

Nuclear Waste disposal in West Cumbria?



Entrance to a repository being built in Finland (Posiva)

The West Cumbria Managing Radioactive Waste Safely (MRWS) Partnership has published its Final Report on the issues that would be involved in taking part in a search to see if there is anywhere in the Allerdale and/or Copeland areas suitable for a repository for higher activity radioactive waste.

Over the last three years we have looked at reports and literature, heard from experts in the field, commissioned independent research and invited reviews by independent experts. We have also placed a high priority on involving the public.

Our **Final Report** presents our work, together with our opinions and advice to Allerdale Borough Council, Copeland Borough Council and Cumbria County Council – who are the decision-making bodies in this process.

Our report will help inform the three Councils' decisions about whether to participate in the next stages of the siting process or not.

If they do decide to participate, then desk-based studies (Stage 4 of the Managing Radioactive Waste Safely process) and site investigations (Stage 5) would precede possible construction and operation of a facility. A right of withdrawal exists up until the point where construction could start.

This is an overview of the issues we have considered and some of our key opinions and advice. However, it is important to read our full Final Report to see all the opinions and advice we have agreed, and to get a clear picture of the work that lies behind them.

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Background

Currently, higher activity radioactive waste is kept in stores above ground at 36 sites across the UK. A large amount of the waste is at Sellafield in West Cumbria.

The Government accepted the recommendation of the independent Committee on Radioactive Waste Management (CoRWM) that the best available long-term solution for this waste is geological disposal.

The Government says geological disposal involves placing the waste deep underground in a purpose-built facility, called a geological disposal facility (GDF) or a repository, leaving the waste there forever once the facility is closed.

The Nuclear Decommissioning Authority (NDA) is responsible for implementing the Government's policy on the long-term management of radioactive waste.

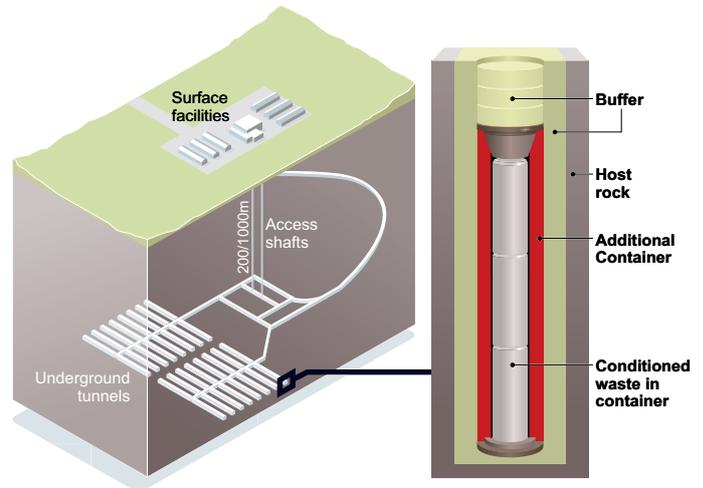
The Government says it is committed to an approach based on voluntarism. This means that communities would express willingness to search for a site for a potential repository, and perhaps ultimately host a facility, rather than having it forced upon them.

However, the Government has also made it clear that, if a site is not geologically suitable or safe for a repository, one would not be built.

The Government says that, following any decision to participate in the siting process, it would expect a community siting partnership to be set up. This would be a partnership of local interests to provide advice and recommendations to the decision-making bodies.

We looked at various topics. Each is covered below with a brief summary of our key opinions and advice to the decision-making bodies, which are emboldened for ease of reading.

See Chapters 2 to 4 of our Final Report



The disposal of the waste would involve a multi-barrier approach with a combination of engineered underground structures and the surrounding rocks.

Inventory

The types and amounts of radioactive wastes for disposal – the inventory – could affect a repository in a number of ways including the design, the size of the underground footprint, the period of operation, the developing safety case and, potentially, the number of required repositories.

Overall, we are unable to say at this stage that we are satisfied with the proposed inventory because we do not yet have definite information on what actually would go into a repository (because operation of a repository is over 25 years away).

However, we have developed a set of Inventory Principles in order to ask for commitments from the Government about how inventory issues will be handled if a decision to enter the siting process is taken. **Progress has been made towards agreeing the principles that define an acceptable process for how the inventory could be changed, including how the community can influence this.**

If there is a decision to take part in the first stage of the search for a suitable location for a repository, we advise that a **community siting partnership enters into negotiation with the Government to develop a mutually acceptable process for how the inventory would be**



NDA image of the surface waste receipt and transfer facility at a repository

changed, including the circumstances under which the decision-making bodies should have a veto on changes to the inventory even after the right of withdrawal has ceased.

