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**Mid Copeland GDF Community Partnership**

MID COPELAND GDF

# News

**Issue 5**: Winter 2024

**Supporting community engagement about a Geological Disposal Facility**


# Help us create a community vision

## Forums are giving residents the chance to voice their opinions and see what the future could hold

**THANK YOU to everyone involved so far in helping to create a community vision with Mid Copeland GDF Community Partnership, as part of the GDF programme.**

The Partnership has been asking people what matters to them in the near and long-term by gathering a range of views and ideas from across the community, particularly those living in the Gosforth electoral ward.

A number of community visioning forums have been held in September and November this year and a questionnaire has also been developed to gather local views. All the feedback received so far is currently being pulled together into a draft vision by the Partnership and there is still time to get involved if you haven't already through completing our questionnaire on the website: www.midcopeland.workinginpartnership.org.uk or by scanning the QR code below.

**What's important to you?** Scan the QR code to take our short survey

> **"The vision is about what local people would like to see developed in their area"**
>
> — Andy Pratt, Chair of Mid Copeland GDF Community Partnership

Significant Additional Investment (SAI) will be made available in a community that hosts a GDF. This investment will be shaped by a local community vision and could include, for example: local education and skills capacity, transport infrastructure or recreational facilities.

Developing this draft community vision started with NWS and the Partnership reviewing existing parish and community plans, to understand key themes that have been previously identified in the area.

These themes include housing, transport, environmental, employment and skills, health and wellbeing, and tourism and attractions.

This information is helping to spark further ideas and aspirations about the future of the community.

Andy Pratt, Chair of Mid Copeland GDF Community Partnership, said:

"The vision is about what local people would like to see developed in their area – they may have aspirations, a wish-list to build on what already exists, or they may be content with what they already have.

"We've been hearing a range of opinions and views from local people who are passionate about their community as part of this visioning work, including the need for improved transport and infrastructure, together with sports and recreational facilities.

"If you haven't taken part, it's not too late, so do get in touch or go onto the website to fill out our questionnaire and have your say.

"Once a draft vision has been put together, we will come back out to the community to test and shape that work further, around February/March next year," he added.

In addition, the Partnership has continued its work with young people from the area, including 1st Gosforth Scouts and Drigg & District Young Farmers and their views have also been fed into the draft vision.

**Call for businesses to get involved with the Mid Copeland GDF Community Partnership Page 3**

# Focus on geology


Jason Canning speaks about geology

**NUCLEAR** Waste Services (NWS) has created a video describing the work to date to understand the rocks in the Copeland and East Irish Sea areas.

This understanding is being developed from the evaluation of data, from both the NWS Marine Geophysical Survey and other marine geophysical surveys previously undertaken by oil and gas companies.

This is being analysed alongside further information, including data from boreholes drilled to explore for oil and gas in the East Irish Sea region in the past, as well as studies of comparable rocks in other parts of the country.

Jason Canning, NWS Principal Geoscientist, is speaking in the video and also attended two local groups in the Mid Copeland area – West Lakes U3A and West Lakeland Rotary – to give a presentation around geology.

Jason said: "Deep geology beyond the coast, and between 200-1000m below the seabed, is being considered for siting the underground elements of a GDF in all three Community Partnerships (Mid Copeland, South Copeland, in Cumbria and Theddlethorpe, in Lincolnshire).

"A marine geophysical survey of geology beneath the seabed was carried out off the coast of Mid Copeland and South Copeland Community Partnership areas in 2022 and work to date has indicated potentially suitable geology.

"Further analysis continues and we're gathering information from boreholes drilled by the oil and gas industry in the past to inform ongoing engineering and safety assessments about the suitability of the geology to host a GDF.

"It's good to be able to present and discuss this information with community groups so they can further understand about our work to date in this area," he added.

Graham Hutson, Leader of the Discovery Group for West Lakes U3A, said: "The geology talk was very interesting, delivered at the right level by an excellent speaker. The U3A audience now has a much clearer understanding of the geology in the Mid Copeland search area in relation to the GDF programme."

A GDF involves isolating the waste deep underground in suitable geological formations and placing it in highly engineered vaults and tunnels which keep the waste safe and secure for hundreds of thousands of years. The radioactivity will decay naturally and become less hazardous over time with the majority of radioactivity decaying within the first few hundred years.

