

## Briefing Note

# Why the Partnership is only considering geological disposal

### > Overview

The Partnership is only considering geological disposal because the Government adopted this approach as policy, following a detailed review by an independent committee that involved discussions with experts, stakeholders and members of the public. That review found that geological disposal was the best available long-term approach compared to other ways of managing higher activity radioactive wastes.

### > What is geological disposal?

Geological disposal involves burial in geological formations in a purpose built facility with no intent to retrieve the waste once the facility is closed. It is based on the concept that radioactive wastes can be contained for extremely long periods by a combination of engineered containment and the surrounding rocks. During the period of containment, the radioactivity will diminish through 'radioactive decay'.



### > What were the findings of the independent review?

In 2003, the Government set up the independent Committee on Radioactive Waste Management (CoRWM) to review the options for managing the UK's higher activity radioactive wastes, and to make recommendations about the best option.

CoRWM combined discussion of the scientific evidence with processes for engaging stakeholders and members of the public. It reviewed all the options that had been given serious consideration by the international scientific community. These included, for example, the disposal of radioactive waste in the sea, in ice caps and in space, and long-term storage above ground.

In its 2006 report to Government, CoRWM concluded that: *Within the present state of knowledge, CoRWM considers geological disposal to be the best available approach for ... long term management ... when compared with the risks associated with other methods of management.*<sup>1</sup>

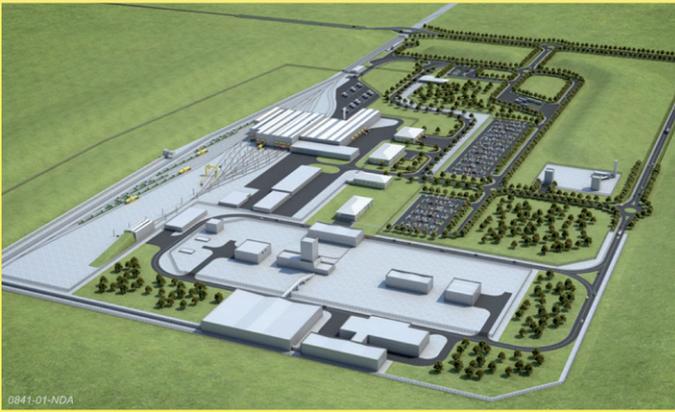
It added that there should be further research and development to reduce uncertainties about long-term safety, and flexibility to leave open the possibility of other practical alternatives in the future.

### > Why was CoRWM confident enough in the safety of geological disposal to recommend it to Government?

CoRWM took into account the following:

- Experts think that it is very unlikely that radioactivity would reach the surface in amounts large enough to cause significant harm over many hundreds of thousands of years.
- In those countries that have made firm decisions on long-term waste management, geological disposal has been the preferred way forward.
- Regulators have been satisfied that safety requirements can be met in all countries where individual sites have been examined.
- There is high confidence amongst the scientific community that there are areas in the UK where the geology will be stable for a million years and more into the future.

1. CoRWM, Managing our Radioactive Waste Safely – CoRWM's recommendations to Government', Document 700, July 2006.



However, CoRWM did recommend that a “robust programme of interim storage must play an integral part in the long-term management strategy”. The committee added that the programme of interim storage should be robust against the risk of delay or failure in the programme to site a GDF.

### > How has Government responded to CoRWM’s recommendations?

In October 2006, the Government accepted CoRWM’s recommendations and stated that geological disposal will be the way higher activity radioactive waste will be managed in the long-term. It added that this will be preceded by safe and secure interim storage until a geological disposal facility can receive waste.

In June 2007, the Government consulted on how its policy of geological disposal should be implemented. A year later, after analysing the responses, Government published its framework for implementing geological disposal<sup>2</sup>. This sets out an approach to site selection based on voluntarism and partnership.

At the same time, the Government invited communities to express an interest in opening up without commitment discussions on the possibility of hosting a geological disposal facility. These are the discussions that are currently taking place in West Cumbria.

CoRWM’s conclusions apply to geological disposal in principle. It highlighted that the suitability of any specific site could not be affirmed until detailed site investigations had taken place.

It also acknowledged that opponents of geological disposal are not convinced about its long-term safety, and are likely to question the interpretation of evidence and whether all assumptions are reasonable.

### > Why did CoRWM prefer geological disposal to continued storage above ground as the best approach for the long term?

There were two main reasons. First, because experts consider that geological disposal would be safer in the longer term than above ground storage. This view takes into account the risks of terrorist actions and the potential impacts of climate change. Second, because geological disposal is fairer for future generations as it would pass on less burdens than continued storage above ground. In particular it would avoid the need to build new storage buildings every 100 years or so and avoid the need to repackage the wastes.

2. Managing Radioactive Waste Safely – A Framework for Implementing Geological Disposal, Government White Paper, June 2008.