



Geological Disposal Facility

Creating Jobs & Skills: A First Look

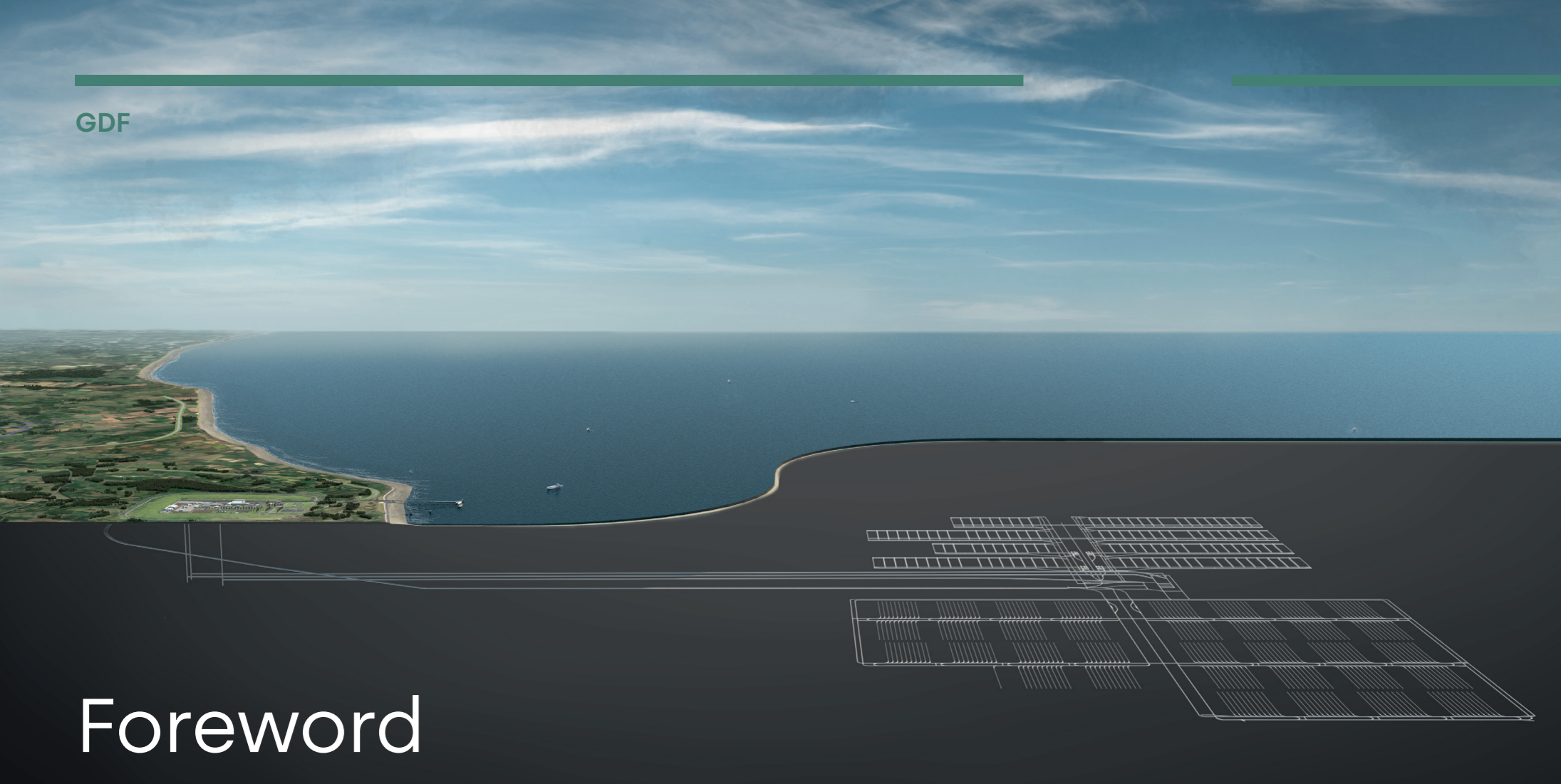
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**Nuclear Waste
Services**

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Foreword

Delivering a permanent solution for the UK's higher-activity radioactive waste is one of the most significant challenges and opportunities of our time. Developing a Geological Disposal Facility (GDF) to dispose of our most hazardous radioactive waste will be one of the biggest infrastructure projects the UK has ever seen. This highly engineered facility will generate long-term opportunities for the eventual host community, its local economic region and beyond. It will also make a major contribution to the environment by safely disposing of waste which otherwise would have to be stored and maintained for thousands of years above ground.



Karen Wheeler
Deputy Chief Executive Officer / Major Capital Programmes Director
Nuclear Waste Services.


While we are only in the early stage of this vital project, and any estimates will need to be refined as we go forward, we wanted to set out the likely number of jobs this multi-billion pound programme will create and outline the range of skilled and well-paid careers that will be available. These roles will bring a huge economic stimulus to whichever community agrees to host a facility.

