Open consultation: National Policy Statement for geological disposal infrastructure

The purpose of this consultation is to gather views on whether the draft National Policy Statement (NPS) for Geological Disposal Infrastructure (GDF) provides an appropriate and effective framework for the Planning Inspectorate and the Secretary of State to examine and make decisions on development consent applications for geological disposal infrastructure in England.

National Policy Statements set out the need for particular Nationally Significant Infrastructure Projects (NSIPs), and are required, under the Planning Act 2008, to undergo a period of public consultation before they are published.

This consultation applies to residents of England and Northern Ireland. If you live in Wales, the Welsh Government will be issuing a separate consultation on the 8 November. Both consultations are open for responses from outside the areas to which they relate.

Notice: NN11 4NS, Pedigree Power LLP: environmental permit application advertisement

The Environment Agency consults the public on certain applications for waste operations, mining waste operations, installations, water discharge and groundwater activities. The arrangements are explained in its Public Participation Statement

These notices explain:

- what the application is about
- how you can view the application documents
- when you need to comment by

The Environment Agency will decide:

- whether to grant or refuse the application
- what conditions to include in the permit (if granted)

Notice: NN11 4NS, Henley Biomass Limited: environmental permit application advertisement

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Guidance: Gwaredu daearegol

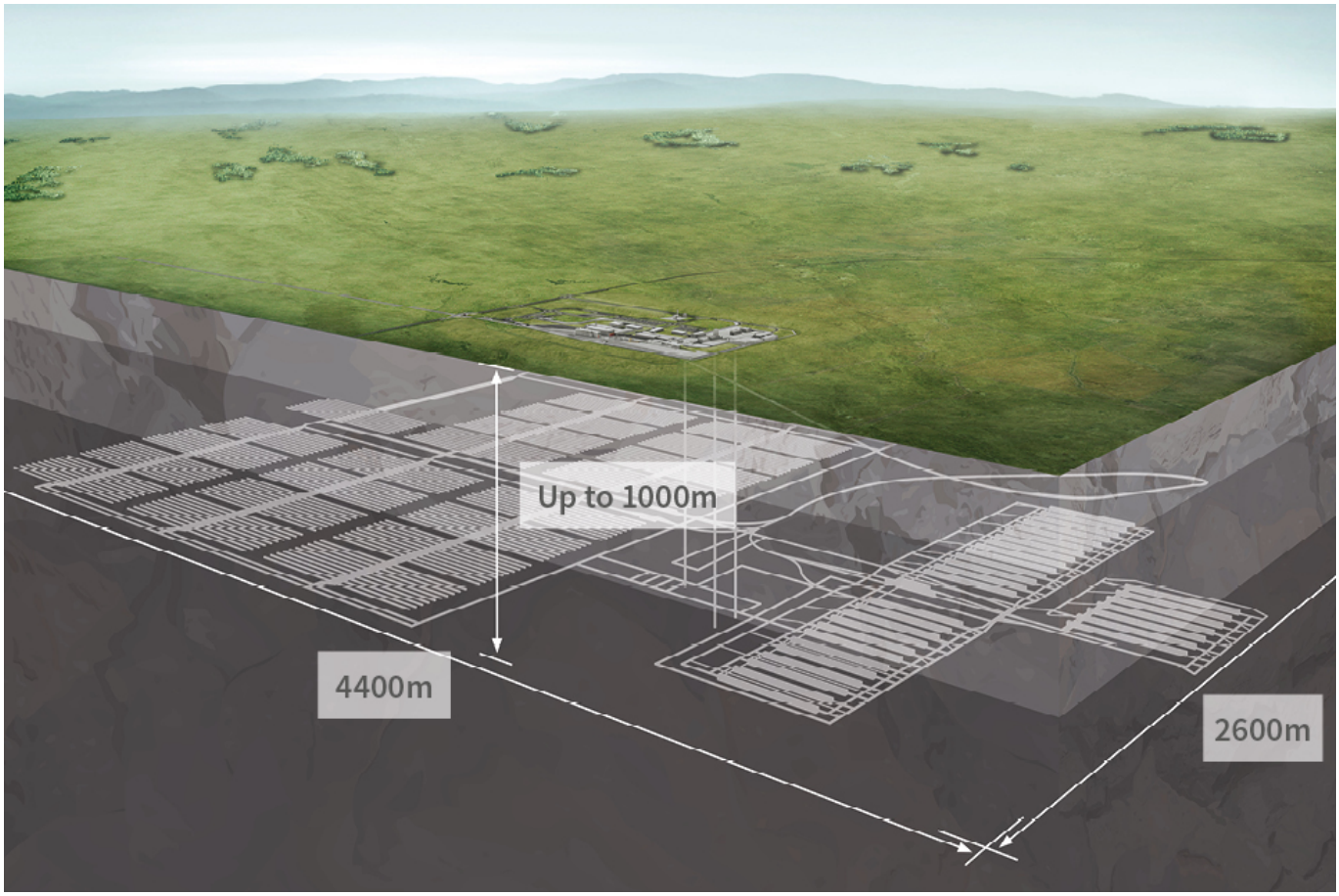
Mae technoleg niwclear wedi bod yn rhan o'n bywydau am dros 60 o flynyddoedd, ac mae'n cael ei ddefnyddio i gynhyrchu pŵer, ym maes diwydiant, meddygaeth ac amddiffyn. Erbyn heddiw, mae ynni niwclear yn darparu bron i un rhan o bump o holl drydan y DU. Mae'r gweithgareddau yma wedi creu gwastraff ymbelydrol y mae angen i ni ei reoli yn ddiogel.
Mewn Cyfleuster Gwaredu Daearegol (GDF) bydd y gwastraff yn cael ei roi gannoedd o fetrau o dan y ddaear. Cydnabyddir yn rhyngwladol mai GDF yw'r datrysiad hirdymor mwyaf diogel; bydd cael un yn y DU yn creu swyddi a buddsoddiad gwarantedig i'r gymuned dan sylw.

