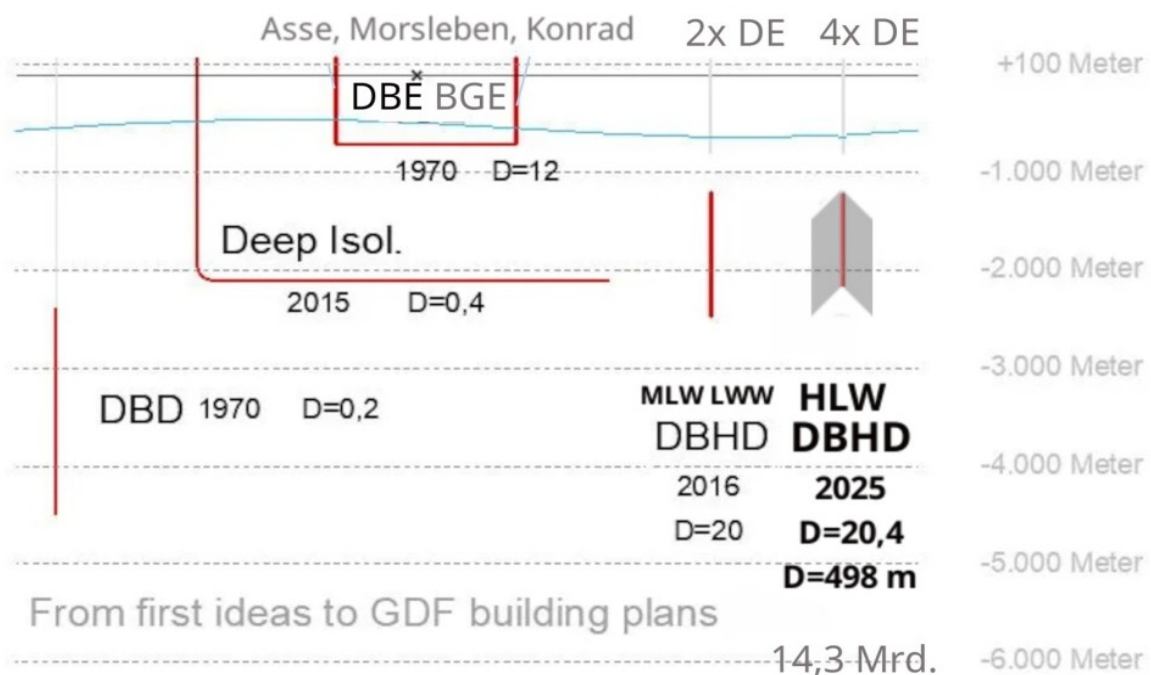




„National Nuclear Waste Management Programme" of the Federal Republic of Germany - for responsible and safe DBHD disposal of spent fuel and radioactive waste - in cooperation with the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Nuclear Safety (BMUKN) - NaPro DE - September 2025



0,9 Mrd. EUR each 1,3 Mrd. EUR each



Ing. Goebel Dez. 2020 Ing-Goebel March 2025

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DBHD GDF
INSTITUTE PLC

Planverfasser Entsorgungs-Vorsorge Nachweis § 9a AtG
Planverfasser Nationales Entsorgungs-Programm BRD
laut EU Gesetz 2011/70/Euratom - Stand AG DE konform

Dear EU Commission.

July 2025



concerning the German reporting dutys regarding the **EU GDF Law 2011/70/Euratom**

we have to confess the German Geological Disposal Facility Generation 1.0 is as bad as possible.

~~Gerleben — HLW — Geophysical Problem ! — bad plans ! — Empty — STOPPED !!!!!~~

~~Morsleben — MLW LLW is in — Water running in — NO CLOSURE possible !!! > 57.000 L/day ?~~

~~Asse — MLW LLW is in — Water running in — Re-trieval not started !!! > 13.000 L/day~~

~~Konrad — MLW LLW — Water running in — Empty — Stopped 2025 !!! > 85.000 L/day~~

it was all : un-deep, therefore wet, no gas-tight closure possible and came without

any proof of eternal undercriticalness under GDF conditions : pressure and heat !!!

Our complete Generation 1.0 GDFs failed completely – PLEASE, do NOT copy that !

BUT - some German and worldwide engineers used these 14 years - since 2011

and developed : **DBHD – Deep Big Hole Disposal – SAFE GDF**

planning with SBR - big size drill tech - by Herrenknecht AG

DBHD 2.0.1 for HLW in deep rocksalt – under 1.100 m Sediment-Overburden

Distribution 5 – 337 m Many Locations possible : Near Beverstedt and Börger

1,3 Bio. EUR per GDF Draft-Plans to scale - for all components - are existing,

„Dr. Herres Cylinder“ Thermodynamic 2D and 3D calculations are fully existing

4 GDFs HLW needed No deep probe drills into deep rocksalt yet undertaken

GDF Container ELB exists, not yet proven and complete

DBHD 2.0.2 MLW LLW Same locations – Draft plans 90 % but not fully complete

0,9 BIO EUR 2x needed No probe drills, but Containers fully existing and packed

1-2

The DBHD GDF plans are so brilliant – that DBHD is likely to become World-Standard.

DBHD GDFs are : deep, dry in rocksalt, come with gastight self closure by mountain-pressure, and prove of eternal undercriticality - because these 1 kg Inventory GDF containers are so small - that no critical mass fits in.

Please see : ing-goebel.com for further information with the original planning data.

We apologise for the fact that our BMUKN offers you a National-Disposal-Program that tells you lies about Konrad, and has put sand in your eyes concerning Stand AG. These people are liewyers – they do not have any idea what happens in GDF Sector.

Please give a warning to all other EU countries NOT to make all these German Generation 1.0 mistakes in their countries – causing pollution and costs – we have payed 13 Bio. EUR already to be able to send you this warning. Take it very serious please.

EU should target and negotiate with Kazakhstan concerning DBHD GDFs in the Pri-Caspian Basin – that is an empty desert with big salt dome geologies under good Sediment Overburden. – Western Technology GDFs meet the required geologies.

It is required that you review EU law 2011/Euratom – taking in account, that Generation 1.0 DID NOT WORK – and – the new drill tech SBR offers GDF a state of technology that is required for **SAFE** Geological Disposal Facilities.

With best regards from Germany to Brussels and Strasbourg

Volker Goebel - and the Geologists, Physicists, Engineers ww

Dipl. - Ing. Architecture – Master of Metal Industry

GDF Planners ww for 14 years



2-2

Can Ing Goebel draw up a NaPro BRD that complies with EU law and the location selection law?

List of mandatory content from EU Law 2011/70/Euratom of the Council of 19 July 2011 :

- "Concepts and plans" from Article 12 paragraph (1) d
- "Estimation of costs" from Article 12 paragraph (1) h
- The repository was developed in a "Transparent" manner from Article 12 paragraph (1) j

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011L0070>
but you do not find the exact words there – this is a translation German > English

Regarding (3) **"...a plan for the disposal of radioactive substances must be submitted"** – YES – DBHD repository plan comes from Ing. Goebel architectural and engineering firm - **NO** – The supervisory authority BASE, the ministry BMUKN, and the construction company BGE did not develop a plan.

Regarding (11) **"... on public participation in the development of certain environmental plans and programs"** – YES – DBHD was created through public participation – in this case, the professional public – a graduate engineer in architecture submits the DBHD concepts, plans, container, costs and locations.

Re (11) **"...on the assessment of the environmental impacts of certain plans and programs"** Both, the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Water Management (BMUKN) and DBHD submitted this report to the Öko-Institut e.V. for critical evaluation.

Regarding (12) **"...financing, as well as financial security and transparency, so that the funds are used exclusively for their intended purpose."** YES – there is a financial security, the KENFO currently has EUR 20.3 billion in its GDF accounts for nuclear repositories. – and – **NO, there is hardly any transparency regarding the annual payouts and use!**

Re (14) **"... in the management of spent fuel and radioactive waste through the improvement of domestic measures and international cooperation."** **NO, the domestic measures have only led to a 44% DE BGE site map in 14 years!!!** – **NO, there are no results from international cooperation from BGE** – YES – DBHD has carried out repository planning within 14 years in cooperation with approximately 34 countries – using swarm intelligence and simply writing letters.

Re (16) **"... In 2006, the IAEA updated the structure of the standards..."** **NO, the IAEA is hopelessly lagging behind in the development of repository planning!!** – They are apparently more interested in nuclear power facilities. – **What the IAEA has published is scandalous and useless.**

Re (19) **"...but radioactive waste is generated in all Member States..."** – YES, that is true, however, some EU states have so little radioactive waste that the construction of a repository would be completely disproportionate. EU law also permits cooperation if a fully functional repository is available in the other Member State.

Re (21) **"...Radioactive waste, including spent fuel, which is considered waste, must be contained and isolated from humans and the living environment for the long term. Its specific properties, namely containing radionuclides, require special precautions to protect human health and the environment from the dangers of ionizing radiation, including disposal in suitable facilities as the final destination ..."** - YES, the DBHD Group has developed a facility for the final destination of spent fuel and vitrified nuclear waste. No, BASE, BfS, BMUKN, and BGE have NOT developed any final destination facilities – but they have developed a 44 % of DE is interesting for GDF Location map ! – Funny isn't it
The blame for this negative development lies with Peter Hart at the BMUKN.

Regarding (23) **"... the typical disposal concept for low- and intermediate-level radioactive waste is near-surface disposal. At the technical and professional level, it is widely recognized that disposal in deep geological formations currently represents the safest and most ecologically viable option for the disposal of high-level radioactive waste and spent fuel elements, which are considered waste."** – NO, it has been found out by Morsleben, Asse, and Konrad that near-surface disposal is technically impossible, because the surface water penetrating shallow, converted old mines leads to wet NON-RESERVATIONS! – The disposal of low- and intermediate-level radioactive waste must therefore also be achieved in deep geological formations. – YES, DBHD has submitted repository plans for high-level radioactive waste, as well as a DBHD repository plan for low- and intermediate-level radioactive waste.

Re (23) **"...their low-, medium-, or high-level radioactive waste, but they should incorporate the planning and implementation of final disposal options into their national policy ..."** - YES, in 2017, following the Repository Commission in the Bundestag, Germany passed a national "Site Selection Act" that establishes reasonable criteria for final repositories. - However, according to research plans by the DBHD, it now turns out that the Site Selection Act needs to be significantly tightened to focus on the criteria: deep, therefore dry, gas-tight sealable, and with the demonstration of permanently subcritical containers. Furthermore, the 100 °C limit temperature at the outer edge of the container is always WRONG, because three limit temperatures are required for three host rocks. The Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Nuclear Safety (BMUKN) has not corrected the Site Selection Act for eight years!!! A correction of the Site Selection Act can only be made by the Environment Committee and Parliament. The stated depths of 100 m minimum and 300 m layer thickness turned out to be completely misleading – in fact, repositories are possible for humans from approximately 1,100 m to 2,200 m, and even within the detection period of 1 million years, the containers sink to approximately 8,400 m.

Re (23) **"...The activities within the framework of the Implementing Geological Disposal of Radioactive Waste Technology Platform (IGD-TP) could facilitate access to expertise and technology in this field."** – NO, IGD-TP unfortunately remained a paper tiger website that had no influence on the repository development. No one there ever had anything – and those who might have had something didn't want to share it there – including DBHD.

Regarding (23) **"...For this purpose, reversibility and retrievability can be used as guiding criteria for the technical development of a disposal system."** - NO, it has been found that truly retrievable repositories have significant safety deficiencies. DBHD therefore had to abandon GTKW, TTEL, and ART-TEL and plan with DBHD. The idea of retrievability is obvious after the Asse decision – but otherwise remains a textual, feel-good gimmick by Nagra Switzerland – to encourage public acceptance – SAFETY and retrievability are unfortunately completely incompatible

Re (24) **"It should be an ethical duty of every member state to avoid placing unreasonable burdens on future generations..."** - YES, that's why the DBHD repository was researched, planned, and drafted by construction planners who themselves still used electricity from nuclear power. - NO, the government agencies are very happy about the generous salaries and want to provide their children and grandchildren with the "repository ticket" - development of gang crime - the government agencies are only dealing with side issues, and in 14 years of this "fake work", the building company BGE, has never developed a repository plan. - Only the BGR has made a serious attempt, which, however, if implemented, could lead to the repository disaster of a fourth wet and unusable Generation 0.1 structure !!! We all fear that BGE is coming out soon with - Near Ulm - near Münster - both crumbling clay.

Regarding (24) **"... the Member States shall demonstrate that they have taken appropriate steps to achieve this objective."** - NO, a 44% BGE map that "at its own discretion" imposed a self-imposed 1,500-meter limit is worthless!!! The BGE GmbH has thus violated EU law. - YES, Germany is still a country with architectural planners and engineers - who are treated shamefully, but these people still exist - a classic graduate engineer and industrial master craftsman was actually able to solve humanity's 78-year-old construction puzzle with the help of 14 years of sending everything to everyone until criticism arose. - Two blog websites and LinkedIn were very helpful in this regard. Professional experience and the very basid citizen's income made long-term work performance possible.

Re (25) **"...That the responsibility for the safe management of spent fuel and radioactive waste ultimately lies with the Member States is a fundamental principle reaffirmed in the Joint Convention. This principle of national responsibility..."** - NO, it has proven to be a fatal error of epic proportions that every EU Member State should dispose in its own country!! - Suitable geology is not even present in most EU countries? - Solid rocks like granite were once liquid and contracted upon cooling, leading to very, very many fractures that are easily reopened by blast - AND - Claystone is always thin-layered and crumbly and does not tolerate decay heat well and smears when drilled - All, and there are numerous, repository plans for these two rocks are: shallow, therefore wet, never gas-tight, and even equipped with repository containers by irresponsible and stupid waste disposal companies planned, which can contain 33 times the critical mass. -

The EU law, in its actual implementation, organizes the greatest soil and environmental pollution ever planned by mankind - everything shallow and wet will end up in the oceans in the long term - but before that, try entire regions!!! - NO -

The DBHD deep salt repository has up to six optimal locations in Germany because, due to its geology, Germany has such a large share of the center of the Zechstein Basin. Unfortunately, no neighboring country, except perhaps Denmark and Poland, has such deep salt geology with overburden. - DBHD recommends that the EU Commission negotiate with Kazakhstan about a small area of desert in western Kazakhstan - the necessary geology is there, and Kazakhstan also supplies the world with yellow cake. (Only Australia supplies more...)

The Pri-Caspian Basin is accessible by land and sea, and the population density there is minimal compared to Europe. - DBHD Ing. Goebel has already written to the government and the Ministry of Foreign Affairs of Kazakhstan regarding this matter.