See Chapter 7

Geology

Finding a suitable rock formation that can act as an effective barrier is essential for the construction of a safe disposal facility.

As a first step, the Government said that any area expressing an interest in this process should have a test carried out by the British Geological Survey (BGS).

This was designed to rule out certain areas as being clearly unsuitable, and thereby enable a judgement about whether the remaining area is enough to continue investigations for a potential site.

This test was done in West Cumbria and ruled out about 25% of the land area, leaving 1,890km² for possible investigation. We commissioned two peer reviews of this study, which both said we could rely on the results.

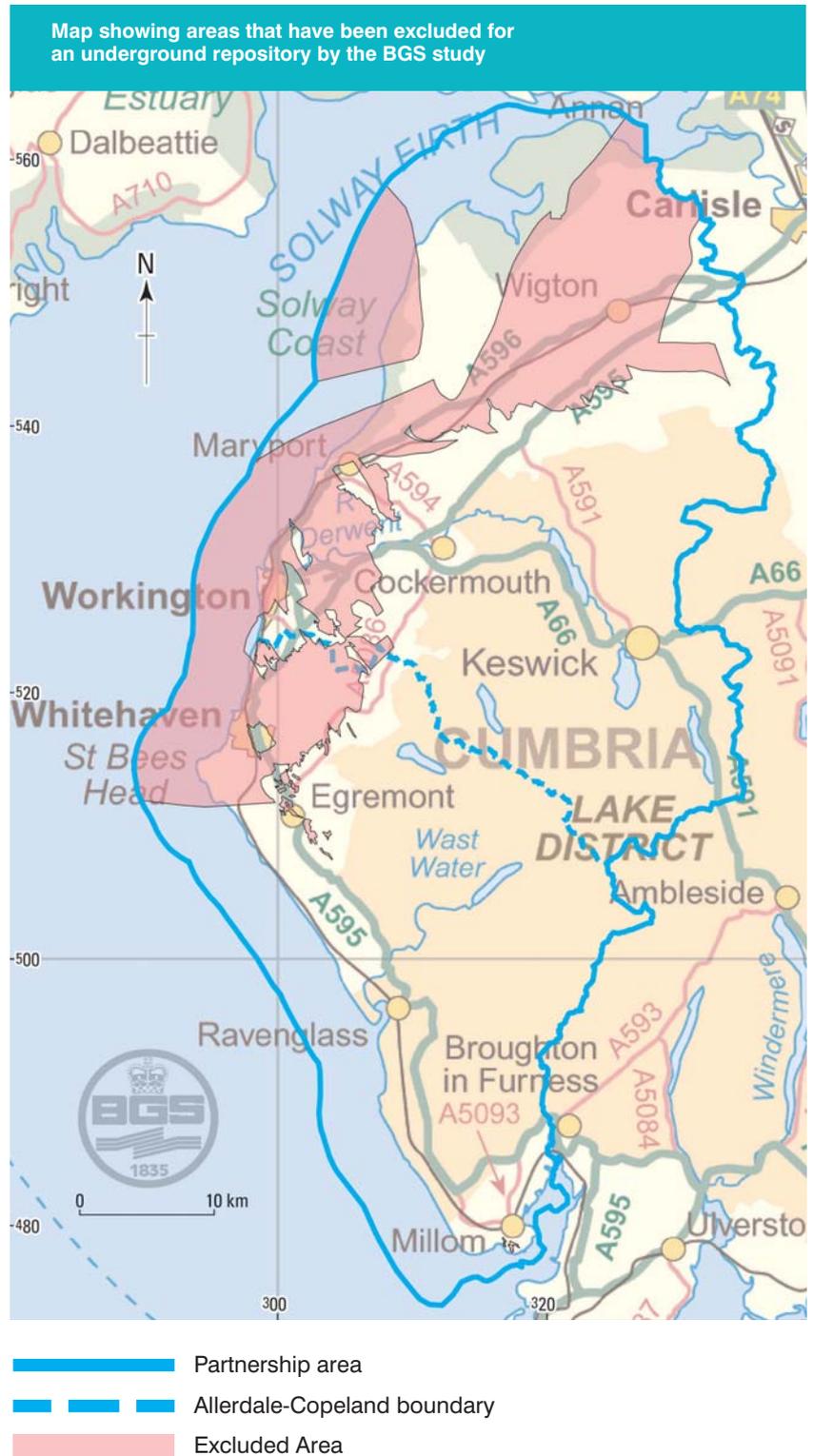
We believe that the 1,890km² of land not ruled out as clearly unsuitable by the BGS provides a sufficient amount of land, in terms of area, available for investigation.