Detailed guide: Why underground?

There is international consensus that the safest permanent solution to manage higher activity radioactive waste is geological disposal, which involves

putting the waste in a Geological Disposal Facility (GDF) beneath several hundred metres of solid rock.

This is already the chosen approach in countries including Canada, Finland, France, Sweden and Switzerland. Some of these countries are well on the way to developing their own GDFs.



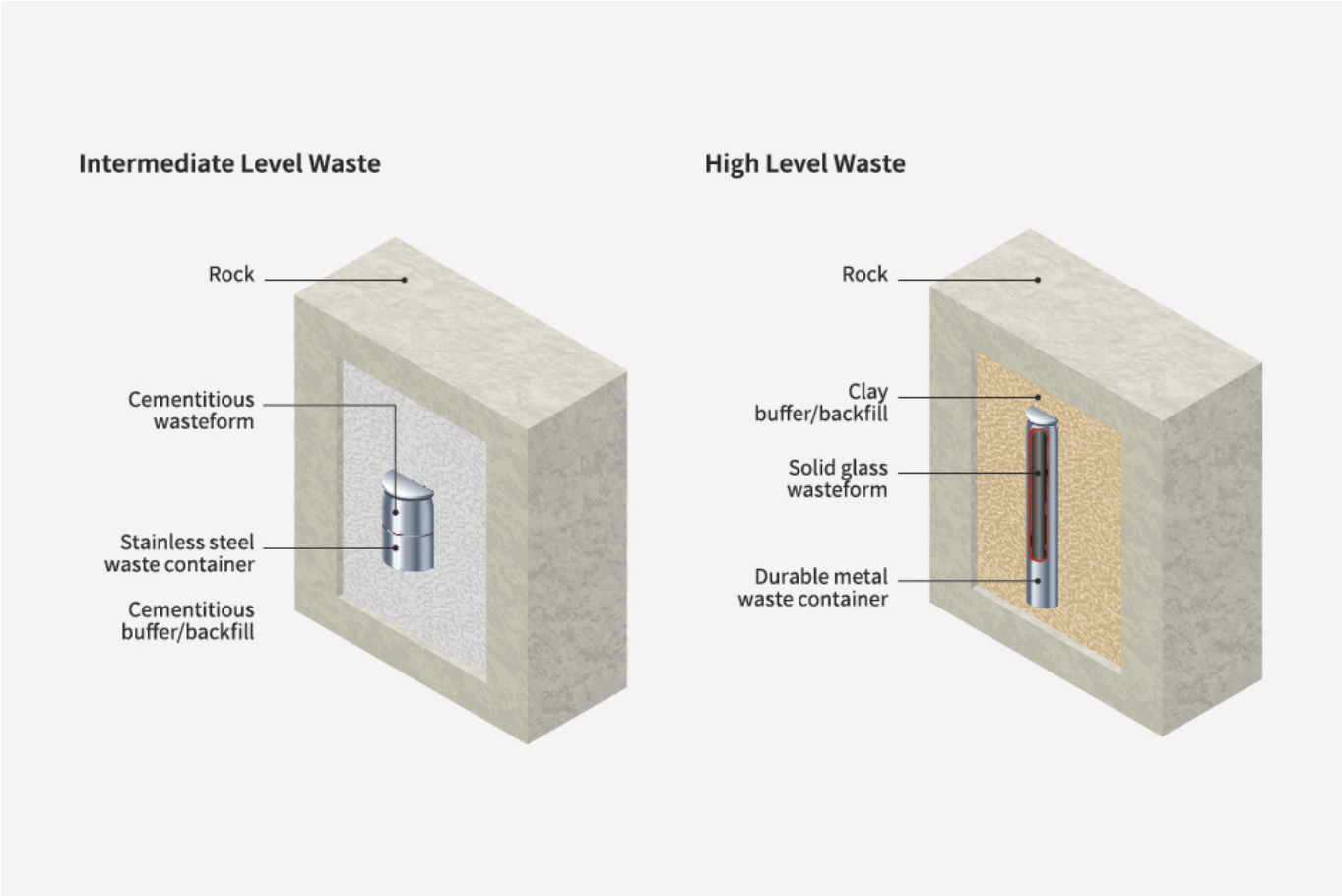
A Geological Disposal Facility (GDF)

How does geological disposal work?

Geological disposal is possible thanks to world-class engineering, science and technology. This involves:

- isolating the radioactive waste in sealed vaults and tunnels deep underground, between 200 m and 1000 m below the surface
- containing the radioactivity while it decays naturally over time
- preventing radioactivity from ever reaching the surface in levels that could cause harm

Solid radioactive waste is packaged in secure engineered containers, typically made of metal or concrete, and then placed in a stable rock formation hundreds of metres below the surface, with the containers surrounded by clay or cement. This is called the multi-barrier approach.



The multi-barrier concept

In addition, a GDF:

- requires no ongoing maintenance
- is less vulnerable than surface storage to human activities such as terrorism or war
- is less vulnerable than surface storage to natural processes such as climate change

Watch our video that shows how a GDF will be implemented.