<https://www.ing-goebel.de/all-eu-countries-gdf-geology-in-kasachstan/>

Re (28) **"Member States should establish national programmes to ensure that political decisions are translated into clear rules on the timely implementation of all steps in the management of spent fuel and radioactive waste, from generation to disposal. Such a national programme should be in the form of a single reference text or a collection of texts."** - NO - Germany has a Site Selection Act that focuses on criteria and has created a Repository Safety Requirements Ordinance. Both are sensible, but government agencies perceive them as a basis for 100 years of delay, and there is NO sign of timely implementation. However, the art of **managing the NOTHING** has reached unprecedented heights. The first newspapers are reporting "fraud" - the first members of parliament are demanding that all funding be cut from the repository industry. The public is just laughing - to keep from crying. YES, since the law was passed 14 years ago, DBHD has worked on repository planning from a very small team with no idea —what?— to a "fully qualified team of experts and subject-matter expertise," always planning with specific geology locations in mind and providing transparent information. It turned out that thermodynamic calculations and the 1 kg repository container — no critical mass can fit in there!— are the key influencing parameters for repositories for highly radioactive waste. Geophysics, i.e., the load-bearing lid, was also identified as essential for safe repositories for heat-generating waste. Since all the elements for repository design are now available and published, one can already speak of a program. Therefore, the DBHD repository plans should and must become/be the supporting pillars of the Federal Republic of Germany's National Nuclear Waste Management Program.

Regarding (31): **"Transparency is important in the management of spent fuel and radioactive waste. Transparency should be achieved by ensuring, in accordance with national and international obligations, that the public is effectively informed and that all affected stakeholders, including local authorities and the public, are given the opportunity to participate in decision-making processes."** - YES, the Commission on Repositories, which met directly in the German Bundestag for years, was an extreme model of transparency; there were video recordings and even verbatim minutes. The major Repository Conference also demonstrated a commitment to transparency. - **After that, everything died down. BASE, BMUKN, BGZ, BGE never again showed "living working papers" - the BGE interim report ended up being an illegal farce, and since then, the public has heard nothing and has been fobbed off with stupid advertising.**

YES, for over 14 years, DBHD has always sent out/published scaled sketches and technical drawings, as well as explanatory texts and later extensive calculations, live. We have shown incomplete plans for 13 years that wouldn't have worked. But in March 2025, we were finally ready to have a robust repository plan for the first time. A group of experts led by the rather mediocre graduate architect has actually solved the 78-year-old construction puzzle, contrary to all expectations. – In the draft version, the execution planning is still pending. However, the planning was always very practical, using specific machines, which makes it very likely that a final repository planning draft will be available. This time, too, Germany, the Ruhr region, and Schwanau (Baden-Württemberg) are ahead of the game. What has actually been created is another German export product based on the technical expertise of German mining suppliers.

Regarding (3) **"disposal means the storage of spent fuel or radioactive waste in a facility where retrieval is not intended;"** - YES, DBHD cannot be retrieved using current mining technology. - Therefore, EU final disposal in Kazakhstan is possible.

to (4) **"Facility for final disposal"** any facility or installation whose main purpose is the final disposal of radioactive waste; "- YES, a repository is always a building and therefore falls within the competence of architecture and construction planning – Like all buildings in the world, a repository also has an architecture – At DBHD, a graduate architect is in charge – NO, there's no architect running BGE, and that's why the fundamentals are always WRONG right from the start! The state-run repository industry has hired thousands of disturbing non-construction planners, making it impossible for the very few construction planners (Dipl.-Ing. Arch. Goebel is the only known GDF construction planner) to even be heard. – The state-run participants (thousands) don't even want to think about or plan a repository project because it could jeopardize their status and their constant high salaries. These idiots are looking for a repository site without even having a method for investigating the geology. That's why, even after 14 years, they still don't know what kind of geology they're actually looking for. Pathetic super-idiots who senselessly waste vast amounts of resources on their mindless, unconceptual activities. What a pity.

Regarding (5) **"Permit"** – YES, DBHD is constructing a repository as an industrial development, which will come to the region with extremely high direct, radial, and fair compensation payments over approximately 70 years. – Even a test drilling operation on land that is still owned by someone else requires a local permit. – The above-ground facilities are a completely normal local building application, the underground facilities are governed by mining law (which BASE has usurped), and the nuclear-technical aspects are governed by nuclear and European law. – NO, a big planning approval procedure by state makes any legitimate local participation impossible. – No compensation and no participation in local above-ground matters will lead to fundamental rejection at the site.

Regarding (7) **"radioactive waste": radioactive material in gaseous, liquid, or solid form, ..."** – YES, DBHD does not release any permanently radioactive IOD-129 gas from the repository site and works with a gas-tight 300 m seal in the rock salt. The mountain pressure on the dry salt crush compresses the rock salt again, making it gas-tight. - For claystone or granite, no gas-tight seal has ever been demonstrated, even remotely. BGE's shallow mines suffer greatly from gases from corrosion and will release IOD-129 uncontrolled in the medium and long term.

Re (4) **"Radioactive waste shall be disposed of in the Member State in which it was generated, unless, at the time of shipment, an agreement between the Member State concerned and another Member State or a third country was in force, taking into account the criteria established by the Commission in accordance with Article 16(2) of Directive 2006/117/Euratom, under which a disposal facility in one of those states is used."** – YES, DBHD offers, on the one hand, the disposal of the residues generated in Germany in Germany – AND – DBHD offers the disposal of all residues generated in the other Member States in a third country – e.g., in deep salt beneath a desert in Kazakhstan. – DBHD does NOT offer to dispose of radioactive waste in Germany to ANY other EU country because Germany is timid and densely populated, and a disposal company does not have the legal authority to decide on German national interests. As long as a facility/structure designed by DBHD is used, final disposal can take place anywhere where the geology allows for rock salt with the minimum cover, and the specifications of the DBHD repository planners are met. The natural political and human first approach – everyone must dispose of their waste on their own national territory – is understandable, but from an engineering perspective, this is simply the crudest and most stupid nonsense, which could lead to planned soil and environmental pollution of unprecedented epic proportions!

to (4) b) **"The country of destination has programmes for the management and disposal of radioactive waste whose objectives ensure a high level of safety and are equivalent to those of this Directive."** – YES, DBHD intends to purchase the construction land for the DBHD repository in Kazakhstan for the purpose of final disposal from the government there.

Regarding (1) a) **"a national program for the implementation of spent fuel and radioactive waste management"** - NO, neither the Federal Office for Nuclear Safety (BASE) nor the sole state-appointed building company BGE, have a program. There are only the Stand AG criteria, from Site Selection Act but no concrete disposal program. The Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Nuclear Safety (BMUKN) submits an empty and fabricated National Program for Nuclear Safety (NaPro DE). EMPTY because there is no program, no method, no location – FALSE because the Konrad shaft got 85,000 liters of water running in every day, and the state of Lower Saxony is refusing to grant the enhanced water permit for this very reason. The ESK DE has determined that there is NO repository package in the Federal Republic of Germany that has the material stamp of approval for storage in Konrad. YES, the DBHD has a National Nuclear Waste Disposal Program whose "implementation" is at the stage of a robust, comprehensive draft plan and includes the required "concepts and plans" and "cost estimates," as well as other essential elements such as the three preferred sites (without test drilling yet), the repository container with radiation protection cladding, and the long-pronounced direct, radial compensation payments for the neighboring residents, which, however, still lack a legal basis, which must be incorporated into the Site Selection Act law (Stand AG)

Re (2) **"Member States shall ensure that the national framework is improved, where appropriate, taking into account operational experience, lessons learned from the decision-making process pursuant to Article 4(3)(f), and developments in relevant research and technology."** - NO, - neither BASE nor BGE nor BMUKN (the sole responsible parties) have promoted the DBHD repository planning during the past 14 years. - The responsible parties have always ignored the state of the art in science and technology in favor of their more than 50-year-old horizontal mining idea! - DBHD was even sued and damaged by BASE's predecessor, the BFE. - The corporate communications departments have always dismissed DBHD as an "uncommissioned participant from the business world" and have not publicly discussed the topic of DBHD repository in order not to jeopardize their own sovereignty over the topic. A parallel state society has emerged that exhibits gang-like criminal behavior.

Re (1) **"Member States shall ensure that the national framework is improved, where appropriate, taking into account operational experience, lessons learned from the decision-making process pursuant to Article 4(3)(f), and developments in relevant research and technology."** - NO - In Germany, BASE, the Federal Office for the Safety of Nuclear Waste Management, was established. BASE is so contaminated by the Green Party's dogmatism due to the supply policies of party members that BASE's own scientists have addressed the institution's management in an open letter. - In Germany, however, this is also a former Green Party MP who, as the supreme supervisor of final repositories, has a nursing qualification. YES, DBHD made the decision about 10 years ago to plan with the clearly evolving state of Herrenknecht's vertical big-hole drilling technology. Meanwhile, SBR has successfully drilled large-hole boreholes in Canada, Belarus, and England. The big commission has written down that Deep Borehole Disposal has to be looked on every few years. Despite the clear political mandate to regularly review borehole storage, borehole storage has always been treated as an enemy of BASE, BGE, BGR, GNS, BGZ, and NBG. Something you don't discuss publicly if you want to continue receiving your salary from the state. A Ms. Heinen-Esser, on the Repository Commission, introduced this policy.

Regarding (3) **"As part of the licensing process for a facility or activity, the safety case covers the development and implementation of an activity, the development, operation, and decommissioning of a facility or the closure of a disposal facility, as well as the post-closure phase of a disposal facility. The scope of the safety case must be commensurate with the complexity of the operational activity and the extent of the hazards associated with the radioactive waste and spent fuel, as well as with the facility or activity. The licensing process must contribute to ensuring that the facility or activity is safe under normal operating conditions, during possible operational disruptions, and during design-basis accidents. It must provide the necessary assurance that the facility or activity is safe. Measures must be in place to prevent accidents and mitigate the consequences of accidents, including verification of which physical barriers and administrative protective procedures of the licensee would have to fail before workers or the public would be significantly harmed by ionizing radiation. This concept serves to identify and mitigate uncertainty factors."**

YES, DBHD is working toward these goals every single day – it can even be assumed that BASE BGE, etc., are also not indifferent to these goals. – DBHD has the design planning and parts of the implementation planning to enable BGE to achieve this goal !? However, BGE has so far refused to pay EUR 42 million gross less 19% VAT and income tax + solidarity tax of 47% for the first two required DBHD licenses. Copyright Goebel. **The German nuclear waste industry consumes EUR 1.36 billion every year – the evidence of dismantling, the evidence of retrieval, the evidence of new containers, and the evidence of safe final disposal are completely missing. – These are essentially the personnel costs of far too large organizations that manage their NOTHING. – There is NOTHING – OK, now there were a few new transport trailers, and an additional wall is said to have been built somewhere at an interim storage facility. – But 99.99% of the costs are simply managing NOTHING.**

On Article 8

"Member States shall ensure that the national framework lays down provisions for the training and continuing education that all involved parties must provide to their personnel; the same applies to research and development activities that meet the requirements of national programs for spent fuel or radioactive waste management, in order to acquire, maintain, and develop the necessary knowledge and skills."

NO – the monopolization of research at BASE and BGE has completely killed repository research! and concentrated it on the government's favored sideshows.

YES, DBHD initially paid for the research and development activities with an employee's salary an 60.000 working hours – and a transition took place to accepting previously unpaid long-term scientific and technical services. – The architectural planner had to rely on the public income (social welfare money called Bürgergeld) in order to be able to provide 80 hours of repository planning service work each week.

Article 10 – Transparency

re (2) **"Member States shall ensure that the public is given the necessary opportunity to participate effectively in decision-making related to the management of spent fuel and radioactive waste, in accordance with national law and international obligations."**

YES, DBHD has actively exercised this right of participation, which is very rare in legislation, and has slowly been able to achieve a complete repository planning draft plan program.

Article 11 – National Programs

regarding (1) **"Member States shall ensure that the public is given the necessary opportunity to participate effectively in decision-making related to the management of spent fuel and radioactive waste, in accordance with national law and international obligations."** – YES, DBHD has planned the repositories through to completion. – Including closure, dismantling, and renaturalization. NO, because BASE BGE only has the 44% map behind the standing Castor cask and otherwise no scaled plans for disposal facilities. – 14 years NOTHING

Article 12 – Content of the National Programs

regarding (1) **"The national programs shall set out how Member States intend to implement their national strategies for the responsible and safe management of spent fuel and radioactive waste, in accordance with Article 4, in order to ensure compliance with the objectives of this Directive."** – YES, DBHD has answered the question of "how?" fully and the questions of "implementation?" partially, in writing and in planning drawings. – NO, BASE and BGE, under the leadership of the BMUKN, have not answered the questions of "how?" and "implementation?" in any way. However, BGR – i.e., the geologists – have prepared a somewhat serious repository plan for claystone on behalf of BGE, which would result in a non-repository with the following characteristics: shallow, therefore wet, not sealable in a gas-tight manner, and possibly 33 critical masses per container – at a cost three times that of the DBHD repository. – Keywords: Near Ulm, Near Münster

Regarding (1) b) - **"the relevant intermediate stages and clear timelines for achieving these intermediate stages in light of the overarching objectives of the national programs;"** - YES, DBHD has a construction timeline of approximately 13 years until the end of renaturalization. – NO BGE is babbling about 150 years from now because they have no program or plan and want their children and grandchildren to be well provided for throughout their lives with the repository ticket. - BASE and BMUKN view this critically, but have done nothing to address it so far. BASE and BMUKN also wants to live well on the "Repository Ticket"

Regarding (1) c) **"An inventory of all spent fuel and radioactive waste, as well as estimates of future quantities, including those from decommissioning; the inventory must clearly show the location and quantity of radioactive waste and spent fuel according to an appropriate classification of radioactive waste."** - YES, there is a rough inventory of the residual quantities. Initially, it was 19,000 Mg in 2015 – but in 2024, the Federal Ministry of the Environment, Nature Conservation, Nuclear Safety, and Nuclear Safety (BMUV) then reported 25,400 Mg of highly radioactive residues. - NO, the BGZ has been refusing to provide thermal data for the Castor containers for years. A list of the measured and calculated thermal data for each individual Castor HLW container is missing. There are Castor containers that have been in interim storage for 40 years. The container inventory information is not accessible to the specialist public.

Regarding (1) d) - **"the concepts or plans and technical solutions for the management of spent fuel and radioactive waste, from generation to final disposal."** - YES, DBHD has developed the concepts and plans for the technical solutions for final disposal within 14 years. However, only Germany has such buried deep salt geologies – which already puts the odds at 25 to 1 – and the other 25 state-run waste management companies will cling to their salaries as long as they can. - Only the of the 25 national waste management companies can resolve this imbalance and pave the way for a technically safe EU repository in Kazakhstan.