We also looked at the suitability of the geology of the remaining area. We have received expert geological submissions arguing that West Cumbria's geology is unsuitable and further progress is not worthwhile. However, we have also received contrary expert advice stating that further progress is worthwhile because not enough is yet known to be able to say that all of West Cumbria should be ruled out.

The Partnership agrees that it is inherently uncertain at this stage whether a suitable site can be found, that more geological work is therefore required, and that it should be done as soon as possible.

However, there is a difference of view in the Partnership about whether this further geological work should be done *before* or *after* a decision about participation in Stage 4 (the first part of the search for a possible site).

The Partnership agrees that, if there is a decision to proceed to Stage 4, a community siting partnership should independently review the NDA's work, in particular the geological assessments.



Geological mapping BGS © NERC. OS topography © Crown Copyright. All rights reserved. 100017897/2010

See Chapter 8

Design & engineering

Knowing how a repository might be designed and engineered is important because: it helps people to visualise what it might look like and appreciate the scale of the project; it can affect, or be affected by, what goes into it and where it is located; and the design affects the safety of the facility.

Our opinion is that, overall, we are content that detailed design issues are largely site-specific and, as such, cannot and should not be resolved at this time. Specifically, we understand the generic design concepts being worked on, and they fit with our expectations.

We looked at 'retrievability', which means the possibility of withdrawing the waste after it has been put into a repository. **We have confirmed that retrievability of waste is an option, to be decided on in the future.**

See Chapter 9



Research tunnel in Finland (Posiva)

Safety, security, environment & planning

Making sure that any repository would be as safe, secure and environmentally sound as possible is of the highest importance.

Regulatory and planning processes

We are as confident as is possible at this stage that the necessary regulatory bodies exist and have, or are developing/modifying, processes by which they will consider proposals for a repository.

If there is a decision to move to the next stage, we advise that areas within the National Park are not considered for surface facilities because of the likely impact this would have on the special qualities of the Park, which would not be consistent with current planning policies.

Safety

We believe that the Nuclear Decommissioning Authority will have suitable capability and an acceptable process

in place to develop site-specific safety cases. Of course, any site-specific safety cases would need further monitoring and independent reviews.

Our opinion is that, overall, the Nuclear Decommissioning Authority's research & development programme is acceptable. However, we note that there remain some concerns about the lack of progress with the programme, as well as the lack of clarity over the timescales for completing individual research topics.



Our additional advice includes a suggestion that a community siting partnership secures an 'Engagement Package' (funding) from the Government that allows it to commission independent reviews of any work conducted by the Nuclear Decommissioning Authority, including safety-related work, potentially via setting up a panel of independent experts.

See Chapter 10

Impacts

If a repository was to be sited in West Cumbria it could lead to a number of different negative and positive impacts for the community, the economy and the environment.

These impacts might include:

- The immediate effects of construction such as noise and dust.
- Whether there would be any impact on health.
- Changes in investment in the area.
- Traffic impacts.
- Possible effects on the visual or physical environment and on tourism.
- Changes in employment.

