**We all know by now that our planet is in deep trouble. We have abused it horribly and we are paying the price. It’s time to try to do what we can, both as individuals and collectively, to find better and kinder ways to live.  It’s not our right; it’s our responsibility.  We are all guilty.  We can all change.**

**Warning on nuclear waste disposal**

Proposals to send Britain's nuclear waste into space or to the bottom of the sea are impractical, a government advisory committee has warned.

The Committee on Radioactive Waste Management (CoRWM) recommends waste be either buried underground or stored temporarily in facilities above ground.

Nuclear power plants and weapons have left the UK with a radioactive legacy which presently has nowhere to go. There will be yet more waste when nuclear stations are decommissioned.

**Locations undecided**

The committee has consulted experts and the public over the past 18 months, and has come up with four options which it considers viable.

*They are: deep disposal, phased deep disposal, shallow burial of short-lived waste and interim storage.*

*Deep disposal is the process of permanently burying the waste between 300m (980ft) and 2km (1.2 miles) underground in an area of suitable geology; where the rocks act as a protective chamber.*

*Phased deep disposal is the same process except the waste will be retrievable.*

*Shallow burial of short-lived waste refers to burying waste that is radioactive only for a short time just below the surface.*

*Interim storage is a temporary management solution. Waste could be stored above the ground or just below the surface but it must be outside the biosphere.*

There is no recommendation on where the sites should be located. Alternatively, the waste could be put in secure storage above ground until better technologies become available. These options will now go for further consultation. But the committee excluded from its shortlist blasting waste into space, storing it on ice sheets or below the sea. The total volume of nuclear waste in the UK is 470,000 cubic metres when conditioned and packaged - enough to fill the Albert Hall five times over. This includes waste that will arise in the next 100 years from existing nuclear power stations and their decomissioning.

**Debate re-opened**

The final CoRWM report will be submitted next summer to the UK government, as well as authorities in Wales, Scotland and Northern Ireland.

Committee chairman Gordon MacKerron commented: "We want to listen to everyone's thoughts - be they members of the public, environmental groups, local authorities, waste managers or regulators.

"Now we can start to focus on the best options and see which will work and which won't."

However, Friends of the Earth warned against making an irreversible decision on nuclear disposal.

Campaigner Roger Higman said: "The simple, most important thing we have been calling for is for whatever we do to be retrievable and reversible.

"The most radioactive waste is going to be high level in a thousand years' time so whatever happens, we have got a problem.

|  |  |
| --- | --- |
|  | UK NUCLEAR WASTE VOLUMES High-level waste - 2,000 cubic metres Intermediate-level waste - 350,000 cubic metres Low-level waste - 30,000 cubic metres Spent fuel - 10,000 cubic metres Plutonium - 4,300 cubic metres Uranium - 75,000 cubic metres  |

"There is no safe way of disposing of nuclear waste and one of the most important lessons is not to create any more, which means we should not have nuclear power plants."

Nuclear waste comes from the process used to generate electricity via nuclear power, from making and maintaining nuclear weapons, and using nuclear technology in hospitals, laboratories and industry.

A recent study found that, on average, people in Britain live about 42km (26 miles) away from one of more than 30 radioactive waste sites, including power plants and military bases, in the UK.

An existing site at Drigg, in Cumbria, for example, allows only for the disposal of low-level radioactive waste.

Some scientists question the need for CoRWM at all.

They say it is simply re-opening a debate which Britain has already been through, and which they believe many other countries have successfully resolved.

Story from BBC NEWS:
<http://news.bbc.co.uk/go/pr/fr/-/2/hi/science/nature/4407421.stm>

**Pre-reading activities**

1. *Answer these questions.*
2. Do you believe that even disposed nuclear waste can be dangerous for humans?
3. Do you have any information about the ways used for nuclear waste disposal in the Czech Republic?
4. Are you a supporter or an opponent of nuclear power stations?
5. *Try to explain the meaning of these expressions in English.*

|  |  |  |
| --- | --- | --- |
| **proposal** | **temporarily** | **facility** |
| **legacy** | **decommission** | **option** |
| **shallow burial** | **disposal** | **interim** |
| **retrievable** | **available** | **shortlist** |
| **viable** | **reversible** | **to recommend** |

1. *Give the negatives using the proper prefixes.*
2. commissioned 7. located
3. decided 8. secure
4. viable 9. existing
5. suitable 10. reversible
6. protective 11. important
7. retrievable 12. opened
8. *Give the words of opposite meaning.*
9. underground
10. permanently
11. below
12. outside
13. excluded
14. safe
15. average

**Reading activities**

1. *Decide whether these statements are true or false.*
2. Nuclear waste in the UK will probably be buried underground or stored on the surface.
3. There are many places in the UK where it can be stored.
4. The experts have finally decided that there are 5 possible ways of nuclear waste disposal.
5. Blasting waste in the space is one of the future ways of disposal.
6. Present volume of nuclear waste in the UK will increase in the future.
7. Friends of the Earth insist on the solution that enables changing of the methods of disposal and its locations.
8. Radioactive waste is hazardous for humans for more than a thousand years.
9. Deep disposal of nuclear waste is a safe way of getting rid of it.
10. *Put the words in the sentences in proper order.*
11. left nowhere plants which weapons have the a and the UK presently radioactive legacy Nuclear has to with go power.
12. over months options consulted and public past experts up, and come committee has has the the with 18 four The.
13. be is no There the where on located sites recommendation should.
14. be report final The the to CoRWM next will submitted summer government UK.
15. which which focus options can we to start and work on and see best will Now won't the.
16. ***Grammar*** *– Change these sentences into passive.*
17. CoRWM recommends waste to be buried underground.
18. Nuclear power plants and weapons have left the UK with a radioactive legacy.
19. The committee has consulted experts and the public.
20. The committee excluded blasting waste into space from its shortlist.
21. The total volume of nuclear waste in the UK would fill the Albert Hall 5 times.
22. We have listened to everyone’s thought before we started to plan the nuclear waste disposal.
23. *In the article find passive sentences and change them into active ones if possible.*

**Post-reading activities**

*I. Imagine that you are a member of a panel consisting of the public and the experts which is to decide about the Czech nuclear waste. Choose the best ways of disposal, and decide about the most suitable locations in the Czech Republic.*

*II. Put down a 10-sentence summary of the article.*