Re (1) f) - **"the research, development, and demonstration activities required to implement solutions for the management of spent fuel and radioactive waste;"** - YES, research has been conducted by government agencies through scientific reports on specific issues in Germany – DBHD has already read and evaluated over 1,000 of these. - YES, development work has been carried out over 14 years, but the status is draft plus parts of the implementation planning. - **No, demonstration work has not yet been carried out – the ELK-TG repository components test site proposed by DBHD has never been seriously discussed or financed.** Nuclear repository is a structure without historical precedent – it's "practice, practice, practice" – you can hardly take anything off the shelf. However, within 14 years, a concrete idea of the technical challenges to be overcome and how has emerged. It's a steel shaft construction, which probably won't suffer from underfunding like so many mineral mining shafts. - **NO, BGE and the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Nuclear Safety (BMUKN) are even preventing the final development of the repository container and the radiation protection shell by issuing instructions to the Radiation Protection Laboratory at KIT Karlsruhe ?**

Regarding (1) h) - **"an estimate of the costs of the national programs, as well as the baseline and hypotheses on which this estimate is based, including a presentation of the time profile;"** - YES, DBHD has been tracking the costs for repositories for more than a decade and presented the calculations in versions 30 and 32 – as well as the overall calculation for repositories including transport and compensation payments. - **NO, BGE has never been able to present a repository calculation or overall calculation for repositories. They want to work on the over-idealized idea of site selection for another 150 years and be well-provisioned.**

Regarding (1) f) - **"a transparency policy or procedure pursuant to Article 10;"**
YES, DBHD works LIVE and publicly – with all the consequences that entails. DBHD always shows work in progress and results. **NO, BGE has almost nothing, and there's not much to show.** However, that could change as soon as the construction company with its geology department purchases the DBHD repository licenses and continues to work with DBHD. Then a transparent process, which draws criticism even during the development phase and allows for learning, is possible again.

Regarding (1) f) - **"where applicable, the agreement(s) concluded with a Member State or a third country on the management of spent fuel and radioactive waste, including the use of facilities for its final disposal."** – YES, the EU Member States are welcome to show their agreements with Kazakhstan, etc., or Germany, or perhaps even Denmark and Poland. The motto at DBHD is: "All waste has to go into salt."

Article 13 – Notification re (2) - **"Within six months of notification, the Commission may request clarifications and/or issue an opinion on whether the content of the national program complies with Article 12."** – YES, DBHD is requesting an opinion from the EU on the Federal Republic of Germany's National Nuclear Waste Management Program. – There are already infringement proceedings against three EU countries that, like Germany !?, have not yet submitted a waste management program. - **DBHD is requesting the EU to review all incoming national programs based on the following criteria:**

Sub-deep? – Therefore wet ! – Not sealable gas-tight !? – and without proof of a subcritical container design ? – ATTENTION – Andra, nagra, Posiva and others also pretend to follow EU 2011/70/Euratom

DBHD VG followed the EU 2011/70/Euratom – just after reading it – the law turned out to be a path to find : Deep, therefore dry, sealable gas-tight and with eternal subcritical GDF container. – Thank you.

The following attached DBHD picture-plans annexes only protect Germany from infringement proceedings, the grace period, and the fine if at least two DBHD licenses have been acquired by BGE Peine and the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Nuclear Safety (BMUKN)! – The technical drawings, calculations, and purchase contracts are already annexes to this National Proposal for Germany (NaPro DE), which, due to the circumstances, has already been prepared in cooperation by the BMUKN and DBHD. (Annexes are also available as a high-resolution PDF on website)

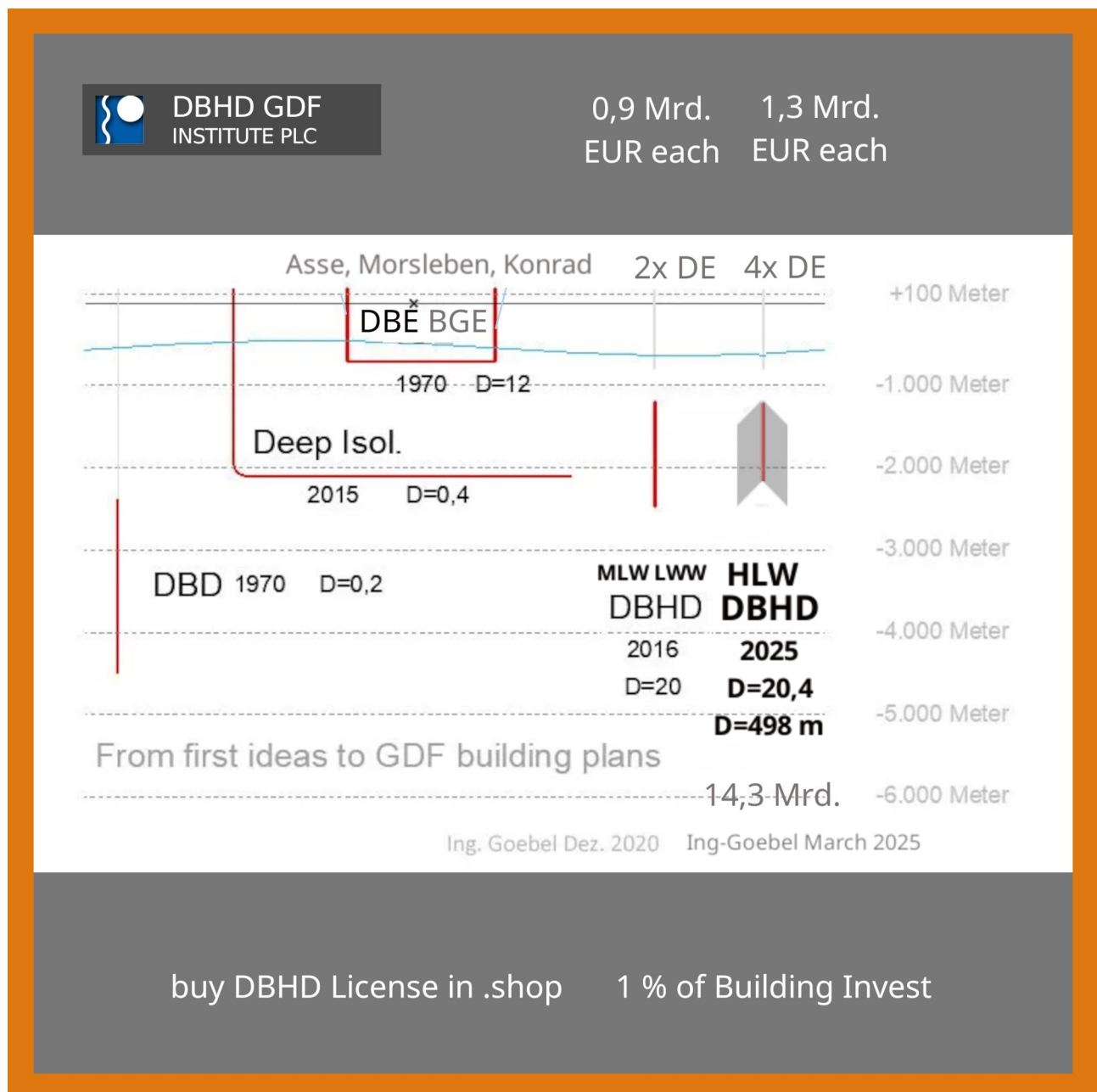


Figure 1 shows DBHD in the context of the overall repository methodology worldwide

Biosphere

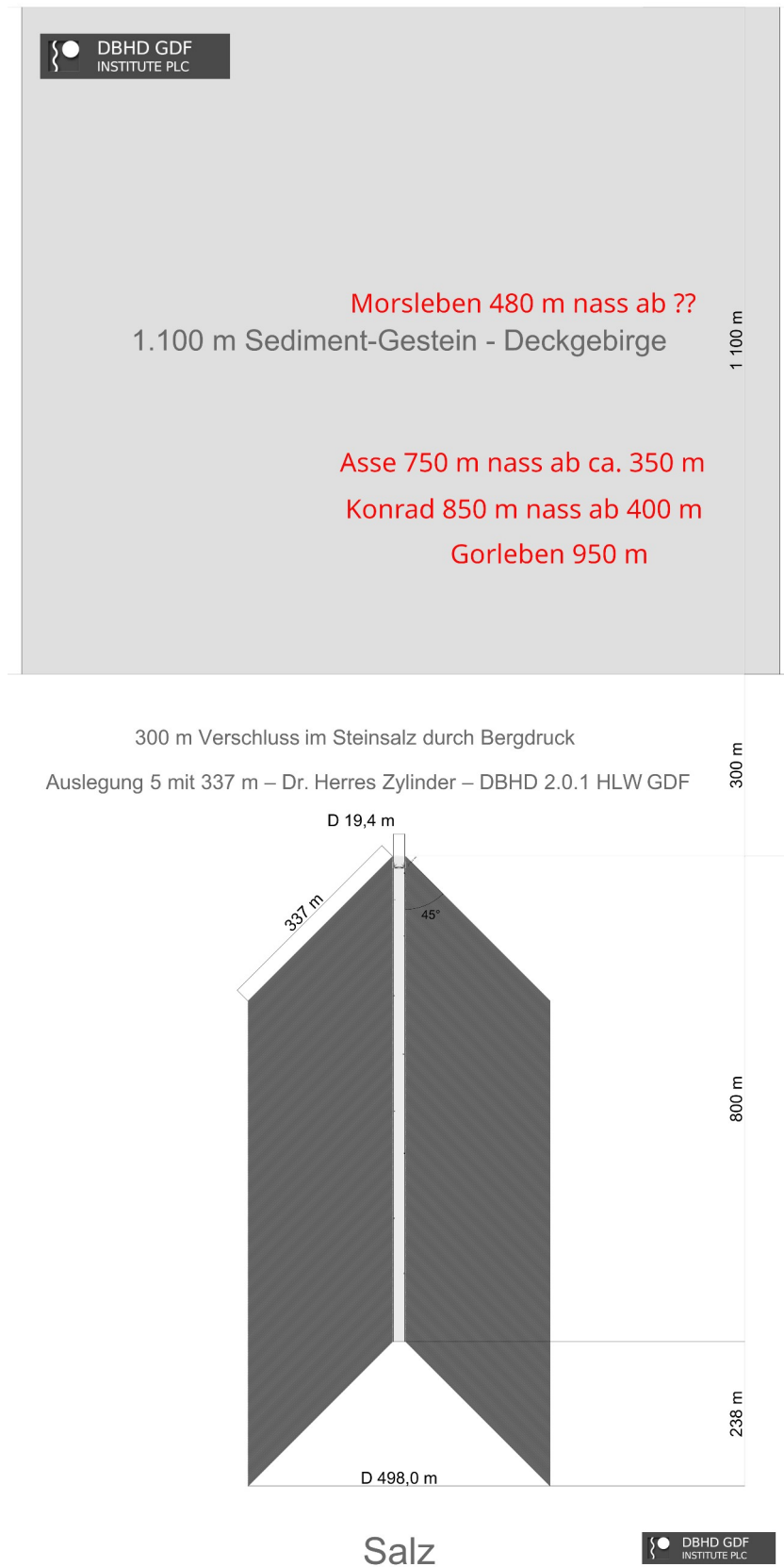


Figure 2 shows DBHD in the context of three wet NON-REPOSITORIES and Gorleben

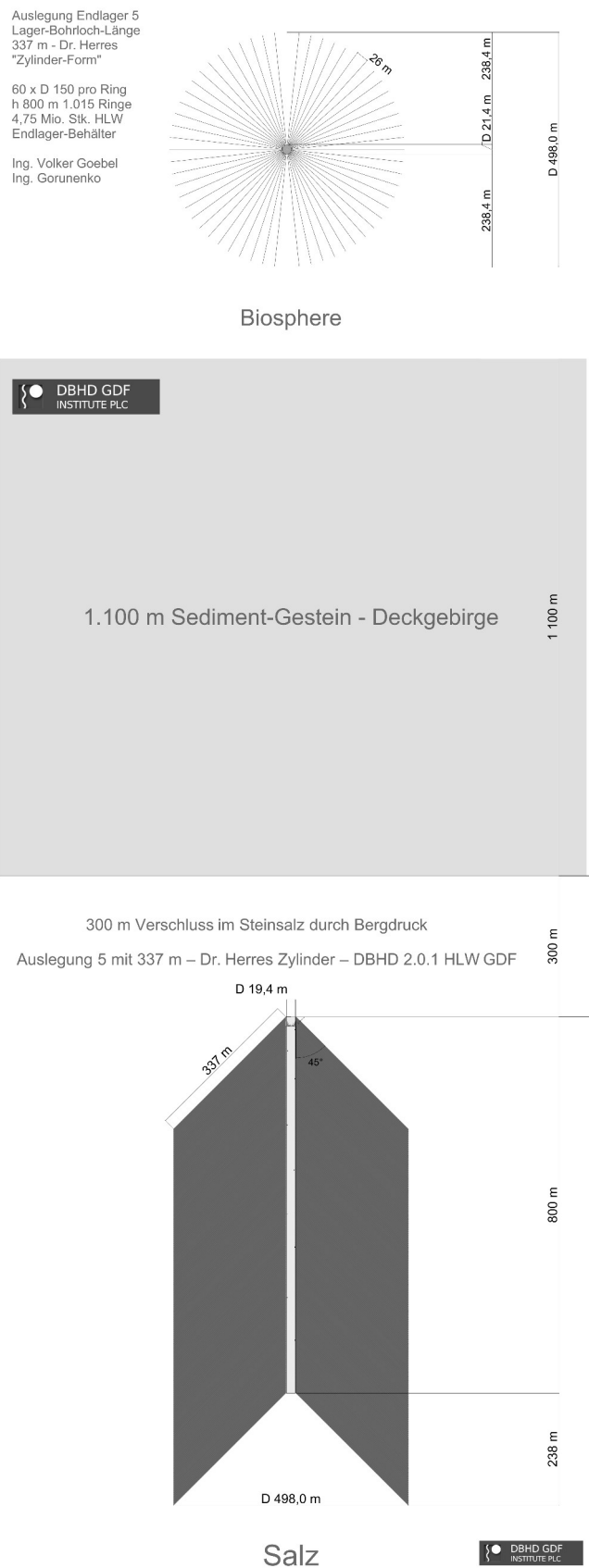


Figure 3 shows the DBHD HLW repository in the version valid in September 2025.

Plan-Verfasser : Dipl.-Ing. Architektur Volker Goebel
Industrie-Meister Metall - 18.12.1965 - Hagen für DE
BMUV, BASE, K+S, BGE, EWN, KTE, NGB and ww

GOK + 15 m über NN

Planung Oberirdisch existent

so ins NaPro BRD geben
EU > 2011/70/Euratom

Sediment
Überdeckung
NOTWENDIG

Deckel / Stopfen
h 1.100 m

Grundwasserleiter

Planung Unterirdisch
verfällt aber existent

Sediment
Gesteine

300 m Verschluss
im Steinsalz gas-d.