A GDF is made up of a surface location, the right geological environment deep underground and the ability to connect the two with accessways. Considering these elements in a Search Area helps NWS focus its site evaluation studies and determine the potential suitability of an area to host a GDF.

NWS will carry out studies and investigations over a number of years to understand whether a GDF can be constructed, operated, and closed safely and securely.

Ongoing evaluation work will inform decisions on the places where NWS will undertake more detailed investigations, called site characterisation. This includes drilling boreholes to better understand the geology deep below the surface, where the underground part of a GDF would be built.

Studies and surveys will take place down the boreholes as well as detailed laboratory studies on the rock that is extracted from the boreholes.

**Geology video**
Scan the QR code to watch the video, or go to: youtu.be/Ed46pMrGDss

# Resident research provides a snapshot of views

**THANK YOU** to residents in the Mid Copeland area who took part in our annual survey. Between July and August 2024, a sample of 309 people (aged 16+) living in the Mid Copeland Search Area (electoral ward of Gosforth) were asked about their awareness of the Community Partnership, geological disposal and Nuclear Waste Services.

Chair of Mid Copeland GDF Community Partnership, Andy Pratt, shared his initial thoughts on the findings of the third survey.

"This annual survey of residents gives us a snapshot view in the local community, so thanks to everyone who took part.

"We asked the researchers to get a larger sample size this year and over 300 people took part. We also wanted to broaden our reach and decided to add some door-to-door interviews to capture as many views as possible from a wider audience.

"Some of the figures were similar to last year and some areas have changed – so we will work through to understand any differences or particular needs highlighted by the community and look to address those.

"The GDF programme is a long process and any data we gather is useful to help shape our engagement with local people as Nuclear Waste Services continues to carry out its studies to see whether this area is suitable to build a GDF."

Over half of the survey participants (53%) would support the potential construction of a GDF in the Mid Copeland Search Area, while 12% would be opposed. This compares with 56% and 15% respectively in last year's survey. 35% were neutral or undecided (28% last year).

The net support for the construction of a GDF in the Mid Copeland Search Area stood at +41 from this survey, the same figure as last year (+39 in 2022). Net Support is the percentage of residents surveyed that supported the proposal, minus the number that opposed it (excluding those undecided).

61% of respondents stated they could recall seeing, reading or hearing something about nuclear waste or a GDF over the past year (compared to 78% last year and 79% in 2022). Of those, 31% attributed this to a leaflet, newsletter, or something posted through the door (compared to 47% last year). 37% said they had seen and read the 'GDF News' newsletter (compared to 40% last year). Another 24% claimed to have seen the 'GDF News' newsletter but not read it. Of those that claimed to have read the newsletter, 83% thought it was informative, 68% liked the look of it, and 86% said it was easy to understand.

**For full story see the Mid Copeland website: www.midcopeland.workinginpartnership.org.uk**


Andy Pratt, Chair of the Partnership

# Listening to you

**WELCOME** to our latest printed newsletter from the Mid Copeland GDF Community Partnership as we mark the end of our third year.

We've held or attended almost 70 events over the past year and spoken to in the region of 950 people about what hosting a GDF could mean for this area.

A lot of our work this year has been starting to gather information and views to help create a community vision which looks at what matters to people living locally, in the near and long-term.

As you can read in this newsletter, we've held a number of community visioning forums over past months to see what people consider to be key topics for discussion and what would be the aspirations for their community in the future.

This included, for example, improving infrastructure, roads, rail and connectivity; creation of sports and recreation facilities and providing easy access for young people to training either locally or by providing them with the transport.

This information is all feeding into a draft vision, none of which is set in stone, but it gives us a basis for discussion going forward. We will bring this draft to the communities to see what people think. In addition, we've been collecting further feedback via a questionnaire which you can find on the website or scan the QR code in this newsletter.

You might wonder why all this matters! Well, significant investment would come to an area which eventually hosts a GDF, and that funding will be shaped by a local community vision – which is this work that we are starting now.

The GDF programme is a long journey, and we don't know whether our area is suitable or whether the community want it. As one of the three areas currently involved in the process, we're required to think about what we might want.

We're also reaching out to businesses in this area to find out what effect they think a GDF could have on them – positives or negatives – and what further information they would like.

