuclear and conventional facility components for the construction of a repository for high-level radioactive waste will continue.

Product control

With a view to the safety of a repository in the operational and post-operational phase, the radioactive waste containers to be disposed of must fulfil specific requirements for waste product quality, waste containers and the radioactive and material inventory.

Product control focuses on the review and approval of repository documentation for radioactive waste, process qualification of conditioning procedures with review and approval of flow charts and applications for amendments to flow charts as well as container design tests that have already been approved. The largest budget item is external services by independent expert organisations, which are involved as supporting organisations in the areas of type testing and product control of radioactive waste. For 2025, the Product Control department is planning radiological approval of 10,000 m³ of waste container volume.

In addition to the pure product control measures, work will also be carried out in 2025 on the further development of the NWL (Nuclear Waste Logistics) system and on the implementation of the material declaration of radioactive waste in the Konrad water law procedure.

Overarching

The IT security concept will be updated in 2025 and the digitalisation projects for the mines will be continued. This includes the development of concepts and support for the development of battery-powered machinery as well as pilot projects for traffic route management and the use of driver assistance systems, which are intended, among other things, to increase safety when using heavy machinery and vehicles underground. In the ‘Fleet management’ project, the ‘collision warning’ module is to be finalised.

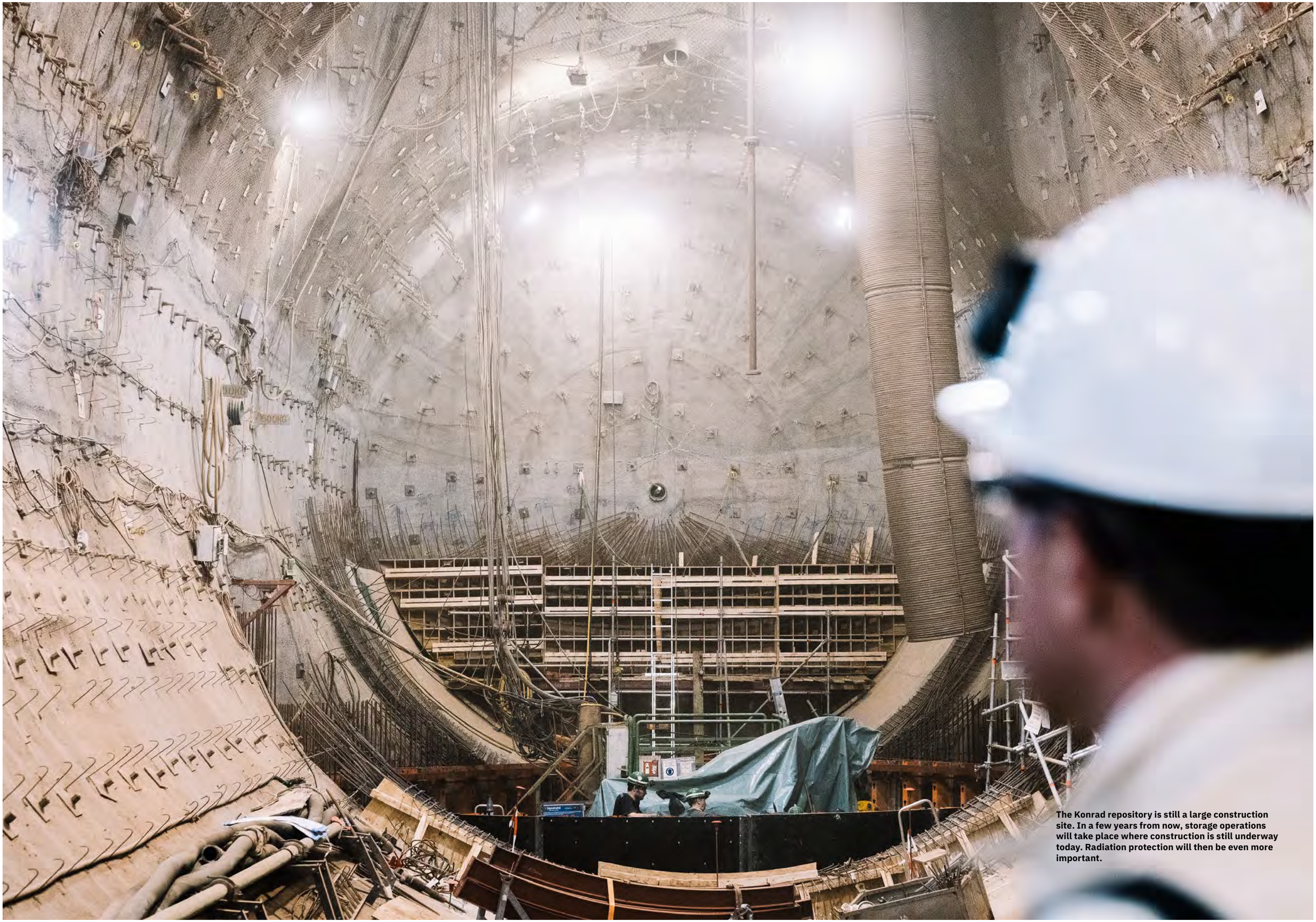
Work in 2025 will also focus on meeting the requirements issued by the Federal Office for the Safety of Nuclear Waste Management (BASE) from the review in accordance with section 58 (4) AtG.

Peine, 31 March 2025

Iris Graffunder
Chairwoman of the Management Board

Marlis Koop
Managing Director and Labour Director

Dr Thomas Lautsch
Technical Managing Director



The Konrad repository is still a large construction site. In a few years from now, storage operations will take place where construction is still underway today. Radiation protection will then be even more important.

Imprint

Bundesgesellschaft für Endlagerung mbH (BGE)
Corporate Communications and Public Relations

Eschenstraße 55,
31224 Peine
Phone: ++49 (0) 5171 43-0

www.bge.de
www.einblicke.de

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Cornelia Gonet, Greta Grocholewski, Arne Nowacki, Martina Schwaldat, Henning Wedekin

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Anna-Kristina Bauer and Andreas Graf
Christian Bierwagen (p. 3)
BMUV/Sascha Hilgers (p. 7)


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(außerhalb von Einlagerungsarbeiten gemäß BTA 5/2)
nur mit DFM gestattet !
Vorsicht!
Erhöhte Strahlung