D 22 m SBR Drill

800 Meter
Ein-Lagerung

ab hier bereits
vollständige
SICHERHEIT
nach Verschluss

Planung Einlagerung existent

Temperatur im Schacht wird +16 °C sein,
genüßig für Winterleistung zu tragen

1,1 Mio. m³ / Stunde Kaltluft + 10 °C

302 m³ / h Kaltwasser - 5,4 °C - in 16
Rohrpaaren DN 150 mm an den Stahl-
Tübbingen - Wärme fließt nur sehr
langsam nach im Berg 5,4 W/mK
Wärmeleitfähigkeit Stahl 30x besser

Standort Geologen existent

8.400 Meter Gesamt Geologie-Höhe bis Kante zum Rollliegenden

6.200 m Absink-Teufe DBHD 2.0.1

250 Mio. J.
vor Ort
Wartend

Steinsalz

aus D 22 mit 380 qm
Start-Endlager-Fläche,
wird bei D 2.320 m
eine 4.225.184 qm
Behälter-Auslegungs-
fläche im Endlager !!

- 8.400 m
+ 270 °C
18.129 t.
Auflast
Druck
allseitig

Rotliegendes

Ziel-Kreis D = 2.320 m

3.829 m Geologie-Band unten

nachweisbar ewig
unterkritisches EL

"Endlager-Geld" existent
KENFO - 22 Mrd. EUR

DANKE an viele
Wissenschaftler

"Absink-Gleit-Verteil"
Endlager Typ DBHD
2.0.1 = HLW

Planverfasser :
Dipl.-Ingenieur
der Architektur
Volker Goebel
Industrie Meister
Metall - DE
B.-Zeit 13 Jahre
bis 24.12.2024

National Nuclear Waste Repository Program of the Federal Republic of Germany by Ing. Goebel DBHD

Numerische quasi-4D-Berechnung des Temperaturverlaufs um bzw. in einem senkrechten DBHD Endlager-Zylinder mit hoch radioaktiven Zerfallsprodukten.

Dr. Gerhard Herres, Physiker, --- 01.07.2025 bis 27.7.2025

Von einer senkrechten 800 m hohen SBR Schachtbohrung mit dem Radius $R_i = 9,7$ m ausgehend werden unter 45° Neigung nach unten radiale Bohrungen ausgeführt. In diese Bohrungen werden kleine zylindrische Endlager-Behälter-Gebinde von 17,1 cm Länge und 8,6 cm Durchmesser eingeschoben. Damit die Wärmebelastung nicht zu hoch wird, wird nach jedem Behälter das zuvor ausgebohrte Steinsalz wieder eingefüllt, so dass ein passender Abstand zum nächsten Behälter eingehalten wird. Die äußerste Grenze der Bohrungen liegt bei $R_b = 248,35$ m. Diese mit radioaktivem Müll befüllten Endlagerbehälter liegen zwischen 1400 m und $2200+248,35$ m Tiefe. Verfüllung der D 12 m Zugangsbohrung über 300 m mit Verschluss-Salz und 1.100 m mit Gestein.

Die Wärmeentwicklung pro Behälter beträgt zwar nur 4,31 W, aber es werden insgesamt 4,75 Millionen Behälter eingelagert, so dass zu Beginn ein Wärmestrom von $\dot{Q}_0 = 20,473$ MW frei wird.



Bild-Quelle : Kunst-Werk vom Publizist der Thermodynamischen Berechnung - Goebel

Die Zerfallsrate des radioaktiven Materials liegt im Mittel bei $b = 4,588 \cdot 10^{-10}$ 1/s.

Daraus ergibt sich über eine unendlich lange Zeitspanne eine freigesetzte Wärmemenge von

$$Q_{ges} = \int_0^{\infty} \dot{Q}_0 \cdot \exp(-b \cdot t) dt = 4,462 \cdot 10^{16} J = 44,62 PJ$$

Wenn das Salz diese Wärme nicht ableiten würde, dann würde die Temperatur in dem mit Bohrungen versehenen Volumen $V = H \cdot \pi \cdot R_b^2 = 800 \text{ m} \cdot \pi \cdot 248,35^2 \text{ m}^2 = 155.013.024 \text{ m}^3$ stark ansteigen. Die innere Energie des Salzes würde um $\Delta U = m \cdot c_p \cdot \Delta T = Q_{ges}$ zunehmen.

Daraus folgt eine Temperaturerhöhung von $\Delta T = Q_{ges} / (V \cdot \rho \cdot c_p) =$

$$4,462 \cdot 10^{16} J / (155.013.024 \text{ m}^3 \cdot 2.200 \text{ kg/m}^3 \cdot 1.200 \text{ J/(kg} \cdot \text{K)}) = 109 \text{ K.}$$

Die Wärme kann nicht wie bei oberirdischer Lagerung von der Luft abtransportiert werden und muss deshalb durch Wärmeleitung vom umgebenden Salz aufgenommen werden.

Eine analytische Lösung der Wärmeleitungsgleichung ist sehr schwierig und wird deshalb hier durch eine numerische Näherungslösung ersetzt. Eine Berechnung mit Excel (208 MB) befindet sich im Anhang.

Die numerische Lösung der Differentialgleichung folgt der Vorgehensweise im Lehrbuch von Hans-Dieter Baehr und Karl Stephan, Wärme- und Stoffübertragung, Kap. 2.4.4.2. Dazu wird das

1 – 10

Figure 5 shows the first sheet of the latest thermodynamic calculation

den äußeren Ringbereich lässt sich verstärken, wenn der äußere Ring nicht die Kennzahl 10, sondern eine kleinere Kennzahl erhält. Die Behälter liegen dann außen noch enger zusammen und innen weiter auseinander.

Meiner Meinung nach stellt dieses Konzept einer Lagerung der hochradioaktiven Abfälle das bisher beste bekannte Verfahren dar, um die nachfolgenden Generationen und die Umwelt vor den Gefahren des Atommülls zu schützen. Anders als in den in Deutschland bisher genutzten Salz- oder Eisenerzgruben liegt die Einlagerung so tief, dass seit mindestens 250 Millionen Jahren kein Wasser dorthin gelangt ist und selbst die Eiszeiten haben diese Salzlager nicht beeinflusst.

Legende der verwendeten Formelzeichen

a	Temperaturleitfähigkeit = $\lambda/\rho \cdot c_p$	m ² /s
ρ	Dichte	kg/m ³
c_p	Spezifische Wärmekapazität	J/(kg*K)
λ	Wärmeleitfähigkeit	W/(m*K)
t	Zeit	s
R,r	Radius	m
L	Position im Bohrloch	m
ϑ, T	Temperatur	K
m	Masse	kg
V	Volumen	m ³
$\dot{Q}_0$	Wärmestrom zu Beginn	W
Q_{ges}	Gesamte Wärmemenge in Mill. Jahren	J
b	Radioaktive Zerfallsrate	1/s
M	Modul der numerischen Berechnung = $a \cdot \Delta t / \Delta r^2$	-

Dr. Gerhard Herres - Physiker - Schwerpunkt Thermodynamik/Wärmeübertragung

Fazit : Die Berechnung zeigt, dass die maximale Temperatur nach 210 Jahren in der Tiefe 1.960 m mit 123,05 °C erreicht wird. –
Das ist nur 54,25 K höher als vor der Einlagerung der Endlager-Behälter.

Ich habe meine Berechnungs-Expertise eingebracht, weil eine Gruppe von Architektur-Planern, Bau-Ingenieuren und Material-Wissenschaftlern 14 Jahre! gearbeitet hat, um ein sicheres Endlager für hoch radioaktive Reststoffe (spent fuel / vitrified waste) zu entwickeln.

Mir ist zugesichert worden, dass die DBHD Planung folgende Eigenschaften hat: **"Tief, deshalb trocken, Gasdicht verschleißbar und mit Nachweis der ewigen Unterkritikalität"**

Ich wünsche allen Beteiligten viel Erfolg und gehe davon aus, dass andere Physiker meine Berechnungen mit moderner Multiphysics-Software bestätigen und noch weiter präzisieren werden.

Mit freundlichen Grüßen, Dr. Gerhard Herres – Dipl.-Physiker

Paderborn, Deutschland, EU

05.08.2025

10 – 10

Figure 6 the last sheet of the latest thermodynamic calculation

Lithostatische Bergdruck Tabelle der Endlagerung DBHD									
Ideal vertikaler Auflast Bergdruck in Sediment- und Evaporit Gesteinen									
Annäherungs Tabelle Maximalwerte des Bergdrucks / ein fast allseitiger Lithostatischer Druck									
Tiefe in Metern	Dichte der Umgebung in kg/m ³	Schwerkraft in m/s ²	Ergebnis in Pascal	Ergebnis in MPa	Ergebnis in bar	Ergebnis in kN/m ²	Ergebnis in T/m ²	Ergebnis in kg/cm ²	Temperatur in °C
300	2.200	9,81	6.474.600	6,475	65	6.475	647	65	9,9
100	2.200	9,81	2.158.200	2,158					
550	2.200	9,81	11.870.100	11,870					
600	2.200	9,81	12.948.200	12,949	129	12.949	1.295	129	19,8
700	2.200	9,81	15.107.400	15,107					
900	2.200	9,81	19.423.800	19,424	194	19.424	1.942	194	29,7
1.100	2.200	9,81	23.740.200	23,740					
1.200	2.200	9,81	25.898.400	25,898	259	25.898	2.590	259	39,6
1.383	2.200	9,81	29.847.906	29,848					
1.500	2.200	9,81	32.373.000	32,373	324	32.373	3.237	324	49,5
1.800	2.200	9,81	38.847.600	38,848	388	38.848	3.885	388	59,4
2.100	2.200	9,81	45.322.200	45,322	453	45.322	4.532	453	69,3
2.212	2.200	9,81	47.739.384	47,739	477	47.739	4.774	477	72,996
2.358	2.200	9,81	50.717.700	50,718	507	50.718	5.072	507	77,55
2.400	2.200	9,81	51.796.800	51,797	518	51.797	5.180	518	79,2
2.700	2.200	9,81	58.271.400	58,271	583	58.271	5.827	583	89,1
2.777	2.200	9,81	59.933.214	59,933	599	59.933	5.993	599	91,641
3.000	2.200	9,81	64.746.000	64,746	647	64.746	6.475	647	99
3.200	2.200	9,81	69.062.400	69,062	691	69.062	6.906	691	105,6
3.300	2.200	9,81	71.220.600	71,221	712	71.221	7.122	712	108,9
3.600	2.200	9,81	77.695.200	77,695	777	77.695	7.770	777	118,8
3.900	2.200	9,81	84.169.800	84,170	842	84.170	8.417	842	128,7
4.200	2.200	9,81	90.644.400	90,644	906	90.644	9.064	906	138,6
4.500	2.200	9,81	97.119.000	97,119	971	97.119	9.712	971	148,5
4.800	2.200	9,81	103.593.600	103,594	1.036	103.594	10.359	1.036	158,4
5.100	2.200	9,81	110.068.200	110,068	1.101	110.068	11.007	1.101	168,3
5.400	2.200	9,81	116.542.800	116,543	1.165	116.543	11.654	1.165	178,2
5.700	2.200	9,81	123.017.400	123,017	1.230	123.017	12.302	1.230	188,1
6.000	2.200	9,81	129.492.000	129,492	1.295	129.492	12.949	1.295	198
6.300	2.200	9,81	135.966.600	135,967	1.360	135.967	13.597	1.360	207,9
6.600	2.200	9,81	142.441.200	142,441	1.424	142.441	14.244	1.424	217,8
6.900	2.200	9,81	148.915.800	148,916	1.489	148.916	14.892	1.489	227,7
7.200	2.200	9,81	155.390.400	155,390	1.554	155.390	15.539	1.554	237,6
7.500	2.200	9,81	161.865.000	161,865	1.619	161.865	16.187	1.619	247,5
7.800	2.200	9,81	168.339.600	168,340	1.683	168.340	16.834	1.683	257,4
8.100	2.200	9,81	174.814.200	174,814	1.748	174.814	17.481	1.748	267,3
8.400	2.200	9,81	181.288.800	181,289	1.813	181.289	18.129	1.813	277,2
8.700	2.200	9,81	187.763.400	187,763	1.878	187.763	18.776	1.878	287,1
9.000	2.200	9,81	194.238.000	194,238	1.942	194.238	19.424	1.942	297
9.300	2.200	9,81	200.712.600	200,713	2.007	200.713	20.072	2.007	306,9
9.600	2.200	9,81	207.187.200	207,187	2.072	207.187	20.722	2.072	316,8
9.900	2.200	9,81	213.661.800	213,662	2.137	213.662	21.372	2.137	326,7
10.200	2.200	9,81	220.136.400	220,136	2.201	220.136	22.014	2.201	336,6
10.500	2.200	9,81	226.611.000	226,611	2.266	226.611	22.661	2.266	346,5
10.800	2.200	9,81	233.085.600	233,086	2.331	233.086	23.309	2.331	356,4

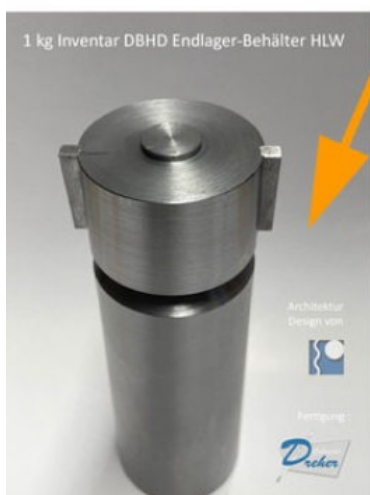
grobe Annäherungs Tabelle zum Bergdruck / allseitiger Lithostatischer Druck in Tiefbohrungen									
Tiefe in Metern	Dichte der Gesteine in kg/m ³	Schwerkraft in m/s ²	Ergebnis in Pascal	Ergebnis in MPa	Ergebnis in bar	Ergebnis in kN/m ²	Ergebnis in tons/m ²	Ergebnis in kg/cm ²	Temperatur in °C
19.424									

Verfasser : Ing. Goebel

DBHD 2.0.1 HLW

19.424 Tonnen - 19 Tausend Tonnen !!! Auflast-Gewicht und allseitige Druck-Kräfte
 Deshalb keine kritischen Menge-Massen im Behälter / z. B. 1 kg Inventar Behälter
 Druck-Tabelle enthält keine Horizontal-Kraft Anteile - berücksichtige keine Erdbeben
 Diese Drücke sind f. Menschens kaum vorstellbar. Ausserhalb allgem. Vorstellungskraft.
 Ich hab mal mit 750 t Presse viele 30 mm Edelstahl Klopferböden D = 2,4 m gepresst.