The Partnership continues to engage with young people including, more recently, groups from the Drigg & District Young Farmers and the 1st Gosforth Scouts. Their understanding and views are really important to us and are captured as part of the vision.

A third resident research study was carried out in Mid Copeland over the summer to ask people's views on the Partnership, GDF project and nuclear waste to measure awareness understanding and support – it's a snapshot of views and the results are in this newsletter. It indicates that NET support for the construction of a GDF in the Mid Copeland Search Area is +41, the same figure as last year.

As this newsletter was going to press, we were close to the £1million mark for the total amount of Community Investment Funding awarded this year. That brings us to £3million investment in three years while the area has been taking part in discussions around GDF.

You just have to look around to see the difference this funding has made. It's seen projects come to life that people probably thought weren't possible.

Facilities and services have been developed and delivered for local people. Some of this is quite life-changing.

Take a look at the centre pages in this newsletter for a round-up of projects this year and details of how your organisation can apply for a grant.

And finally, as we move towards 2025, our Community Partnership website is being refreshed to offer a clearer and more accessible platform for information about the Partnership and the GDF programme.

Best wishes to all as we approach the festive season.

**Andy Pratt**
**Chair, Mid Copeland GDF Community Partnership**

# Call to local businesses

**IF YOU'RE** a local business in the Mid Copeland GDF Community Partnership area, then we would like to hear from you.

As part of our ongoing community engagement, the Partnership is reaching out to businesses to invite them to get involved in the GDF conversation going forward and contribute to work we are doing around creating a community vision.

Community Partnership Business Lead Yvonne Clarkson has written to businesses.

"We're interested in hearing from local businesses about how they think a GDF could affect them and have a discussion," said Yvonne. "I also think businesses are a key part of our visioning work – hearing what they consider to be important for the area and what the local area could benefit from can also be integrated into this work."

As part of the GDF programme, Significant Additional Investment will be made available in a community that hosts a GDF. This investment will be shaped by a local community vision and could include local education and skills capacity, transport infrastructure or recreational facilities.

GDF developer NWS is working with the Community Partnership to help identify a community vision and what this might mean for the investment package that will be made available to the community that hosts a GDF.

Yvonne, together with Andrew Monaghan, NWS Community Engagement Co-ordinator, pictured below, would like to hear from anyone interested in having a conversation.

"It's also an opportunity to let us know if there are any particular questions around GDF and the Community Partnership relating to local business that people may have. Anything we can't answer, we will come back to you with an answer," added Yvonne.

Businesses can get in touch by emailing the Community Partnership address GDFInfo-MidCopeland@nuclearwasteservices.uk and mark it: FAO Yvonne Clarkson or telephone the Helpdesk, which is managed by NWS, on 0300 369 0000.

**For more on community visioning and to complete our online questionnaire – see page 1.**

## Partnership meetings in public 2025
(venues TBC)

Monday, January 27, 3-5.30pm, Beckermet Reading Rooms

Monday, March 3, 3-5.30pm

Wednesday, April 16, 3-5.30pm

Monday, June 2, 3-5.30pm

Monday, July 21, 3-5.30pm

Wednesday, September 3, 3-5.30pm

Monday, October 13, 3-5.30pm

Monday, December 1, 3-5.30pm

# A helping hand for some important local projects

**A COMMUNITY** shuttle bus service, free sports activities for young people, a life-saving defibrillator, village hall renovation work and funding for a domestic violence counselling service are just some of the local projects funded in year 3 of the Mid Copeland GDF Community Partnership.

88 grant awards have been made to local groups and organisations through Community Investment Funding from the GDF programme so far over the past three years in Mid Copeland.

And as this newsletter was being put together some weeks ago, the total awarded in year three stood at £724,621 with further projects also recently awarded grants in the region of over £275,000. This takes the total awarded this year close to the £1million mark – and would bring the total to £3million over three years to date.

**"88 grant awards have been made to local groups and organisations through Community Investment Funding from the GDF programme."**

Partnership Chair Andy Pratt said: "When you look at the range of different organisations and projects which have been helped with grants through Community Investment Funding over the past three years it really is amazing.

"It's helped people across our communities in different ways, such as allowing groups to expand or provide activities and services which they wouldn't have been able to without these grants. Replacing worn out equipment, helping with life-saving kit, supporting people with their mental health and helping groups to plan for the future – there has been such a diversity."