Welcome to the future of geological disposal

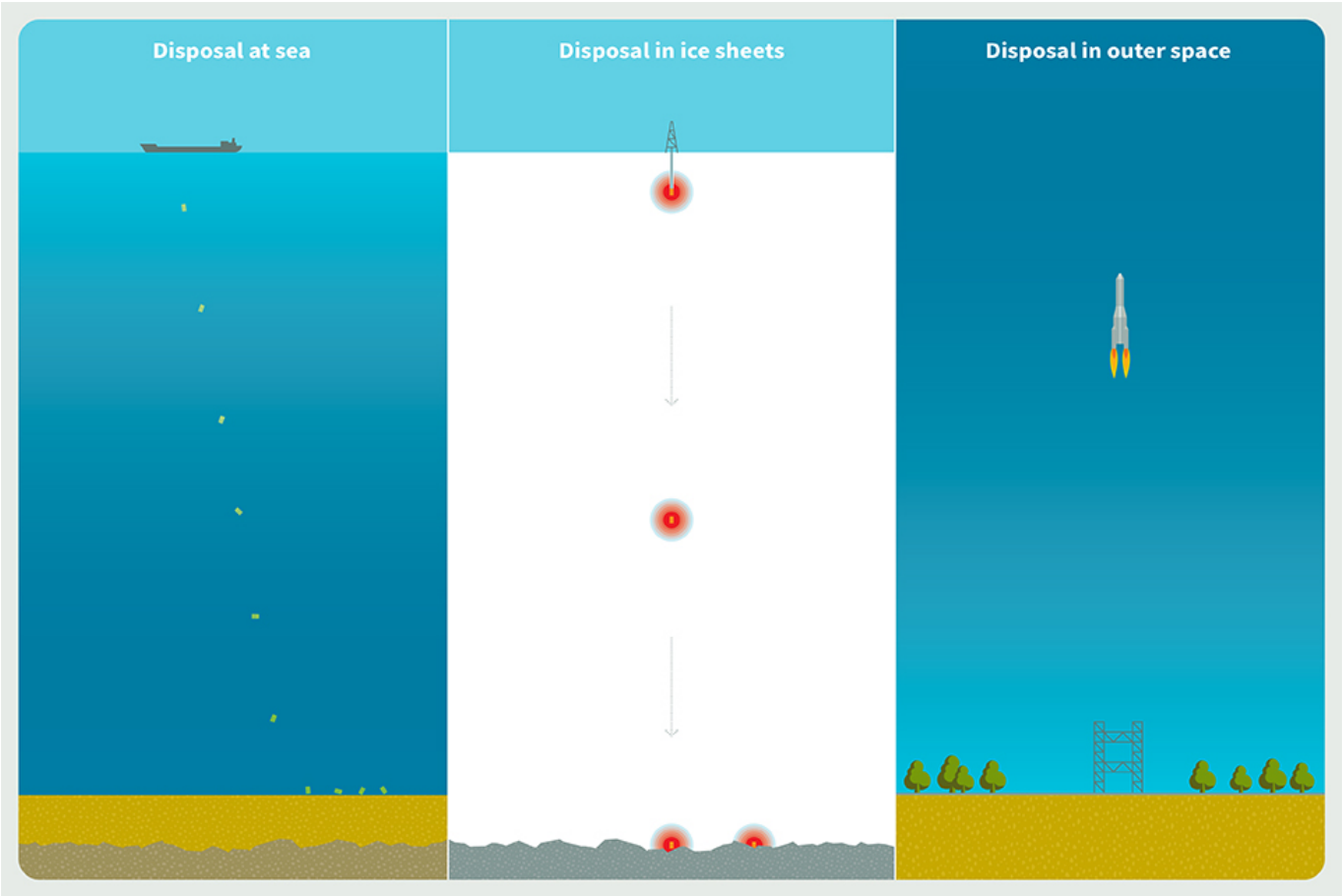
After the waste has been placed into a GDF, deep underground and away from people and the environment, it will eventually be permanently sealed to provide safety without the need for further action.

The safest solution

Safety is our absolute priority. When constructing a Geological Disposal Facility we are working to keep the risk arising from the GDF directly above ground to a lower than one in a million chance of people developing health problems at any time in the future. (Source: Environment Agency's Guidance on Requirements for Authorisation of Geological Disposal, 2009)

Alternatives to geological disposal have been carefully considered and we continue to keep options under review. At present, they are all either not

technically achievable (for example: converting the waste to non-radioactive material), not environmentally safe (for example: disposal at sea or in ice sheets), or too dangerous to implement (for example: firing the waste into space on rockets).



Unsuitable waste disposal methods

Next steps

We are looking for a suitable site to implement geological disposal safely, with a willing community who will work in partnership with us, as part of an agreed vision for the future.

Planning for geological disposal will take between 15 to 20 years. Independent regulators will ensure that all processes have been followed to their satisfaction. Only then can construction start.

If you would like to receive email notification of updates to these pages, please sign up to our e-bulletin service

Go to geological disposal homepage

Got a question?

If you have any questions our scientists and engineers are on hand to answer any technical queries you may have. Please email us at gdfenquiries@nda.gov.uk

To understand in more detail what will go into a GDF, what it will look like and what the multi-barrier approach is, please read more in the downloadable science files below.

The science files

What will go into a GDF?

PDF, 978KB, 6 pages

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The multi-barrier approach

PDF, 10.6MB, 7 pages

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What will a GDF look like?

PDF, 1.75MB, 6 pages

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