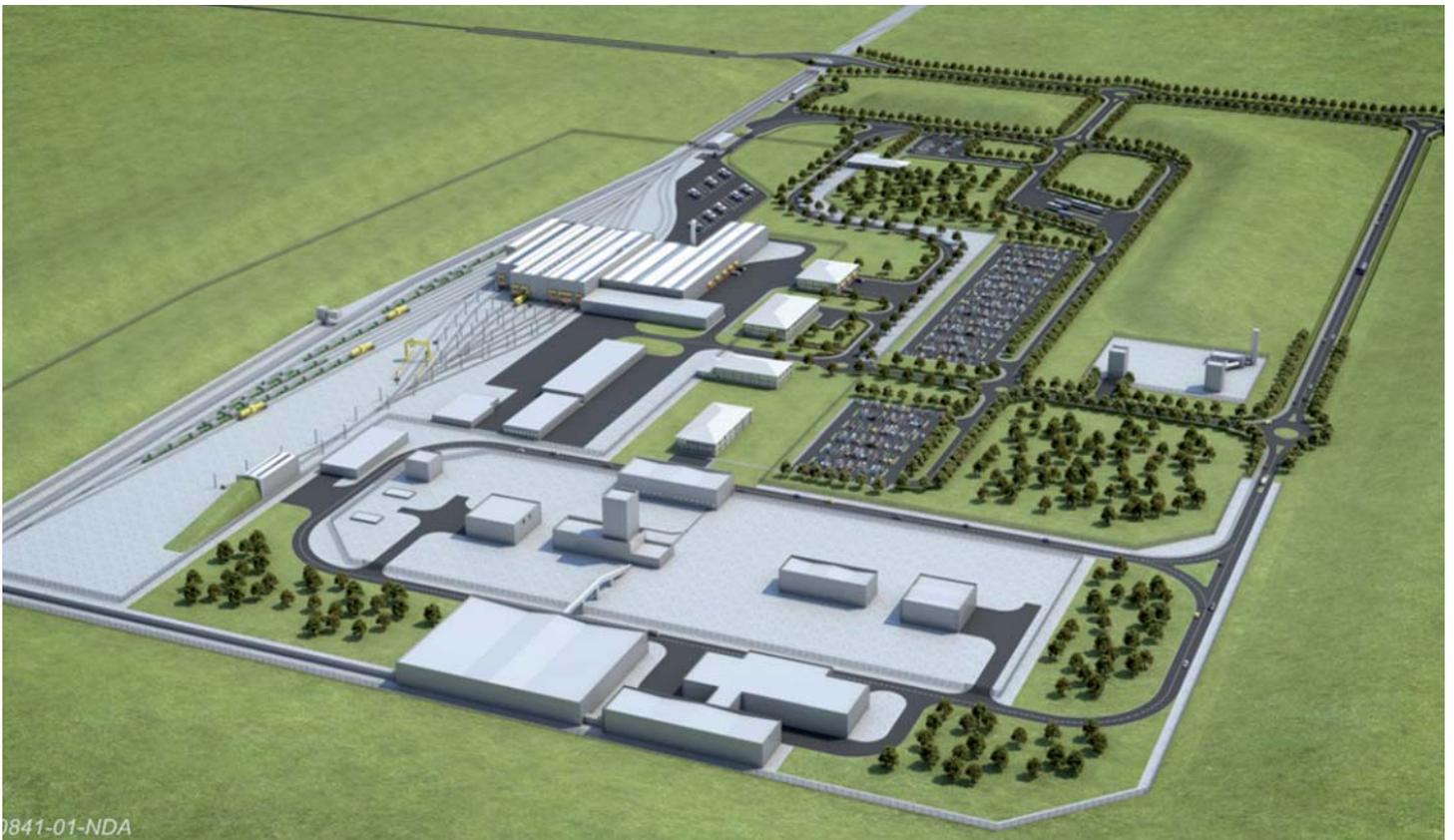
These impacts, both positive and negative, would ultimately need weighing up against the impacts of the waste remaining in its current form, and of the above-ground storage arrangements at Sellafield and elsewhere in the country.

Our overall opinion is that, at this stage, we are fairly confident that an acceptable process can be put in place to assess and mitigate negative impacts, and maximise positive impacts.

There are potential risks to some parts of the economy if the process moves forward, particularly the visitor, land-based, and food and drink sectors. We advise that a coordinated strategy and action plan is prepared to support those aspects of Cumbria's economic activity if the process enters the search for a site.

Our opinion is that the development of a repository appears broadly compatible with the economic aspirations of West Cumbria. We advise that a full economic impact assessment is conducted if the process proceeds any further, as potential site areas are identified.

See Chapter 11



0841-01-NDA

NDA image showing what the facilities might look like above ground

Community benefits package

The Government has said that any area in which a repository is sited would receive some kind of community benefits package. We would expect it to be a substantial long-term investment provided by the Government in things like infrastructure, services and/or skills that benefit the whole community.



The Government has agreed that this means that benefits would be beyond those that derive directly from the construction and operation of the facility, and would be in addition to those that the community would normally expect.