Just one of the many projects funded this year was a range of free sports activities at Seascale which attracted a lot of local young people.

Over the summer, as the country was watching and celebrating the Olympics and the Euros, children from across the area were taking part in their own versions! Activities included everything from javelin and athletics, to football and tennis.

Seascale Parish Council applied for the funding. David Moore, parish councillor and Partnership member, said: "We received feedback that there wasn't much happening over the summer holidays in the village and so we set about trying to organise something and applied for the funding.

"We wanted to make the sports camps free for children, as parents have a lot of financial

Photos on these pages are from the Seascale summer sports camps

and time pressures, particularly over the holidays. It was brilliant to see so many young people laughing, running around and having a great time."

Reece Robinson, from Seascale, is a sports coach with Chance Camp and does a lot of work with schools. He also plays cricket for Seascale and helps out with the junior section.

Reece organised the summer camps. He said: "We did Euros and Olympics events as well as lots of other sports such as rounders, cricket, netball, rugby and basketball. The emphasis was on fun and enjoyment, while also developing skills. It was great to be able to bring it to Seascale, especially as it was free for the children."

Further events also took place in October and Seascale Parish Council plans to apply for funding to bring more events next year.

# Community Investment Funding – year three so far

**TO DATE**, funding totalling £724,621 has been awarded from the Mid Copeland GDF Community Partnership through the GDF programme. Plus a further £275,378 for projects as the newsletter was being put together (news of those will be updated on the website):

**West Cumbria Domestic Violence:** £10,000, towards a counselling project, to benefit people in Mid Copeland.

**Seascale Events:** £2,190 for Seascale Gala Week.

**Gosforth Parish Council:** £12,000 towards Gosforth Public Hall refurbishment design.

**Egremont & Area Regen Partnership:** £24,360 for Florence Arts Centre to grow creative opportunities for Mid Copeland.

**Calderbridge and Ponsonby Village Hall:** £196,018 for renovation work, including a new roof.

**Centre for Leadership Performance:** £7,920 for a 12-week Bright Stars programme in four local schools.

**Beckermet Village Association:** £5,420 for the purchase and installation of a defibrillator at Beckermet Reading Rooms.

**Lake District National Park Authority:** £41,850 towards a Wasdale Valley community shuttle bus service.

**Gosforth Agricultural Show:** £5,764 for hire of Rural Enterprise marquee and show equipment.

**Cumbria Addictions, Advice and Solutions:** £41,884 towards the Cumbria Alcohol and Drug Advisory Service (CADAS) to support to young people and adults in the Mid Copeland area who are struggling with an addiction.

**Cumbria Rungwe Community Link:** £3,000 towards cost of local young people taking part in a cultural exchange programme with Tanzania.

**Cumbria Riding Club:** £5,000 towards replacing their 20-year-old show jumps.

**Seascale Parish Council:** £7,000 to fund free multi-sports events for young people.

**Beckermet Reading Rooms CIC:** £9,995 for delivery of youth sessions for 12 months at the venue by Egremont Youth Partnership.

**1st Beckermet and St Bees Scout Group:** £2,000 towards replacing and updating camping equipment.

**West Lakes U3A:** £48,017 for a 3-year programme of activities to help address social isolation via educational activities, fitness and recreational events.

**Friends of Gosforth School:** £6,377, for improvements to outdoor areas including gym equipment for younger children and a low-level 'traversing wall' climbing wall.

**Beckermet Village Association:** £7,909 for further community centre activities including coffee, cake and chat events and cinema nights.

**Windscale Rifle Club:** £29,019 towards enabling works/feasibility study leading to planning application for a new base.

**Seascale Parish Council:** £21,310 for grass maintenance equipment for the upkeep of communal green spaces.

**Liz Richardson Productions Ltd:** £9,515 for two performances of a play and two theatrical workshops (for 14-17 year olds) plus workshops for four primary schools.

**Wasdale Mountain Rescue:** £97,347 for a minibus, stretchers, night vision drones and monoculars.

**Gosforth Parish Council:** £2,990 to provide a temporary mini-bus service from Gosforth car park to Seascale Co-op and return.