The host community will benefit from significant additional investment and infrastructure. The development of new or improved transport links, such as new roads and

train lines, new education facilities and environmental protection will bring huge benefits to the region. This additional investment has the potential to create thousands of additional jobs providing a huge boost to the economy.

This project will provide unique opportunities not only to recruit but also to train locally for the thousands of roles that are expected to be created. A long-standing employment pipeline could transform the prospects of a region for many generations.

An illustration of a coastal GDF

 **4,000**

Major job creation

A GDF is expected to create more than 4,000 jobs within the first 25 years.

 **175 Years**

Jobs for generations

Work on a GDF will carry on for about 175 years, generating an average of 2,000 jobs in any given year.



Local jobs

We estimate that most of the jobs created during construction and operation could and should be locally based.

 **75%**

Wide range of skills

From construction, engineering and project management. 75% of roles are estimated to be for candidates with qualifications equivalent to A-Level and below.



Train locally

NWS is committed to training, support, and roles for the local community.



The GDF project: protecting the future

Nuclear technology has been a part of our lives in the UK for over 60 years. It provides 15% of the UK's electricity and is used in industry, medicine, and defence. These activities have created a legacy of radioactive waste which we need to manage safely today and for the many thousands of years it remains a hazard.

Scientists around the world agree that a highly engineered Geological Disposal Facility (GDF) is the best solution to keep our most hazardous radioactive waste safe and secure for the long term. This underground facility will consist of vaults and tunnels up to 1,000 metres deep containing the waste far below the earth's surface.

It is UK Government policy that a GDF will only be built where there is a suitable site and a willing community. The first step is opening a dialogue with people, groups and organisations across the country to help them find out more about the opportunities this programme could offer and ask any questions they have about what hosting a GDF would mean. Positive early engagements are underway within

communities across the country about hosting a GDF. These conversations will support communities to see if hosting a GDF is something that works for them.

This nationally significant infrastructure project is being delivered by Nuclear Waste Services (NWS), with combined expertise in areas such as nuclear science, engineering, and community engagement. NWS is part of the Nuclear Decommissioning Authority, which has a long-term mission to clean up nuclear sites safely, securely, and cost-effectively.

GDF jobs will continue for an estimated 175 years



Phase of development	No. of years
Phase 1: Site Characterisation	15
Phase 2: Initial Construction	10
Phase 3: Operations, including further construction	140
Phase 4: Closure	10
Total lifetime of the GDF programme	175

Current estimated time-frames based on early planning assumptions.



Skills for generations

A Geological Disposal Facility (GDF) is estimated to generate an average of 2,000 jobs in any given year over the 175 year lifetime. It is expected to create more than 4,000 jobs within the first 25 years.

Many of these skilled, well-paid jobs could be created within the host community and the impact in terms of direct and indirect employment and skills development should be felt across the region. In addition to direct employment at the facility, a GDF will generate indirect employment in the supply chain and induced employment by boosting local spending power.

Job creation is projected to continue throughout the lifetime of a GDF, which is estimated to be around 175 years. More than one generation will benefit from this large scale infrastructure project as it provides an opportunity for continuous employment, and a chance for communities to upskill and reskill.



A model for success

Crossrail: Tunnelling and Underground Construction Academy (TUCA)

Over the course of almost seven years, the Crossrail Academy has provided training to more than 20,000 people. This includes continued professional development courses to those already in the industry and apprentices, 98% of whom have gained full-time employment in their chosen career with starting salaries of up to £18,000.

TUCA is now diversifying into rail engineering and construction and civil engineering, supplying skilled construction and tunnel workers to other infrastructure projects including the Northern line extension, Crossrail 2 and HS2, as well as non-rail projects like the Thames Tideway and the new National Grid electricity cable tunnels under London.

Skills in action

GDF in Sweden: Forsmark

Comprehensive site investigations, covering geology, hydrology, ecology, and social impact and community engagement, led to a decision in favour of a GDF at Forsmark in Östhammar, Sweden. Residents in the local communities had consistently returned strong votes in support of the project.

The decision means that Sweden's largest and most important environmental protection project is currently progressing to the construction stage, triggering investments of over £1.5 billion, which will create around 1,500 employment opportunities in the region.

When fully developed, sometime in the 2080s, the repository will have space for more than 6,000 canisters of spent fuel.

Wide range of skills

During the development, operations and closure of a GDF, roles will be needed at all levels, from jobs that don't require any qualifications to apprenticeships, graduates, and highly skilled and experienced specialists, creating thousands of skilled, well-paid roles across generations.

A breakdown of the estimated direct roles generated in the initial construction phase.