DBHD 2.0.1 Materialien				
sind Verwendung in der Behälter Planung für HLW Endlager				
Tabellenmäßige Angaben des kritischen Massen verschiedener Nuklide beziehen sich in der Regel auf eine homogene unkomprimierte Kugel aus dem reinen Material ohne Reflektor. In folgender Liste sind diese mit der reflektiert und unreflektierten kritischen Masse für schnelle unmoderierten Systeme zusammengefasst. Wenn nicht anders vermerkt, stammen die Daten aus einer Zusammenstellung des französischen IRSN [1]				
Niemand kann genau sagen welche Spaltstoffe in welcher Menge im DE spent fuel und in den Kollern ist. Diese aktivierte Metall gibt eine starke Strahlung ab und kann nicht wirklich aussagekräftig untersucht werden. Aus Vorzüge-Gründen (offener Sicherheitsaspekt - selbst Ing. Goebel nur 1 kg als Behälter Inventar an.)				
https://de.wikipedia.org/wiki/Kritische_Masse				
Nuklid	Kritische Masse			Quelle
	unreflektiert (kg)	reflektiert (20 cm H ₂ O) (kg)	reflektiert (30 cm Stahl) (kg)	
²³² Thorium	2839			904
²³¹ Protactinium	580-600 ?	?		?
²³³ Uran	16,5	7,3		6,1 [2]
²³⁴ Uran	145	134		83
²³⁵ Uran	49,0	22,8		17,2 [3]
²³⁶ Neptunium	66,2	60		38,8
²³⁷ Neptunium	6,79	3,21		3,3
²³⁷ Neptunium	63,6-68,6	57,5-64,6		38,6 [4]
²³⁸ Plutonium	8,04-8,42	5,0	3,74-4,01	
²³⁹ Plutonium	3,1	1,71	1,62	
²⁴⁰ Plutonium	9,04-10,31	7,35	4,7	[5]
²⁴¹ Plutonium	10,0	5,42-6,45	4,49	[2]
²⁴² Plutonium	36,7-39,03	32,1-34,95	18,3-22,6	
²⁴¹ Plutonium	12,27-13,04	5,87-6,68	5,05-5,49	
²⁴² Plutonium	85,6	78,2	36,2-48,1	
²⁴¹ Americium	57,6-75,6	52,5-67,6	33,8-44,0	
²⁴² Americium	9-18	3,2-6,4	3-4,6	[6]
²⁴³ Americium	50-209	195	88-138	[6]
²⁴² Curium	24,8-37,1	17-30	7-23,1	
²⁴³ Curium	7,4-8,4		2,8-3,1	
²⁴⁴ Curium	23,2-33,1	22,0-27,1	13,2-16,81	
²⁴⁵ Curium	6,7-12	2,6-3,1	2,7-3,5	[6]
²⁴⁶ Curium	38,9-70	33,6	22-23,2	[6]
²⁴⁷ Curium	7	3,5	2,8-3,0	[6]
²⁴⁸ Curium	40,4	34,7	21,5	
²⁵⁰ Curium	23,5	21,4	14,7	
²⁴⁷ Berkelium	75,7	41,2	35,2	
²⁴⁹ Berkelium	192	179	131	
²⁴⁹ Californium	5,91	2,28	2,39	
²⁵⁰ Californium	6,55	5,61	3,13	
²⁵¹ Californium	5,46-9	2,45	2,27	[7]
²⁵² Californium	5,87	2,91	3,32	
²⁵⁴ Californium	4,27	2,86	2,25	
²⁵⁴ Einsteinium	9,89	2,26	2,9	



Wer sich den Bergdruck v. 1.813 bar im tiefen „geologischen Endlager“ im Zusammenhang mit den „kritischen Massen“ 1,62 kg ernsthaft anschaut, erkennt, dass der 1 Kg Inventar-Behälter die Einzig mögliche SICHERE Bauweise ist - Ing. VG - 03.11.2023

Figure 7 shows that a look at the critical masses and the rock pressure table led to the 1 kg inventory container. – **No critical mass fits in it at all !** – Rock pressure is always all-round.



SBR
Shaft Boring
Roadheader
Drill Tech by
Herrenknecht
from Germany

app. 500 tons
SBR machine
4 x 3 holding
cables req.

Does D 12,4
and D 20,4 m
by telescop.

Price app.
350 Mio. EUR

Figure 8 shows the SBR big-hole drilling technology from Herrenknecht

DBHD will put 4x Exlorac 235 in one hole
Back to back
Drilling set
Drill device



for the many
storage drills
6 inch drill bits
length all 337 m
drilled under 45°

we get offer for "drilling device" that
gets E-power and 35 bar air pressure
from the shaft - not from machine ...

Figure 9 shows one of 4 drilling rigs for the storage holes drilling



Dear Epiroc Sweden - we got it now - the persons pass underneath - and the drill rod magazine has to be there. DBHD provides electric power for hydraulic drill system and DBHD provides 35 to 45 bar air pressure > Its still 6 inch D 152 mm under 45 ° over 337 m in salt

Figure 10 shows half a drilling device for bearing holes



TECHNISCHE DATEN	
Hauptanwendungsbereich ⓘ	Surface exploration
Bohrmethode ⓘ	Down-the-hole (Reversed Circulation)
Gestängellänge ⓘ	6 m
Bohrtiefenkapazität (siehe Hinweis) ⓘ	0 m - 450 m

The Explorac 235 drilling rig can drill up to D 200 mm and to a depth of 450 m. DBHD repository drills 152 mm (6 inches) in diameter to a depth of 337 meters. Final Drill diameter depends on the final diameter of the radiation shielding hull.

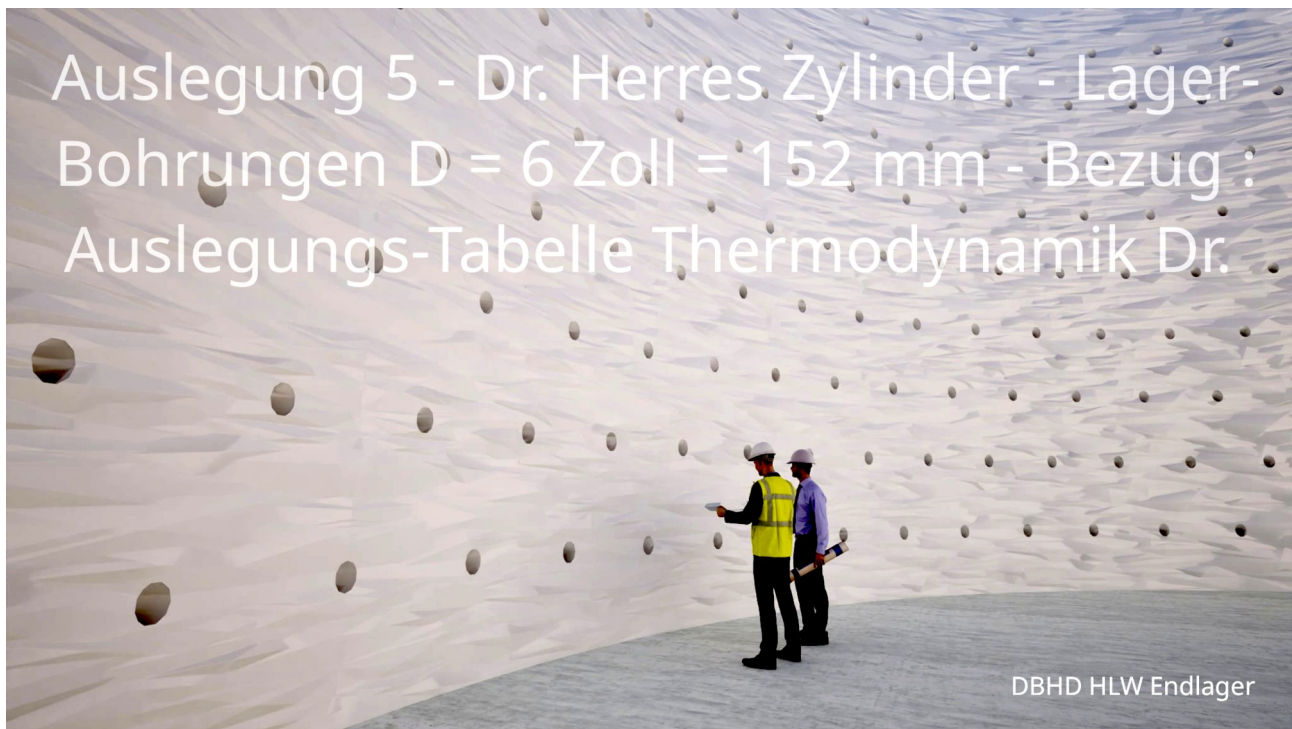
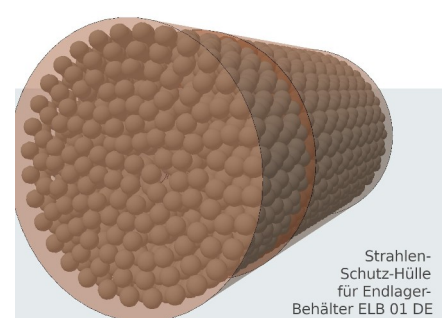


Figure 11 shows "only" the real size „drilling image“ within the DBHD HLW GDF repository.



RICHTLINIE 2011/70/EURATOM DES RATES

vom 19. Juli 2011

über einen Gemeinschaftsrahmen für die verantwortungsvolle und sichere Entsorgung abgebrannter
Brennelemente und radioaktiver Abfälle

		Version 0.3.1		http://www.ing-goebel.com			
		Calculation 1x DBHD 2.0.1 nuclear repository GDF					
Last edit: 04. November 2023 / Dipl.-Ing. Volker Goebel CH, DE / Nuclear Repository Planner ww							
GDF-Capacity : 6.333.333 Mini HLW Container with only 1 kg inventory - always undercritical							
Repository-Storage-Depth : - 2.200 Meters START / water- and air cooled deep shaft building site							
Final-Repository-Storage-Depth : -8.000 Meter - GDF Containers glide down over 30.000 yrs							
Based on : Draft-Planning from 2014 - 2023 actually in Version 2.0.1 - all plans have to be overworked							
download .xlsx file, to be able, to change positions to your country market - your calculation							
we here calculate a net price for 1x DBHD 2.0.1 building site with 1 shaft - 3 shafts needed for DE							

Figure 13 shows the Calculation for HLW Repository - Version 31 - Nov. 2023

Final-Abgabestand - Original - 2024

Gesamt-Kosten HLW Endlagerung Deutschland - 4 Neubauten				
Kosten-Art	Ort der Kosten	Preis laut Shop	Anzahl	Bemerkungen
alles nur für Endlagerung HLW	Mittel-Verwendung	und Kalkulationen	HLW	Hinweise
			Behälter	
1. Lizenz-Kauf von DBHD 2.0.1	Ober- & Unterird., Beh.	30.960.453 €	START	Ents.-Vors.-Nachweis
1. DBHD 2.0.1 HLW Endlager	Bauort bei Beverstedt	1.329.343.957 €	6.3 Mio	Planung erneuert VG
2. Lizenz-Kauf Umpack-Halle	nur Umpack-Halle	20.110.000 €		schwierige Planung
2. Bau-Beginn Umpack-Halle	nahe EL-Beverstedt	1.942.971.220 €		Achtung Version 003 !
3. Start Zahlung Kompensationen	10 km Umkreis Beverst.	8.000.000.000 €		Einziger mögl. Weg !!!
Gesamt-Menge HLW/MLW/LLW				Redlich sein / bleiben
4. nur DB Castor Transporte	von ZWL zu Endlager	48.828.537 €		Achtung netto DB Preis
5. Lizenz-Kauf von DBHD 2.0.1	Ober- & Unterird., Beh	30.960.453 €		Ents.-Vors.-Nachweis
5. DBHD 2.0.1 HLW Endlager	Bauort Nähe Beverstedt	700.000.000 €	6,3 Mio.	bestehende Planung
6. Lizenz-Kauf von DBHD 2.0.1	Shop / BGE oder BASE	30.960.453 €		Ents.-Vors.-Nachweis
6. DBHD 2.0.1 HLW Endlager	Bauort Nähe Beverstedt	700.000.000 €	6,3 Mio.	bestehende Planung
7. Rückbau Zwischenlager		700.000.000 €		
Total / Gesamt		13.534.135.073 €	19 Mio.	
Bau-Programm über 30 Jahre	KENFO GELD sichern	13,5 Mrd. EUR		zu Preisen von 2024
3 Stück DBHD Säulen - der ewig unterkritische 1 kg Endlager-Behälter macht geologische Endlagerung möglich.				
Achtung, zuzügl. Gerichtsverfahren - Die Castoren werden den EVU zurückgegeben - Handelswert 1,3 Mio. / Stk.				
Wir sollten auch die Schweizer Castoren endlagern, deren Geologie ist ein Witz, der unseren Rhein dann schädigt				
Es bestehen z. Z. ENTWURFS-PLANUNGEN - die Ausführungs-Planungen mit Zulieferer Angeboten stehen nun an.				
Wir müssen mal irgendwo anfangen Endlager-Technik-Komponenten zu testen - ELK-TG - üben ist Notwendig				

Die Bezahlung des Endlager Planers steht an.