**Gosforth Amateur Dramatic Society:** £4,977 towards replacement/upgrade of lighting in Gosforth Public Hall, also available to other hall users.

The current year also includes two funding commitments awarded during Year 2 totalling £122,759 that were allocated from the Year 3 funding.

These are:

**Shackles Off:** £110,379 for new youth centre.

**Mental Health North West CIC:** £12,380, for the creation of wellness walks groups.

### HOW TO APPLY FOR COMMUNITY INVESTMENT FUNDING

Funding is available to support projects in Mid Copeland that provide economic development opportunities, enhance the natural and built environment or improve community wellbeing. For further details, visit our website at midcopeland.workinginpartnership.org.uk or get in touch by email at **communityinvestment-midcopeland@nuclearwasteservices.uk**

## Jodie joins team

**JODIE** Dougherty has joined NWS and is working with the Mid and South Copeland GDF Community Partnership teams.

Jodie, who lives in Copeland, previously worked for Sellafield and also the Civil Nuclear Constabulary.

She joined in September as a Community Partnership Assistant and her role includes organising meetings, arranging agendas, taking minutes and other administrative support.

Jodie Dougherty

Jodie said: "I'm delighted to have joined the Copeland teams to support the work of the Community Partnerships. I've lived in Copeland all of my life and enjoy working with local communities and getting to know people."

# High Heat Generating Waste Q&A

**NUCLEAR** Waste Services (NWS) gave a presentation to the Partnership about engineering and safety of a GDF. Members were particularly interested in how High Heat Generating Waste would be managed in a GDF and asked for more information. NWS has put together this article:

## WHAT IS HIGH HEAT GENERATING WASTE?

High Heat Generating Waste (HHGW) refers to waste which produces enough heat, that its heat must be taken into account when designing the Geological Disposal Facility (GDF). HHGW includes a range of materials from historic UK nuclear fuel cycle operations (including spent nuclear fuel reprocessing), and ongoing UK nuclear reactor operations.

The majority of HHGW in the UK is either:

- Spent fuel – fuel which has been used in a nuclear reactor and now contains heat generating by-products.
- High level waste – a waste product arising from the reprocessing of spent fuel. In the UK we mix this into glass in a process called vitrification to give a solid waste for disposal.

Spent fuel is not currently classed as waste as there is the potential for it to be reused. However, for planning purposes it is assumed that it will be disposed of in a GDF so NWS needs to develop suitable concepts to support decision making. If spent fuel were to be reprocessed in the future, NWS would anticipate an increased inventory of high level waste would be destined for geological disposal. This would contain most of the heat generating radioactivity from the spent fuel.

## DOES ALL RADIOACTIVE WASTE PRODUCE HEAT?

Yes, all radioactivity produces heat but for most radioactive wastes, the level of radioactivity is low, meaning the heat output is not a major factor for disposal. Wastes destined for the GDF where heat is not a major factor in their disposal are referred to as Low Heat Generating Waste (LHGW).

**"By volume, LHGW forms around 90% of the waste destined for a GDF, while around 10% of the waste is HHGW."**

By volume, LHGW forms around 90% of the waste destined for a GDF, while around 10% of the waste is HHGW.

## WHERE IS HHGW CURRENTLY STORED?

HHGW is currently stored at Sellafield and at nuclear power plants' safe and secure surface storage facilities. It will stay there until its heat output is low enough for efficient disposal, and until a GDF has been constructed. Current Government Policy says that all HHGW will be disposed of in a GDF.

## HOW WILL HHGW BE DISPOSED OF IN A GDF?

In a GDF, HHGW will be disposed of in robust containers designed to remain sealed for 10,000 years or more.

Each container will be surrounded by additional engineered barriers designed to protect it and preserve its integrity while the radioactivity reduces to safe levels.

The containers will be placed in tunnels deep underground. They will be spaced out to ensure the heat and increased temperatures are spread out and do not prevent the GDF from safely isolating and containing the HHGW.

## HOW HOT IS HHGW?

The temperature of the HHGW and the GDF will change over time. At the time of disposal, the HHGW containers will be close to background temperature in the GDF.

Once HHGW is disposed of it will slowly heat the surrounding engineered barriers and host rock. The heat output will reduce with time as radioactivity reduces.