We have developed a set of Community Benefits Principles that set out how we would expect community benefits to be discussed, agreed and potentially administered. The Government has agreed to our principles as the basis for negotiation in the next stage of the process.

This gives us a certain amount of confidence that an acceptable community benefits package could be negotiated. We advise that a community siting partnership uses these principles as the basis for negotiations with the Government, if Stage 4 starts.

However, we cannot be certain what specific package the Government might agree to this far in advance and, therefore, whether the amount and type of these benefits would match the expectations of local people.

We believe a final decision to accept a repository should only be made if the community is convinced that the Government – and future governments that follow – will honour commitments on community benefits.

See Chapter 12

Stages 4 & 5 of the MRWS process

We wanted to be confident that a good process can be put in place if the next steps are taken and the area does take part in the search for a possible site for a repository.

In Chapter 13 of our Final Report we set out our views on the way in which voluntarism should work during a siting process.

We believe the emphasis on a strong commitment to voluntarism and community 'willingness to participate' is one that parties should keep at the forefront of their minds if this process continues. At each stage, any future community siting partnership should seek to maximise consensus amongst the decision-making

bodies, potential host communities and wider local interests.

Our opinion is that our work in Chapter 13 provides some confidence that the siting process can be sufficiently robust and flexible, at least during Stage 4 (the first part of the search for a possible site).

However, we are not yet fully confident that all parties agree on what a Community Siting Partnership should look like and how it should operate to ensure an appropriate balance between attributes such as independence, operational effectiveness, political relevance and fairness in decision making.

We are reassured by the Councils' ability to withdraw West Cumbria from discussions with the Government.

However, we recognise that the very first challenge in a possible Stage 4 will be to agree how a community siting partnership should operate and what partnership agreement should exist between members.

We advise that any community siting partnership should be established and operated in line with all of the guidance set out in Chapter 13.

See Chapter 13

Overarching issues

There are a number of issues that either run across all of our work, or provide an important context for the decision about whether or not to participate in the first stage of the search for a suitable location for a repository. These include things like uncertainty and trust.

Uncertainty

A great many uncertainties remain, primarily because they relate to issues that can only be considered in detail at a later date.

Should a decision to participate be taken, we would advise that a community siting partnership uses the indicative schedule provided in the 'Stage 4 and 5' chapter (Chapter 13) to build its work programme and, in doing so, help reduce the range of uncertainties that exist.

Trust

A lack of trust appears to us to be at the root of many of the key concerns raised by the public and stakeholders. We have provided advice on this throughout our Final Report.

In particular, we advised that prior to a decision about participation, the decision-making bodies secure a commitment that, by the end of Stage 4, the Government will have decided what mechanisms it will use to make key parts of the MRWS process (including the right of withdrawal) legally binding.

We have received this commitment from the Minister, and advise that any community siting partnership should tackle this early in its work programme.