Figure 14 shows Total Calculation for HLW Repositories DE - Version 4 - Nov. 2024

The following 10 pages are not sent to EU

GDF Locations are NOT asked in EU law 2011/70/Euratom

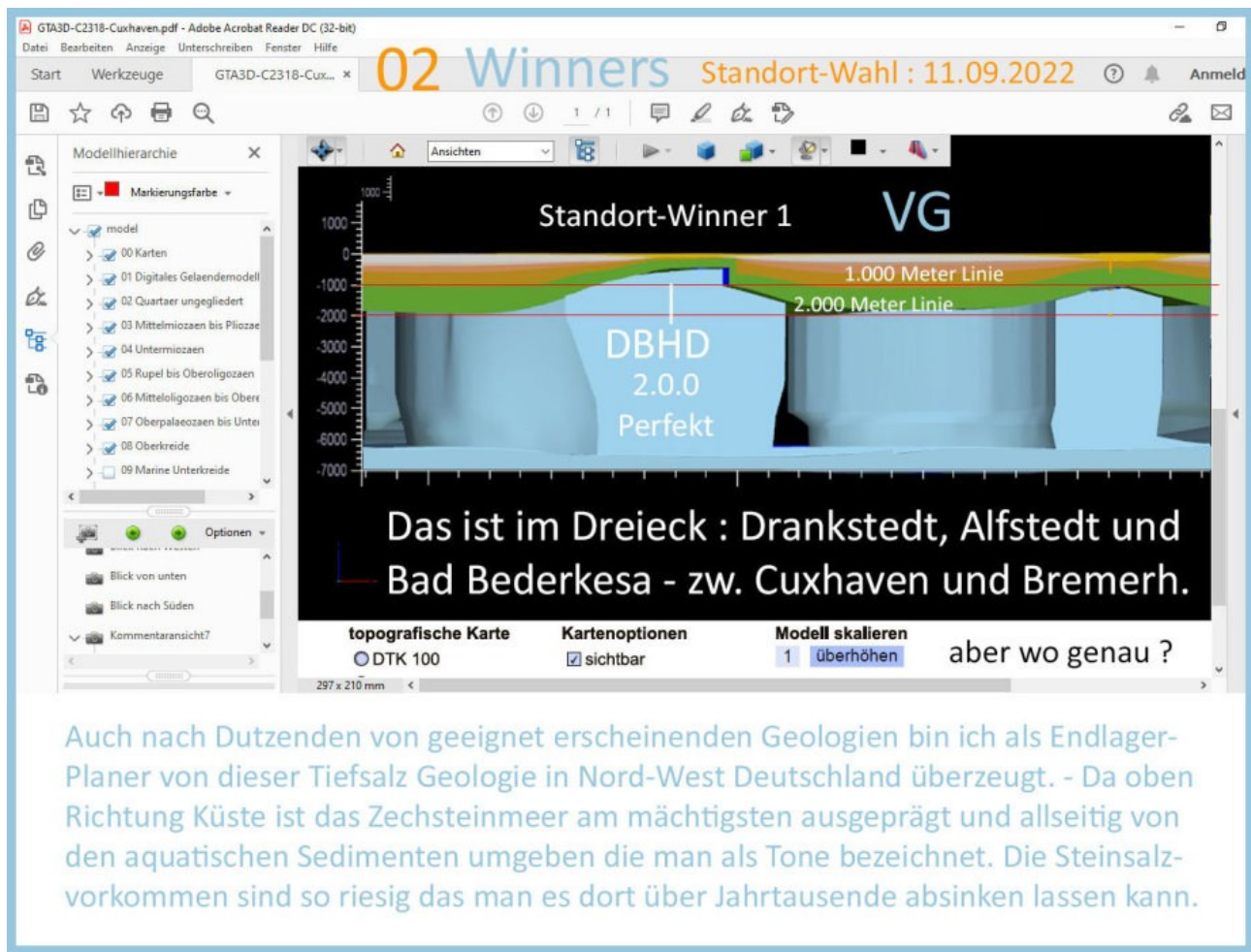


Figure 16 shows the rock salt formation for the HLW repository, which Engineer Goebel named Winner – The geological information from the LBEG Lower Saxony, and the first serious attempt to map the DBHD HLW repository. – The height of the salt ridge varies locally. – Numerous sections at 500 m intervals were necessary...

Because there were so many well-covered repository options for DBHD in 3D that we named it "Winner" too early – Today we call the rock salt area "near Bad Bederkesa," and have found even better rock salt to the southwest!

Therefore, there are only 4 pictures for Winner, but a total of 9 pictures for "near Beverstedt" and "near Basdahl." (And there are also "near Börger" and in Schleswig-Holstein). A precise selection is possible.

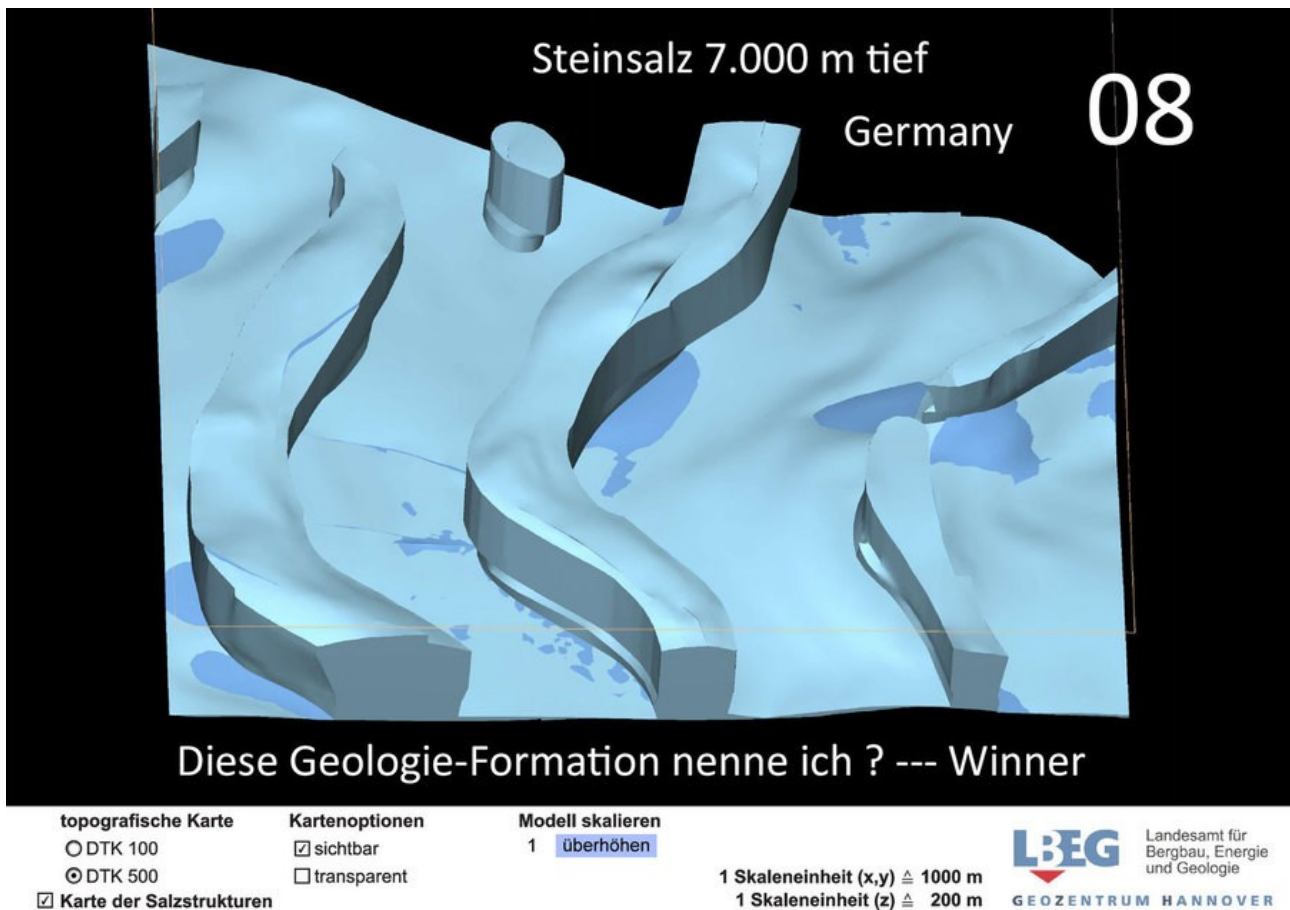


Figure 17 shows the rock salt formation for the HLW repository, which Engineer Goebel named Winner. - Rock salt, approximately 250 million years old - the genesis of the forms is complete and 1,100 meters of sedimentary rock cover ! - Nothing's moving there anymore... **No water flows there either - suberosion fantasies of the GRS - Society for Reactor Safety** - But it's certainly not all pure Staßfurt rock salt, as the BGR tells us. There's thin layers of compressed ash or airborne sand in there. It was all flat once, so it was compressed and folded.

But it's also been lying under 1,100 meters of sedimentary rock for millions of years. DBHD has a ballasted cover - What am I saying? In this picture, you only see the salt...



Figure 18 shows the rock salt formation for the HLW repository, which Engineer Goebel named Winner. - From now on, above-ground factors come into play - better under a field than in the middle of a city or under a road and railway line - and you have to drill into the diapir properly - where the dimensions from the drawing are achieved - and where there is still enough space for a 300 x 360 m DBHD settlement.

Sounds so simple - but it isn't - Germany isn't a deserted desert like Kazakhstan - if you want to run large-scale cooling technology day and night here in Germany, your neighbor is right there! - In the picture above

DBHD already envisions up to six sites for DBHD repositories and still wants to start the first test drilling "near Beverstedt" and "near Basdahl."

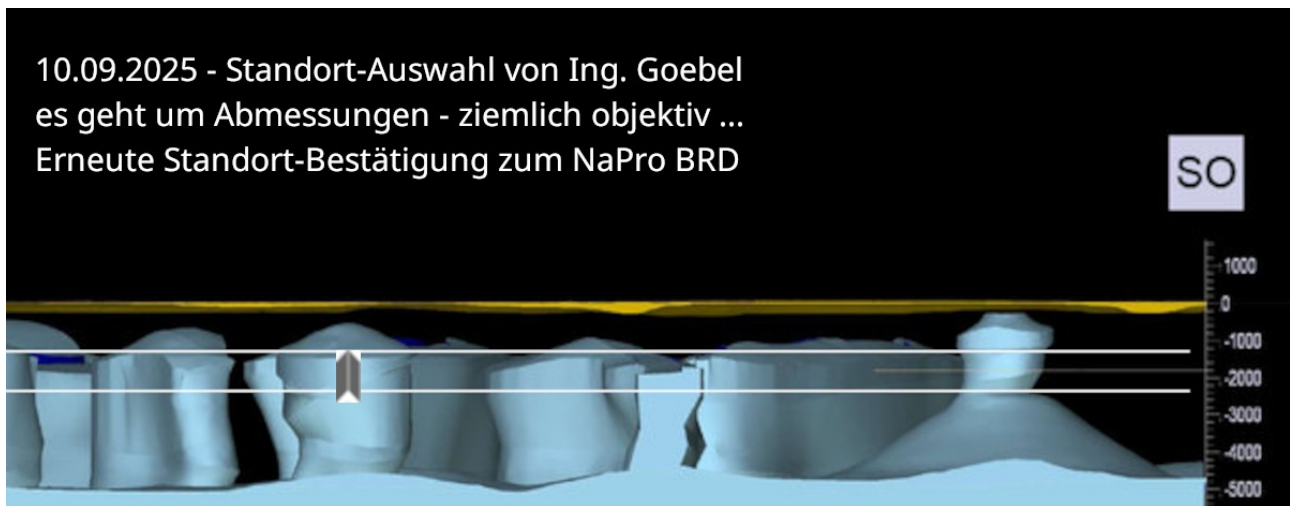


Figure 19 shows the rock salt formation for the HLW repository near Beverstedt

or near Basdahl – the DBHD fits in there as planned! The latest status is good.
The task was to find the best possible location – no less required by the Stand AG
to comply with EU Directive 2011/70/Euratom, a deep geological repository must be
demonstrated. This has now been done.



Figure 20 shows the rock salt formation for HLW repository near Beverstedt

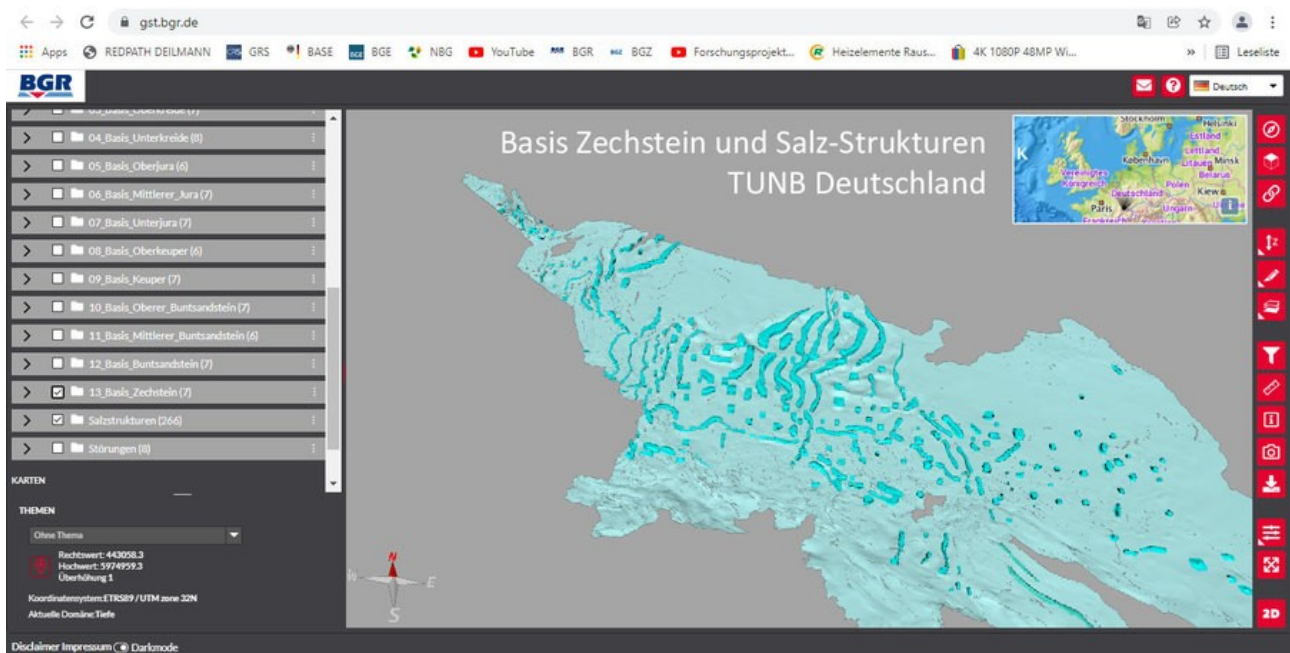


Figure 21 shows the German part of the Zechstein Ur-Basin - Source BGR

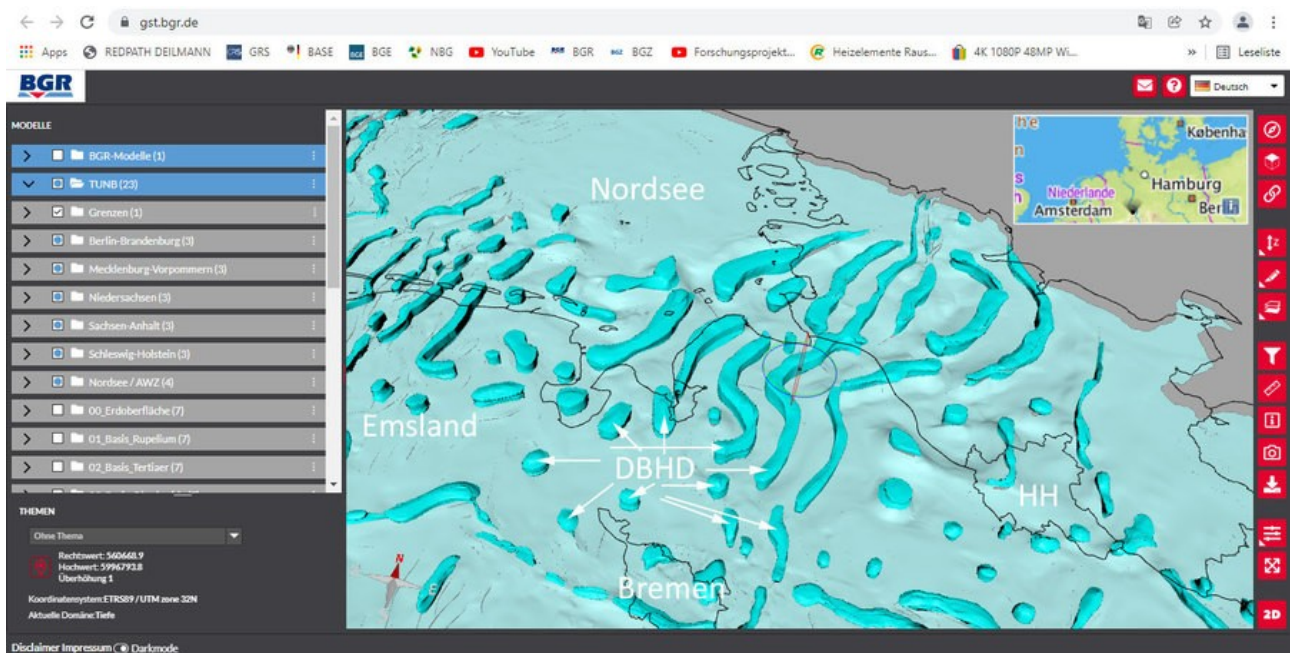


Figure 22 shows the most prolific German portion of the Zechstein Basin.