Eventually, temperatures will peak before reducing back to background levels. The heating and reduction of radioactivity is slow but predictable. Peak temperatures will only occur decades or centuries after the HHGW has been disposed of. NWS will also set a limit on the peak temperature to ensure the integrity of the waste, waste container, engineered backfill and host rock.

The limits adopted by other international geological disposal programmes are typically in the range of 100°C to 200°C.

**"HHGW will be disposed of in robust containers designed to remain sealed for 10,000 years or more."**

The well-established approach from other international geological disposal programmes for controlling HHGW temperature is to space out the waste. NWS will control the peak temperatures by controlling how much HHGW is loaded into each waste package and how closely it spaces those waste packages within the GDF.

## WHY CAN'T THE HEAT BE REUSED?

The HHGW heat output needs to be considered in the design of the GDF. However, the total amount of heat and how it is spread out in a GDF makes it impractical to harness it as a resource.

The total heat output when all HHGW has been disposed of in a GDF is estimated to be 13.5MW. Setting aside the challenges with harnessing this heat output, and also assuming it could be all converted to electrical power, this would only be equivalent to the power rating of a single large offshore wind turbine.

Heat output from HHGW is typically 1kW to 2kW per waste package at the time of disposal, similar to that of an electric kettle or lawn mower. This heat output is spread out over a very large container, typically around 25te (the weight of 20 cars). Harnessing this heat output would be very technically challenging and add unnecessary complexity to the GDF.

# Your questions answered by NWS

**EXCAVATED** material is a subject which is often asked about. Iain Phimister, Senior Lead Engineering Manager for NWS, attended a Community Partnership meeting and provided explanation. Here, Iain provides an overview of excavated material management for a GDF.

A GDF will be a significant piece of UK infrastructure with the majority of the facility built between 200 and 1000 metres underground.

Throughout construction, there will be a substantial amount of material to excavate. How we will manage the material depends on the type of rock we will be tunnelling through. Once the host geology and construction methodology are understood through the analysis of data from our site characterisation process, a detailed material management strategy will be developed.

Currently, we estimate that the total volume of excavated material is approximately 10million cubic metres within the host rock. Additional excavated material will also be produced from the construction of the accessways running from the surface site to the host rock.

Excavated material will be generated through the initial construction works and will continue throughout the ongoing construction and waste emplacement operations. This activity will continue for over a century.

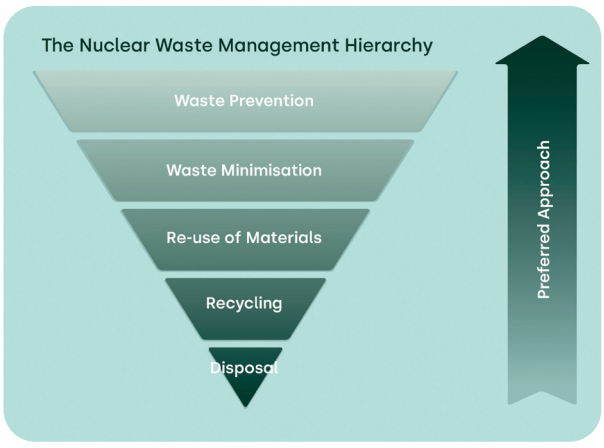
NWS has a sustainability strategy and as such we will apply the waste hierarchy in managing excavated material. Where the generation of excavated material is necessary, our ambition is for sustainable reuse of that material to minimise its transport and disposal to landfill.

It is not possible to prevent excavated material generation for a GDF, but we will seek to minimise the amount of excavation needed through application of good design principles.

All opportunities for re-use of material at the GDF surface site will be considered when we have the information we require to make decisions. Any excavated material retained on site will need to be suitable for use and be available in the quantity required at the time it is needed.

Such uses could include landscaping or visual screening mounds, flood defences or environmental enhancement projects.

Excavated material may also be suitable as a backfill material either as an engineered barrier in the disposal areas or as a mass backfill of other underground tunnels. The radioactive waste and construction materials will occupy a significant portion of the excavated space within the GDF meaning the amount of backfill material needed is less than the excavated material volume, and so only a portion of it could be reused as backfill.




We envisage construction of new disposal areas and backfilling disposal areas already filled with radioactive waste in parallel throughout the life of the GDF, so some freshly excavated material could be used promptly as backfill. All material re-use will be carried out under internationally recognised frameworks for material re-use such as the Definition of Waste-Code of Practice.

