



PART E

Opportunities and
Issues for Scotland

8 Opportunities and Issues for Scotland

8.1 Introduction and Current Status

All of the information in this report that applies to the UK decommissioning supply chain concerning global nuclear decommissioning opportunities also applies to Scotland. Hence only a small quantity is replicated and additional information, relating particularly to Scotland and Scottish companies is included in this chapter which should be read in conjunction with the whole of this report. Section 6 contains information on Scottish Enterprise (SCOTENT), Scottish Development International (SDI), Highlands and Islands Enterprise (HIE) and the Scottish Local Economic Councils (LEC's). It also poses some important questions for Scotland relating to opportunities and threats which point to areas that need to be addressed as an aid to formulating a strategy for Scotland's nuclear decommissioning industry. Recommendations for Scotland arising from this chapter and the study as a whole are included in Section 8.3 of the main body of the study report.

The information contained in this chapter is particular to Scotland and is additional to that in the main report. This Global Decommissioning Opportunities Report plus the information contained in the referenced material outlines the opportunity, its scale, the timeline, the skills required, the UK and Scottish decommissioning resource and points to those UK companies that may wish to set up a presence in Scotland. In addition much information and advice on how to enter the global markets is presented.

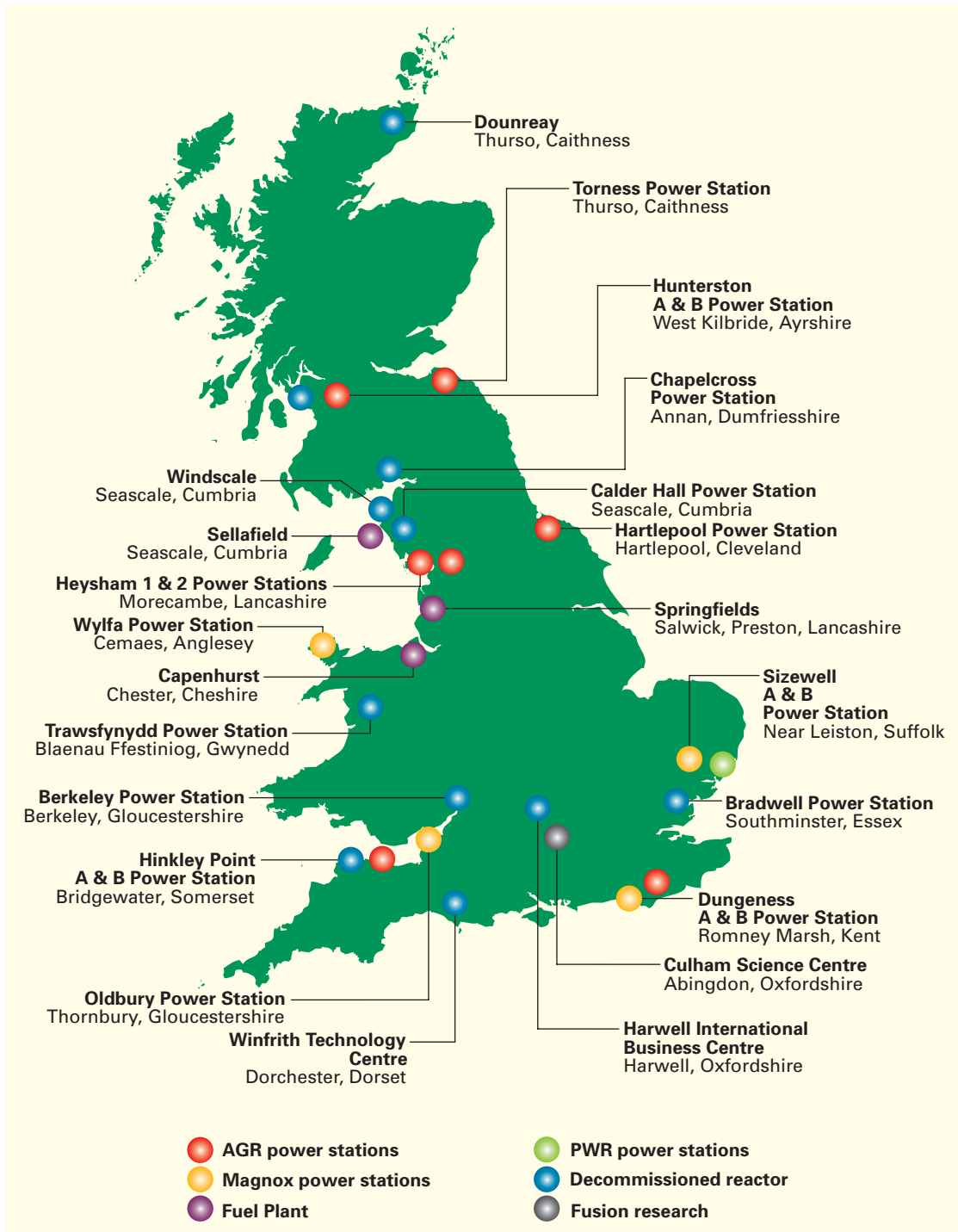
In Scotland there are four nuclear licensed sites: Torness in East Lothian, Hunterston in Ayrshire, Dounreay in Caithness and Chapelcross in Dumfries and Galloway. These sites have a total of four operational power reactors at Torness and Hunterston B, generating around 2.4 GW, four shut down reactors at Chapelcross and two decommissioning reactors at Hunterston A. Dounreay opened in 1954 to develop the UK's fast nuclear reactor programme. However, the programme has now stopped. Since closing, the emphasis at Dounreay has been on finding a safe and environmentally responsible way to decommission the site, which will take around 50 years and along with the closed nuclear power plants presents significant decommissioning opportunities for Scottish companies.