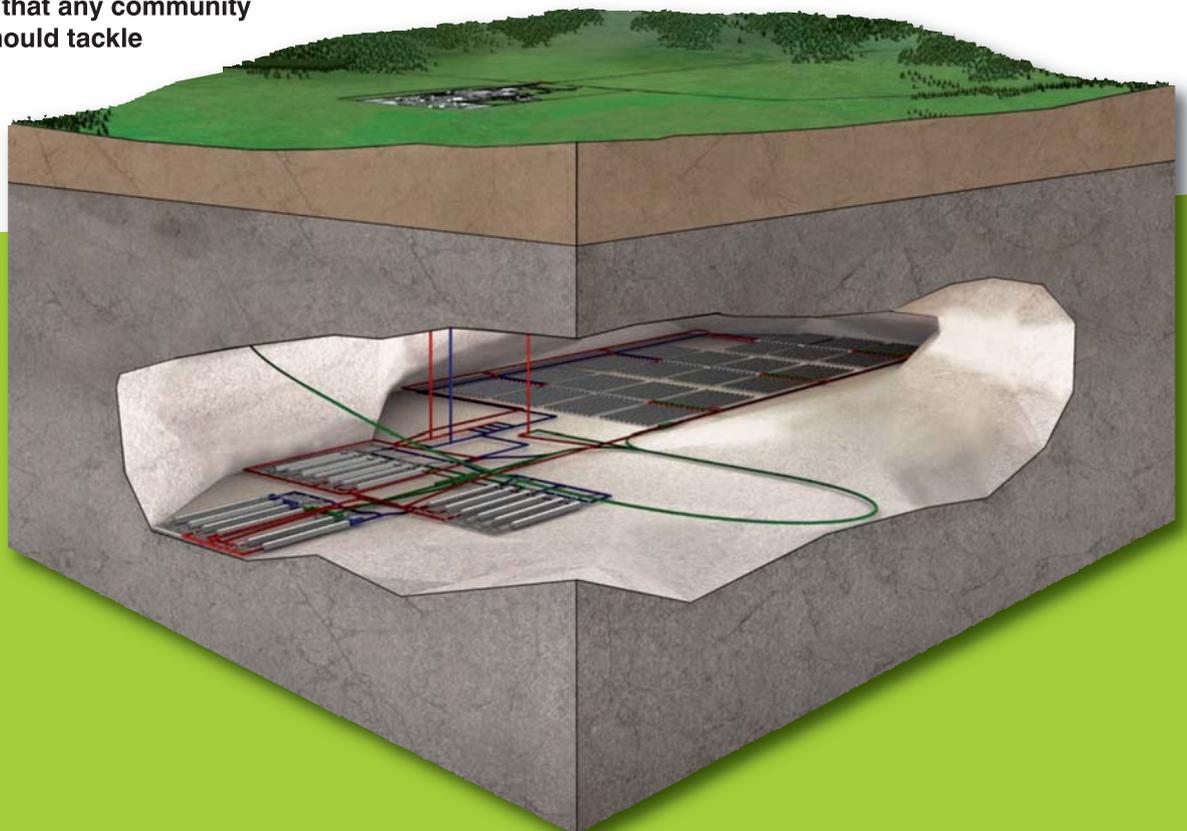
We also advise that a community siting partnership should continue the Partnership's approach to transparency and extensive public and stakeholder engagement, operating by consensus where practical, and seeking agreements from others where useful e.g. regarding legislation.

Strategic Environmental Assessments

We considered whether the Government's MRWS policy is consistent with European legislation on Strategic Environmental Assessments (SEAs). This legislation includes looking at 'reasonable alternatives' such as alternative sites, alternative disposal methods and alternatives to the current process of voluntarism.

Some members believe that the aspect of a Strategic Environmental Assessment that assesses reasonable alternatives should take place *before* a decision about participation. Other members believe that the Nuclear Decommissioning Authority's plans for carrying out a SEA *after* a potential decision to participate are appropriate.

See Chapter 6



Public & stakeholder views

Engaging the public and stakeholders has been a priority for us. We wanted to understand how partner organisations, stakeholders, and interested members of the public, as well as the silent majority of the general public, felt about this issue.

As well as three extensive rounds of engagement, we conducted a statistically significant opinion survey to gauge people's views.



The results of the survey show that across Cumbria more people are in favour of taking part in the search for a suitable site than those that oppose taking part. However, this must be considered alongside other parts of our engagement.

Other aspects of our engagement aimed to understand concerns so they could be addressed, to ensure our opinions and advice are credible. We have done a considerable amount of work to respond directly to consultation submissions.

Overall, most Partnership members are satisfied that the opinions and advice given in our Final Report reflect the public and stakeholder views we have received. However, some members feel this is not the case on some topics and this has been noted in the relevant chapters.



Specific significant changes have been made as a result of public input, for example requiring a firm legal footing to the process, and advising that an outline community benefits package should be developed and agreed with the Government before any site investigations start.

We thank everybody for their time in submitting their views and contributing to our work.

What happens now?

Allerdale Borough Council, Copeland Borough Council and Cumbria County Council will consider our Final Report before deciding on 11 October whether Allerdale and/or Copeland should take part in detailed studies and investigations looking at geology and other factors.

In order for an area to proceed to the next stage there would need to be agreement by a borough council and the county council.

If any area does take part in this process the Councils would still have a right to withdraw but the decision that needs to be made now is still an important one.

We will continue to provide updates about what is happening in the Managing Radioactive Waste Safely process in Cumbria on our website, in the media and on Twitter and Facebook.

You can also call the freephone number 0800 048 8912 or email contact@westcumbriamrws.org.uk.

Organisations in the West Cumbria Managing Radioactive Waste Safely Partnership



Others who were invited to be members (but declined): Greenpeace, Friends of the Earth West Cumbria and Cumbrians Opposed to a Radioactive Environment (CORE)