For excavated material that cannot be retained and reused onsite we will consider options for recycling offsite as either:

- An engineering material, for instance in road/infrastructure construction.
- A bulk fill material to protect valuable land from flooding/coastal erosion or for habitat creation as demonstrated by other major infrastructure projects.

It is important to recognise that the generation of excavated material will be spread over the construction and operational life of a GDF. As such, if it is transported offsite, any demand on the transport system is expected to be manageable.

Recognising that some material may need to be removed from site, our illustrative design includes export facilities for excavated materials, including rail when connections are available. Our current estimate is that during peak construction the demand on the rail network, if excavated material is promptly removed from the GDF site, is 12 trains of excavated material leaving the GDF site each day.

Our current site evaluation work will further develop our understanding of excavated material in terms of volumes, logistics, and material management options.

Site characterisation works undertaken using boreholes will further help us understand more about the rock and improve our understanding of the quantity and type of excavated material that may be generated and its reuse opportunities.

## Case Study: Crossrail

An example of beneficial re-use of excavation material from a major project is on the Crossrail project. Crossrail involved the construction of 42 km of tunnels running from Royal Oak Portal in the west of London, to Pudding Mill Lane portal on the north-east spur and Plumstead portal on the south-east spur and the excavation of boxes, shafts and caverns for associated portals, stations and shafts generating over 7 million tonnes of excavated material.

By the time all the tunnelling, stations and shafts excavation was complete over 98% of the excavated material had been placed at sites for beneficial reuse and a large proportion of that had been used to create a significant part of one of the largest wildlife habitats in Western Europe. In achieving this, 80% on a tonne per km basis was transported by water or rail without compromising either the tunnelling or any other elements of the construction programme.

At Wallasea Island a wetland nature reserve was created from low quality farmland in collaboration with the Royal Society for the Protection of Birds (RSPB). Clay from the tunnelling in central London was taken by rail and by ship where a special jetty was constructed to allow ships to offload the excavated material. Other chalk materials which were not suitable for use at Wallasea Island were reused elsewhere to cap landfill and to create rare chalk wildflower meadow habitat.

The Wallasea Island wetland area now provides winter grounds for wading birds, as well as breeding areas for birds and aquatic wildlife.

## Useful links from NWS:

www.gov.uk/government/publications/property-value-protection-scheme

www.gov.uk/government/publications/gdf-report-2024

www.gov.uk/government/publications/nuclear-waste-services-annual-review-2023-to-2024

# Finding a suitable site for a Geological Disposal Facility

**An important part of the journey towards a Geological Disposal Facility (GDF) is identifying potentially suitable sites.**

Nuclear Waste Services (NWS) is currently gathering information to understand if the current Search Areas – in Mid Copeland and South Copeland in Cumbria and Theddlethorpe, in Lincolnshire – could be suitable to host a GDF.

A Search Area is the geographical area on land made up of one or more electoral wards, where NWS is considering potential sites.

A GDF is a facility designed to safely and securely dispose of the most hazardous radioactive waste in highly engineered vaults and tunnels deep underground.

For a location to be suitable, it needs to include the right sub-surface geological environment, deep underground for the disposal area; a surface location; and the ability to connect the two with accessways.

The Search Area in Mid Copeland is the Gosforth electoral ward. The Lake District National Park is excluded from consideration.

As it's difficult to carry out some of the more detailed feasibility studies required in large Search Areas, and the adjacent inshore (the area beyond the coast out to a maximum of 22km), NWS identifies smaller 'Areas of Focus' in the Search Area, as the next step in the process of finding potentially suitable sites.

This allows focused site evaluation studies and prioritisation of resources to consider the potential for an area to safely host a GDF.

**"The process we're following towards identifying Areas of Focus is similar to the approach taken by other large infrastructure projects."**

Simon Hughes, NWS' Siting and Communities Director, said: "The process we're following towards identifying Areas of Focus is similar to the approach taken by other large infrastructure projects. Areas of Focus are identified using existing information and help us consider where may have the potential to host project infrastructure.

"This stage isn't to define an exact site, it's to help decide which areas we could take forward for more detailed investigations. This would include drilling boreholes to better understand the geology deep below the surface, where the underground part of a GDF would be built.