You can see for yourself where the diapirs are thick enough – on average, you can then see whether the 1,100 meters of sedimentary cover – the "surcharge cap" – is present there and how thick the salt layer is underneath.

Note the coastline (black in the image): The diapirs exist under land and water.

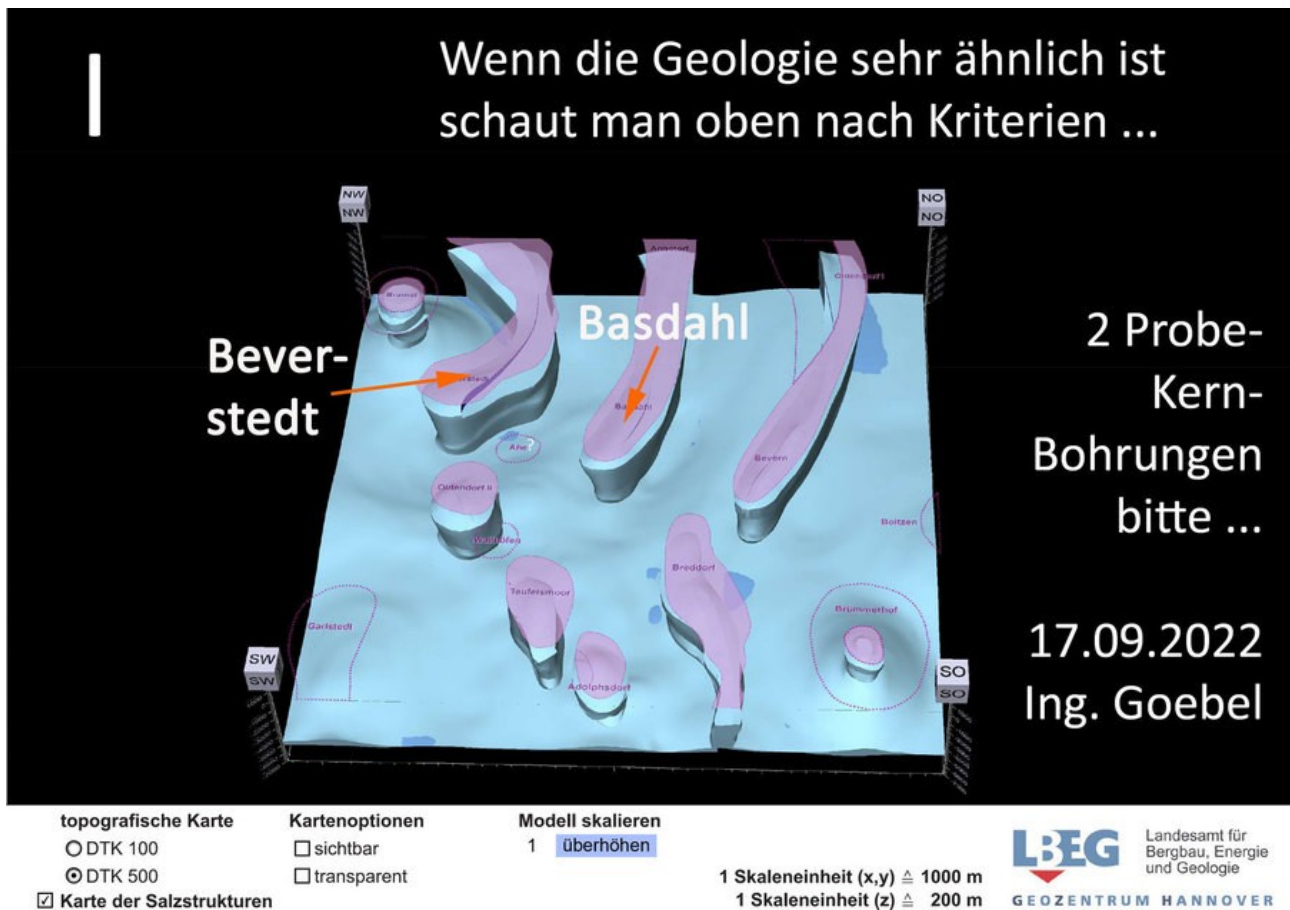


Figure 23 also shows "near Beverstedt" and "near Basdahl," where DBHD wants to conduct test drilling – each of which we know will cost €23 million.

This is precisely where DBHD, Engineer-Architect Goebel, considers the two best possible sites for DBHD repositories after considering all criteria. They are small, and we need four for HLW (high level waste spent fuel and vitrified waste Mg) and two for MLW/LLW (mid and low level nuclear waste m3) for the German waste amount.

There is a lot of promising geology available. – In the upcoming 500 m sections, the locations will be able to be determined even more precisely by comparing them with the terrain surface. This is the work of an architectural planner – not a geologist...

<https://www.arch-goebel.ch/bei-beverstedt/> - - - <https://www.ing-goebel.de/bei-winner/>



Figure 24 shows "near Beverstedt" on the BGE interim report map.

In green, BGE has also described the site as "fair" – they cut higher than DBHD, however – which is why the starting site, DBHD, is further south.

But we need a total of six small repository columns, and one (the second) will probably be located in the area marked in green by BGE.

It speaks in favor of "near Beverstedt" that both DBHD and BGE show this location. Near Beverstedt, the distance between the drilling site and the settlement is good – large enough. Geology is vast – but if you consider the structure of roads, rivers, and forests, the site selection in Germany quickly becomes very limited and challenging.

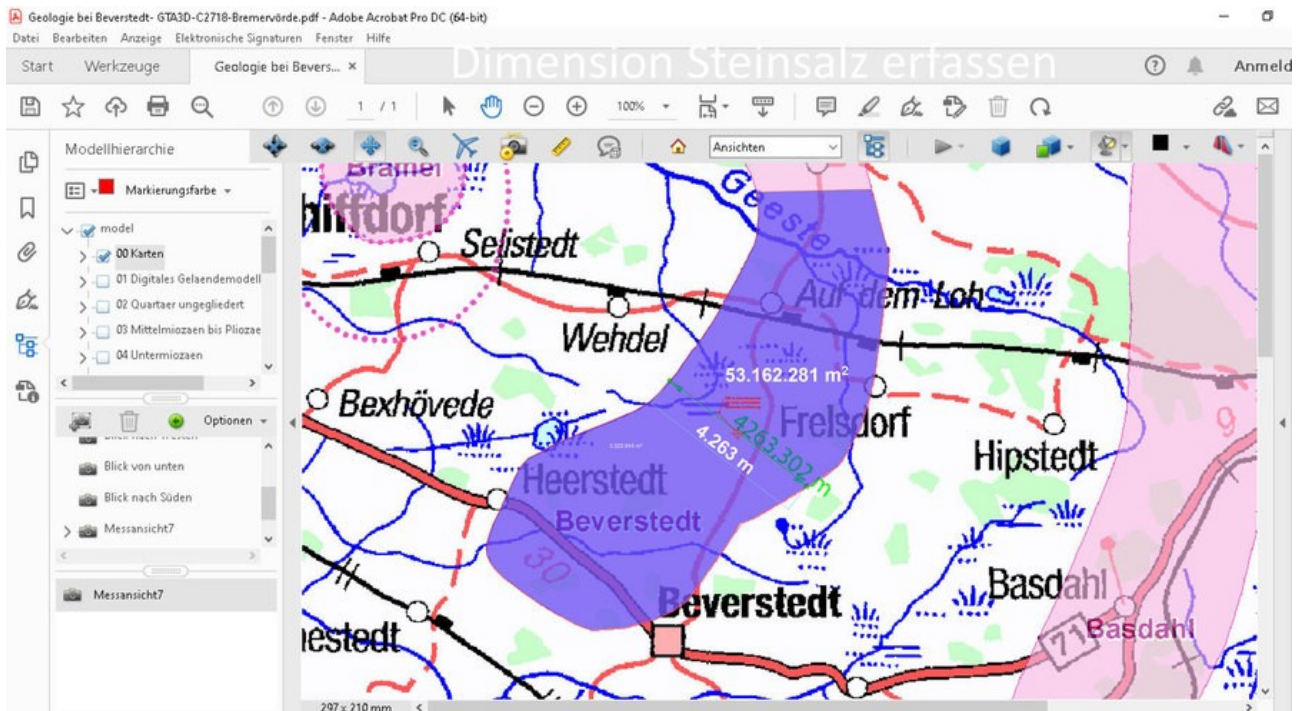


Figure 25 shows "near Beverstedt" – Source: LBEG 3D Geology Database

The width of the salt diapir is not too generous at 4,263 m.

We're looking at approximately 50 million square meters (3 columns).

There's no drilling point marked on this map –

Just plot the drilling points – it costs €23 million for the test drilling and €1.3 billion for the GDF structure.

Do you see how densely populated even the area on the North Sea coast in Lower Saxony is? – You have to plan and connect a 300 x 360 m above ground GDF structure.

People will be working there every day...



Figure 27 shows the DBHD repository sites DE 1 to 6 on a map showing the salt geology, but also the surface structure use.

DBHD will be in the region for approximately 70 years. Deep holes with a diameter of 12.4 m will be drilled. - The above-ground facilities are as large as a large schoolyard. - Numerous transports are also involved !

The direct, radial, honest compensation payments of 8 billion EUR to the neighboring households must be fairly distributed by you. We are building the safe repositories. - Get used to it – get rich with it, and then you will have educational opportunities and well-paid jobs.

Ergänzende Unterlagen die zu den finanziellen Möglichkeiten der BRD Auskunft geben:



Der Bundesrechnungshof der BRD weist auf die hohen Kosten der Zwischen- und Endlagerung ??? von Atommüll hin. (siehe Abbildung oben)

Der Endlager-Planer Dipl.-Ing. Volker Goebel weist darauf hin, dass sämtliche Mittel des KENFO eben NICHT satzungsgemäss für die sichere Endlagerung verwendet werden, sondern in sinnlose, bereits durch Wassereinbrüche untaugliche NICHT-Endlager-Bauvorhaben der BGE mbH fließen.

Ing. Goebel bereitet eine Klage vor dem Bundesverwaltungs-Gericht in Leipzig vor.

Der Bundesregierung wurde im Herbst 2025 ein 50 % LEERES (nur Stand AG bla bla obwohl das EU Gesetz 2011/70 gar keine Standorte fordert) und 50 % GELOGENES (ESK hat festgestellt, dass es in der BRD kein Gebinde gibt, das in Konrad rein darf, und das NICHT Endlager Konrad lässt pro Tag 85.000 Liter Wasser rein) vom BMUKN zur Entscheidung vorgelegt. – Die DBHD Endlager-Planer legten auch ein NaPro vor.

Jahr	DBHD Endlager Planung	BGE BASE EWN BGZ Betrug !?	Hinweise	Mittel KENFO
1	42 Mio. EUR	1,36 Mrd. EUR	Haushalt 2025	20,3 Mrd. EUR
2	0 Mio. EUR	1,39 Mrd. EUR	Haushalt 2026	18,9 Mrd. EUR
3	100 Mio. EUR	1,42 Mrd. EUR	Haushalt 2027	17,4 Mrd. EUR
4	100 Mio. EUR	1,44 Mrd. EUR	Haushalt 2028	16,1 Mrd. EUR
5	100 Mio. EUR	1,47 Mrd. EUR	Haushalt 2029	14,6 Mrd. EUR
6	100 Mio. EUR	1,50 Mrd. EUR	Haushalt 2030	13,1 Mrd. EUR
7	100 Mio. EUR	1,53 Mrd. EUR	Haushalt 2031	11,5 Mrd. EUR
8	100 Mio. EUR	1,56 Mrd. EUR	Haushalt 2032	10,0 Mrd. EUR
9	100 Mio. EUR	1,59 Mrd. EUR	Haushalt 2033	8,4 Mrd. EUR
10	100 Mio. EUR	1,62 Mrd. EUR	Haushalt 2034	6,8 Mrd. EUR
11	100 Mio. EUR	1,66 Mrd. EUR	Haushalt 2035	5,1 Mrd. EUR
12	100 Mio. EUR	1,69 Mrd. EUR	Haushalt 2036	3,4 Mrd. EUR
13	100 Mio. EUR	1,72 Mrd. EUR	Haushalt 2037	1,7 Mrd. EUR
14	100 Mio. EUR	1,75 Mrd. EUR	Haushalt 2038	-0,04 Mrd. EUR
15	100 Mio. EUR	1,79 Mrd. EUR	1 DBHD Endlager fertig	-1,83 Mrd. EUR
ZW Summe	1,342 Mrd. EUR	23,49 Mrd. EUR		

Die laufenden Kosten der **SUPER DÄMLICHEN VOLL-IDIOTEN** die in
14 Jahren **NICHTS** fürs NaPro BRD erarbeitet haben sind so hoch !!!
das wir nur ein sicheres, preiswertes DBHD Endlager bauen können.