130

Engineering
Science and Technical



875

Trades



300

Project management,
Operations and
Business Function



75%

of roles will be for
candidates with
A-Levels or below

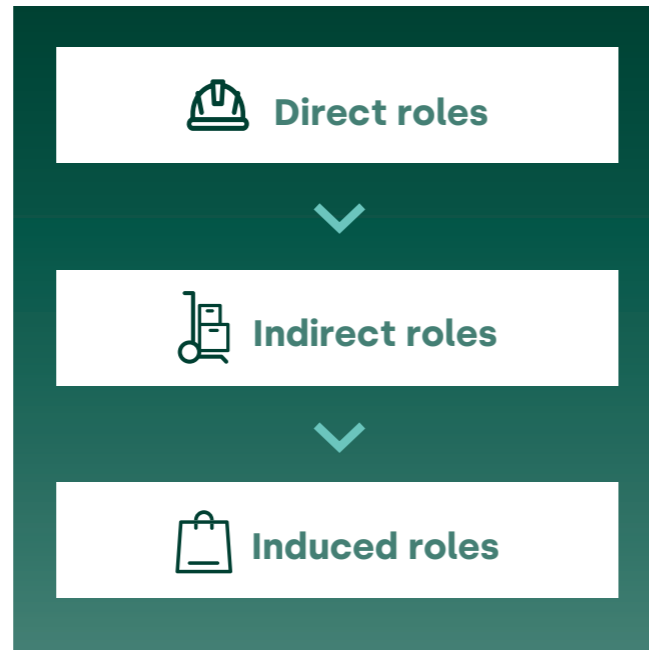
Boosting the economy

In addition to the workforce required to directly develop a GDF, there will be a range of additional roles required and generated as a result. These roles would not only be created at the facility itself, but in the supply chain, and through the further investment and business opportunities a GDF would generate.

As a result of hosting one of the largest infrastructure projects in the UK, a GDF is projected to invigorate economic activity in the host region, boosting spending and creating a range of jobs where it is located.

So, as well as **direct employment** opportunities a GDF will generate:

- **indirect employment**, which will create roles in the supply chain that a GDF will require e.g., transport of construction materials.
- **induced employment** – where people are employed as a result of the general uplift in the economy; jobs that are not directly related to a GDF or its supply chain but are the result of increased spending, such as those in retail and leisure.



Employing and upskilling a host community

At the heart of this infrastructure project is the drive to recruit locally, use local contractors and to build local skills and expertise.

We estimate that most of the jobs created during construction and operation could and should be locally based.

The type of roles available across the lifetime of a GDF will range from jobs that don't require any qualifications, apprenticeships, those accessible from GCSE level, through to highly skilled roles. The majority of direct roles (75%) are estimated to be open to those with qualifications at equivalent of A Level or below.



Community benefits

One of the most significant benefits of a GDF to the host community will be the utilisation of a local workforce. For example:

- As part of the GDF programme in France, construction of an underground facility in Bure resulted in the opening of a specific local job office to recruit local staff.
- In Spain, approximately 40% of the 1,800-construction workforce for the El Cabril facility, which is a disposal facility for very low and low-intermediate level radioactive waste, was recruited locally.
- A GDF at Forsmark in Östhammar, Sweden, is the country's largest and most important environmental protection project. It has triggered investments of over £1.5 billion, creating around 1,500 employment opportunities in the region.

Delivering for the community and the country

A long-term infrastructure project like a GDF provides an opportunity to invest in and develop a vibrant and multi-skilled workforce in advance of each phase of development. Over its lifetime, it will generate reinvestment in the host community, ensuring the value of one of the UK's largest infrastructure projects is realised locally.

A GDF is a vital project for the UK. And for the local host community there will be major investment, with the creation of significant and long term opportunities for thousands of skilled, well-paid jobs over 100 years. More than 4,000 jobs are expected to be created in the first 25 years.

We are still in the early stages of the GDF programme, and these estimates are based on what we know so far. As we move through the programme and a site is selected these

jobs could well increase and provide more opportunities for the host region.

We are committed to recruiting locally where possible. The long timeframe allows education and training initiatives to be offered locally, giving local communities the opportunities to develop relevant and transferable skills. A GDF will provide a huge economic stimulus for the local community, the region, and more broadly across the UK.

The GDF programme is about acting now to deliver for future generations. It will provide careers and lifelong, valuable skills for more than 100 years.



Our priority
Recruit locally



Our pledge
Use local contractors



Our support
Build local skills and expertise

For more information, visit our website:

[gov.uk/government/organisations/nuclear-waste-services](https://www.gov.uk/government/organisations/nuclear-waste-services)

Case studies - references

El Cabril

https://www.edram.info/fileadmin/user_upload/_imported/2010-01_EDRAM_Com_Benefits_Final_ENG_.pdf

Crossrail

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SKB/Forsmark

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skb.com/future-projects/the-spent-fuel-repository/



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