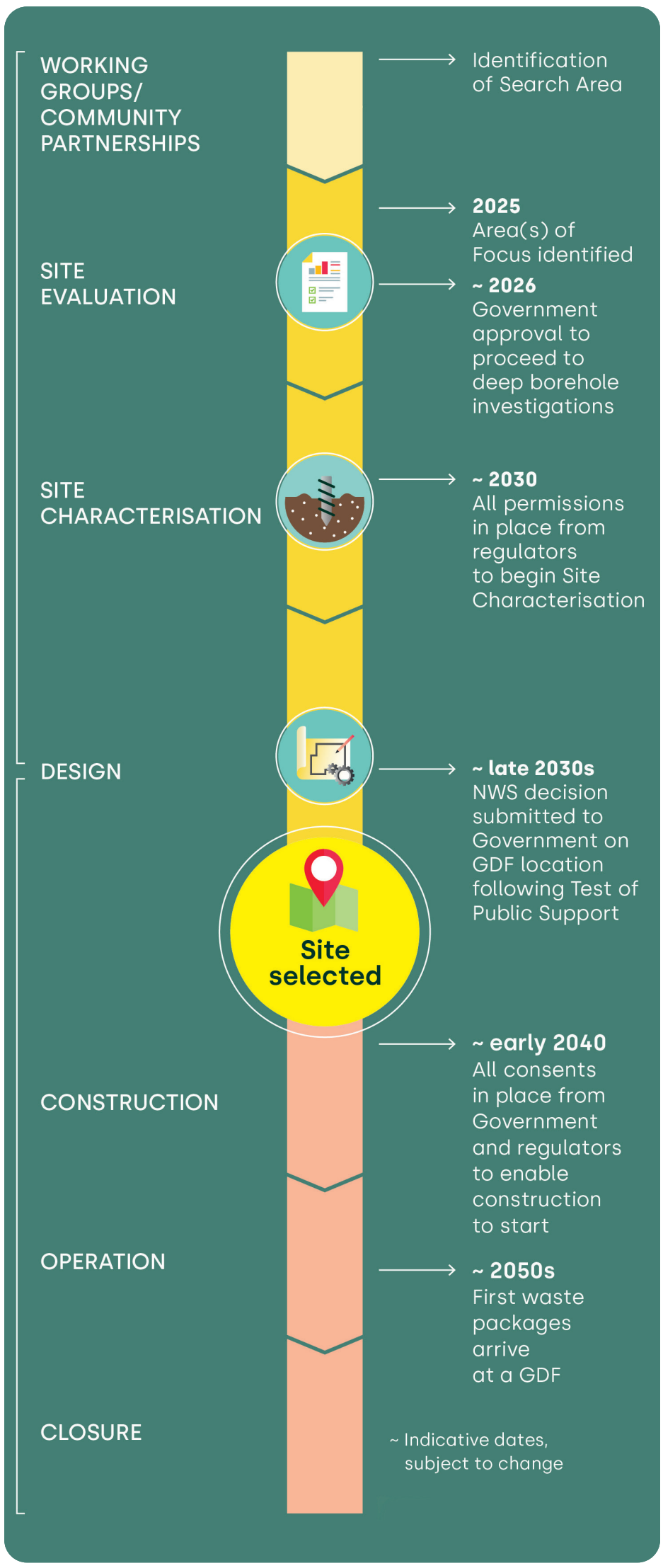
"Early next year we will publish an update and our teams will be out in communities to explain our findings, hear feedback and consider next steps. A GDF will only be built where there is a willing community and a suitable site."

A decision on the site(s) to take forward in the process for more detailed investigations would need to be approved by the Secretary of State. Exact locations for borehole drilling would be determined though consultation and environmental assessment work.

Over many years borehole data, together with results from research and development, will be used to build understanding of whether an area could safely host a GDF.

Further permissions and a positive Test of Public Support (ToPS) would also be required for development of a GDF. These permissions will include consultation and environmental assessment studies to help develop and refine NWS' preferred GDF site location and boundary.

The whole process to identify a preferred site is expected to take 10-15 years, while constructing, operating and closing the facility would take 150 years or more.




For more information on this, scan the QR code or visit the community section of NWS' new website at **www.nuclearwasteservices.uk**