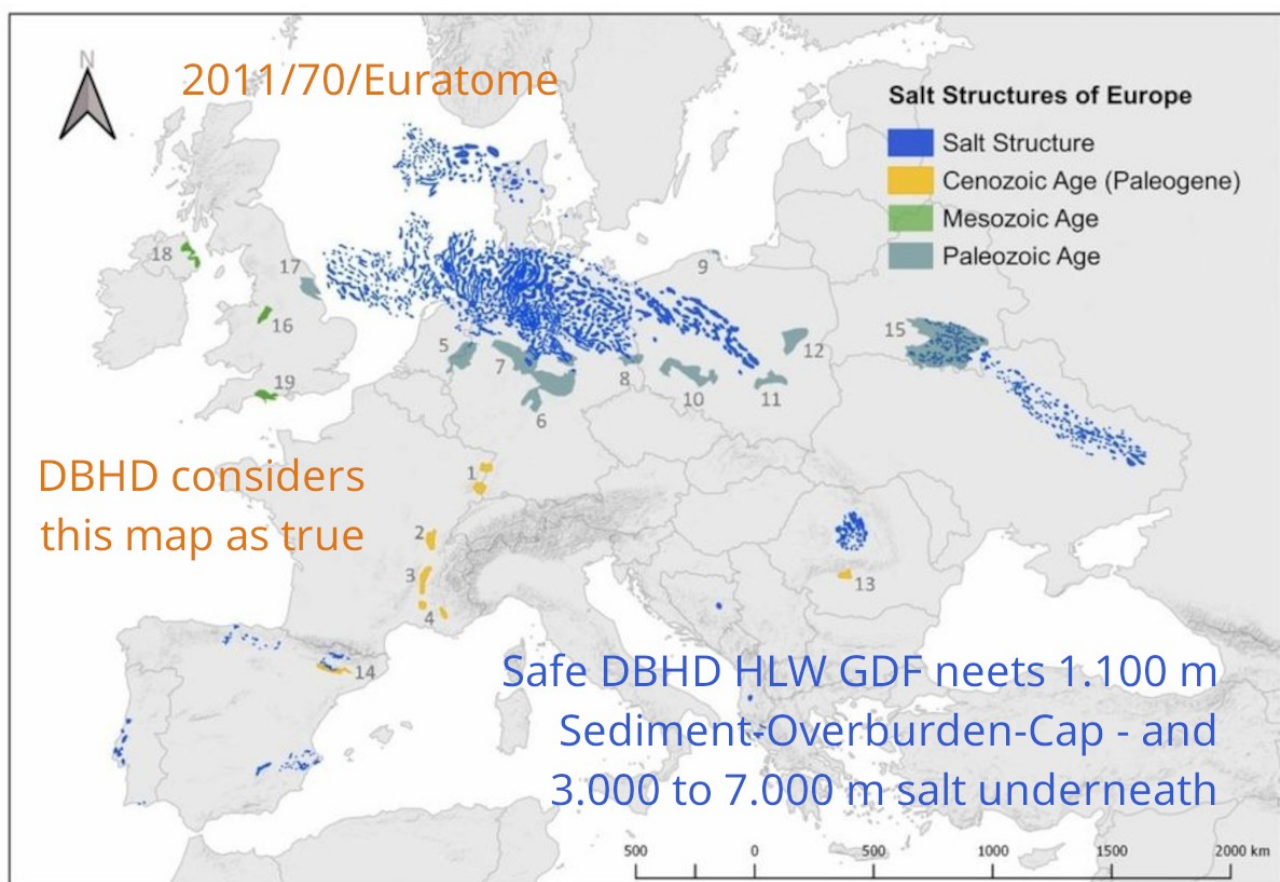
An die 100 J. BGE und den 80 Mrd. Invest in das nasse Nicht-Endlager
im Bröckel-Ton ist gar nicht zu denken - die laufenden Kosten führen
zum Bankrott der gesamten Endlager-Branche BRD in ca. 14 Jahren !

Ing. Goebel rechnet vor, dass die falsche Mittel-Verwendung und die zahlreichen
teuren **Nebenschauplätze von BMUKN, BASE BGE** den Bau der notwendigen
Endlager unmöglich machen, weil die benötigten Mittel für das DBHD Programm
in Höhe von 14,3 Mrd. EUR dann nicht mehr beim KENFO verfügbar sein werden.

Ergänzende Unterlagen zu Endlager-Geologie in Europa. – Es gibt reichlich Steinsalz, Allerdings muss man einschränkend sagen, dass viel davon NICHT unter Land liegt. Das Steinsalz liegt auch häufig nicht in den EU Ländern die Endlager bauen müssen.

Das BMUKN Bonn verhindert die Weiter-Entwicklung der Einzigigen Endlager-Methodik die **Sicheres Endlager** ermöglicht, weil es absehbar ist, dass die anderen EU Länder Deutschland, Polen und Dänemark um die Nutzung Ihrer Geologien bitten könnten.

Das EU Gesetz erlaubt ja Kooperationen für Endlager. - Allerdings gehören zu einer Kooperation immer 2 Vertrags-Partner. Niemand kann Deutschland, Polen und Dänemark zwingen, dortige Steinsalz Geologien den EU Nachbarn zur Verfügung zu stellen.



Artikel 11

Nationale Programme

(1) Die Mitgliedstaaten stellen sicher, dass ihre nationalen Programme für die Entsorgung abgebrannter Brennelemente und radioaktiver Abfälle (im Folgenden „nationale Programme“) durchgeführt werden und für Arten abgebrannter Brennelemente und radioaktiver Abfälle unter ihrer Rechtshoheit sowie alle Stufen der Entsorgung abgebrannter Brennelemente und radioaktiver Abfälle von der Erzeugung bis zur Endlagerung abdecken.

(2) Die Mitgliedstaaten überprüfen und aktualisieren ihre nationalen Programme regelmäßig, wobei sie gegebenenfalls dem wissenschaftlichen und technischen Fortschritt sowie Empfehlungen, Erfahrungen und bewährten Praktiken, die sich aus den Prüfungen durch Experten ergeben, Rechnung tragen.

Artikel 12

Inhalt der nationalen Programme

(1) Die nationalen Programme legen dar, wie die Mitgliedstaaten ihre nationalen Strategien für die verantwortungsvolle und sichere Entsorgung abgebrannter Brennelemente und radioaktiver Abfälle gemäß Artikel 4 umzusetzen beabsichtigen, um die Einhaltung der Ziele dieser Richtlinie zu gewährleisten, und umfassen alle folgenden Bestandteile:

- a) die Gesamtziele der nationalen Politik der Mitgliedstaaten in Bezug auf die Entsorgung abgebrannter Brennelemente und radioaktiver Abfälle;
- b) die maßgeblichen Zwischenetappen und klare Zeitpläne für die Erreichung dieser Zwischenetappen im Lichte der übergreifenden Ziele der nationalen Programme;
- c) eine Bestandsaufnahme sämtlicher abgebrannten Brennelemente und radioaktiven Abfälle sowie Schätzungen der künftigen Mengen, auch aus der Stilllegung; aus der Bestandsaufnahme müssen der Standort und die Menge radioaktiver Abfälle und abgebrannter Brennelemente gemäß einer geeigneten Klassifizierung der radioaktiven Abfälle eindeutig hervorgehen;
- d) die Konzepte oder Pläne und die technischen Lösungen für die Entsorgung abgebrannter Brennelemente und radioaktiver Abfälle von der Erzeugung bis zur Endlagerung;
- e) die Konzepte oder Pläne für den Zeitraum nach dem Verschluss innerhalb der Lebenszeit der Anlage zur Endlagerung, einschließlich des Zeitraums, in dem geeignete Kontrollen beibehalten werden, sowie der vorgesehenen Maßnahmen, um das Wissen über die Anlage längerfristig zu bewahren;
- f) die Forschungs-, Entwicklungs- und Demonstrationstätigkeiten, die erforderlich sind, um Lösungen für die Entsorgung abgebrannter Brennelemente und radioaktiver Abfälle umzusetzen;
- g) die Zuständigkeit für die Umsetzung der nationalen Programme und die Leistungskennzahlen für die Überwachung der Fortschritte bei der Umsetzung;

h) eine Abschätzung der Kosten der nationalen Programme sowie Ausgangsbasis und Hypothesen, auf denen diese Abschätzung beruht, einschließlich einer Darstellung des zeitlichen Profils;

i) die geltende(n) Finanzierungsregelung(en);

j) eine Transparenzpolitik oder ein Transparenzverfahren gemäß Artikel 10;

k) gegebenenfalls das bzw. die mit einem Mitgliedstaat oder einem Drittland geschlossenen Abkommen über die Entsorgung abgebrannter Brennelemente und radioaktiver Abfälle, einschließlich der Nutzung von Anlagen zur Endlagerung.

(2) Das nationale Programm kann zusammen mit der nationalen Strategie in einem einzigen Dokument oder in mehreren Dokumenten enthalten sein.

Artikel 13

Notifizierung

(1) Die Mitgliedstaaten notifizieren der Kommission ihre nationalen Programme und jedwede späteren wesentlichen Änderungen.

(2) Innerhalb von sechs Monaten nach der Notifizierung kann die Kommission Erläuterungen anfordern und/oder eine Stellungnahme dazu abgeben, ob der Inhalt des nationalen Programms mit Artikel 12 in Einklang steht.

Die DBHD Gruppe hat die 14 Jahre genutzt, und ALLES was Artikel 12 zu Recht fordert im Detail erarbeitet.

BGE BASE BGR haben unter Führung des BMU BMUV BMUKN "NICHTS" erarbeitet.

DBHD gab NaPro DE ab.

Das EU Gesetz fordert Methoden-Entwicklung, fragt aber NICHT nach Standorten - denn wer eine Methode hat findet Standorte.

SUP Strategische-Umwelt-Prüfung nach UVPGesetz DE und EU Gesetz 2001/42/EG					
	DBHD Endlager	Schacht-Bergwerke		BGE NICHT-ENDLAGER	Horizontal-Bergwerk
	Ing. Goebel + Dr. Herres 2025	D 12,4 – D 20,4 m		Ansicht II BGR + BGE 2022	
Baupreis	1x DBHD MLW LLW	0,9 Mrd. EUR	Baupreis	1x BGE Nicht-Endlager	55 Mrd. EUR
	1x DBHD HLW	1,4 Mrd. EUR			
jeweils	1x DBHD MLW LLW	1,0 Mrd. EUR		Viel zu spät begonnen	
2 Stück	1x DBHD HLW	1,5 Mrd. EUR		Zu lange Offenhalte-Zeit	
BGZ Thermo-	1x DBHD HLW	1,6 Mrd. EUR			
Daten abwarten	1x DBHD HLW	1,7 Mrd. EUR			
Summe		8,1 Mrd. EUR	Summe		55 Mrd. EUR
CO2 Emissionen	196 kg pro 1.000 EUR	1,58 Mrd. Tons	CO2 Emissionen	196 kg pro 1.000 EUR	10,78 Mrd. Tons
Tiefe	- 1.400 – 2.200 m Geologie	Gleich > trocken	Tiefe	- 800 m > UN-TIEF > Boden	Gleich > nass
	Luft- und Wasserkühl-Anlage	Schacht oben offen		Luft-Bewetterung-schwach	Asse, Eram, Konrad
Vortrieb	SBR Bohrung elektrisch	leise, ebene Wand	Vortrieb	Spreng-Vortrieb und	veraltet, Wildmaße
	Epiroc bohrt elektrisch	keine Auflockerung		Diesel-Wühlradbagger	erstickend
Fläche Oben	6 x 300 x 360 m oberird.	0,65 km²	Fläche Oben	XL Bergwerk 2 Schächte	30 km²
Fläche	4 x 0,195 km² HLW	0,78 km²	Fläche	HLW (DWR, LWR)	8,85 km²
unterirdisch	2x 0,000326 km² MLW LLW	0,000653 km²	unterirdisch	MLW LLW	1,06 km²
Summe	Innen-Höhe 800 m	0,78 km²	Summe	Innen-Höhe ca. 4 Meter	9,91 km²
Behälter Gebinde	19 Mio. x 1,394 kg 1.4571	26.485 Tons	Behälter	13.000 x Pollux Grauguss	824.200 Tons
ELB 01 DE	19 Mio. x 1,526 kg Alt-Blei	28.994 Tons	Pollux	Bentonit (Katzenstreu !!!)	Leergewicht 63,4 T.
PTH 01 DE	Dr. Merz KIT will mehr ...	bekommt er !	unbefüllbar	Teure Rampe notwendig	Behälter Ansicht II
Verschluss	Gas-Dicht im Tief-Salz	300 m Verschluss	Verschluss	nicht gasdicht verschleißbar – Korrosions-Gasbildung	
Unterkritisch	1 kg HLW Inventar / Behälter	Nachweis	Unterkritisch ?	1,6 Ton. HLW pro Behälter !!!	kein Nachweis
DBHD verursacht 85 % weniger CO2, verbraucht 92 % weniger Fläche und verbraucht 93 % weniger Metall. 					

Im Rahmen der SUP Strategischen Umwelt-Prüfung ging es um die Umwelt-Auswirkungen von Endlager Neubauten. Grundsätzlich ist DBHD Endlager als SICHER zu betrachten. Es erfolgt keine Austragung aus dem EWG – Einschluss-wirksamem Gebirgsbereich, weil DBHD mindestens 400 Meter unter dem letzten Grundwasserleiter im Salz einlagert.

Allerdings ist jede Bautätigkeit mit CO2 Emissionen verbunden. – Wir rechneten mit einem anerkannten Mittelwert von 196 kg CO pro 1.000 EUR Bausumme. – Berücksichtigt wird nur die Bausumme, die 8 Mrd. EUR an direkten und radialen Kompensationen tauchen in der SUP Vergleichstabelle nicht auf – wg. Geld auf Konto oder Immo-Käufen !?

Wer wie BGR-BGE grosse Rampen für schwere Behälter und grosse leere horizontale Gänge für Transportfahrzeuge bauen müsste, baut langsam und sehr teuer – DBHD verwendet kleine Endlager-Gebinde die vom Arbeitsraum aus in 45 ° Bohrungen eingeführt werden und aus Schwerkraft in Position rutschen. – Das spart sehr viel Zeit und Geld.

Die SUP Tabelle geht von einer DBHD Planung aus, die gegen 80 MW Nachzerfalls-Wärme (den Zulassungs-Werten der Zwischenlager) berechnet wurde ! – In Wirklichkeit stehen aber schon 40 J. ! alte Castor-Behälter bei der BGZ, aber solange DBHD keine Real-Thermodaten von der BGZ erhält sind es 4 HLW Endlager für Deutschland. – Nach Bekanntgabe der Thermodaten durch die BGZ (Frau Hesse mauert) wird man wahrscheinlich eher mit 2 HLW Endlagern für den HLW auskommen und dann verändert sich die SUP Tabelle noch einmal. Grundsätzlich ist Endlager auch mit der intelligenten DBHD Methode immer noch eine monströse Material-Schlacht.

Wir freuen uns trotzdem das 79 Jahre alte Bau-Rätsel Endlager in 14 Jahren Forschung & Entwicklung gelöst zu haben.