Not only do these nuclear decommissioning opportunities in Scotland provide opportunity for Scottish companies interested in entering the decommissioning market but also the UK and global opportunities together

with opportunities for diversification into other industries all of which are outlined in the main body of the report.

8.2 Location of Nuclear Licensed Sites in Scotland & the UK

Fig 2.1: Map of the UK showing the location of nuclear licensed sites in Scotland & the UK



8.3 Sector Customers and Stakeholders in Scotland

8.3.1 Government

The Department of Trade & Industry (DTI) has the policy responsibility for decommissioning and for nuclear site security in the UK including Scotland. The Department for Environment, Food and Rural Affairs (DEFRA) has policy responsibility for radioactive waste management. The Department for Transport (DfT) has responsibility for the regulation of radioactive materials transport. The Ministry of Defence (MOD) has the policy responsibility for decommissioning the nuclear submarine fleet. The Regional Development Agencies (RDAs) including Scottish Enterprise and Highlands & Islands Enterprise together with their Local Enterprise Companies, whose primary role is as strategic driver of economic development. Other Government Departments, UK Trade & Investment (UKTI) and Scottish Development International (SDI) who amongst other things assist in assessing skills and capability available to UK industry that may be used to promote industry throughout the world.

8.3.1.1 *The Scottish Parliament*

Devolution is the delegation of power from a central government to local bodies. Scotland was granted devolution by the passing of the Scotland Act in 1998 which means that Scotland has a parliament with 'devolved' powers within the United Kingdom. Any powers which remain with the UK Parliament at Westminster are reserved. Reserved matters are set out in Schedule 5 of the Scotland Act. A basic breakdown is given below. Essentially the powers of the Scottish Parliament are set out by what it does not have legislative competence in rather than in what it can do.

- Devolved powers: Matters such as education, health and prisons, which used to be dealt with by the Parliament at Westminster, are now decided in Scotland.
- Reserved powers: Decisions (mostly about matters with a UK or international impact) are reserved and dealt with at Westminster.

8.3.1.2 The Scottish Executive is the devolved government for Scotland. It is responsible for most of the issues of day-to-day concern to the people of Scotland, including health, education, justice, environment and rural affairs, and transport.

Full details of the roles of the relative organisations above are provided on their web sites included in section 6 of this annexe "Information Sources".

8.3.2 Nuclear Decommissioning Authority (NDA)

The NDA was launched on April 1st 2005 and has strategic responsibility for the decommissioning and clean up of all 20 of the UK public sector civil sites. The NDA was set up by the Government under the Energy Act 2004 and from 1st April the NDA became responsible for the nuclear facilities currently managed by British Nuclear Group which is part of British Nuclear Fuels (BNFL) plc and the United Kingdom Atomic Energy Authority (UKAEA).

The NDA sites in Scotland are:-

- Dounreay (Caithness)
- Hunterston A (Ayrshire)
- Chapelcross (Dumfries & Galloway)

Full details of these sites and their locations are included in section 6 of this Annex and are provided on the NDA web site (www.nda.gov.uk click "about the NDA" on the homepage, then "locations").

8.3.3 Regulators

Licensing and nuclear and waste management aspects of the Nuclear Installations Act are regulated by Health & Safety Executive/Nuclear Installation Inspectorate. The HSE is also the competent authority for the Nuclear Reactors (Environmental Impact Assessment of Decommissioning) Regulations 1999.

The environment agencies (i.e. the Environment Agency in England and Wales, the **Scottish Environment Protection Agency in Scotland**) regulate the disposals, under the Radioactive Substances Act (RSA93), of all forms of radioactive wastes (solids, liquids, and gases) from nuclear licensed sites.

8.3.4 Main Site Operators and Licensees

Currently the main operators/licensees of the major civil nuclear sites in Scotland and the UK are UKAEA, British Nuclear Group (owned by BNFL) and British Energy.

The initial contracts between the NDA and the Site Licensee Companies (British Nuclear Group Sellafield Ltd, Magnox Electric Ltd, and Springfields Fuels Ltd), the Parent Company Agreements with British Nuclear Group and Westinghouse UK, and the United Kingdom Atomic Energy Authority have been published on the NDA web site.

UKAEA has one contract with the NDA for all of its sites which includes Dounreay in Scotland.

British Nuclear Group has contracts with the NDA for Scottish NDA sites which include the Magnox Reactor sites licensed to Magnox Electric Ltd at Hunterston A and Chapelcross.

Other organisations with relevant nuclear site management experience, albeit not directly in the civilian clean up environment operate in Scotland at MOD sites.

8.3.5 Other Related Organisations

Nirex & CoRWM

Nirex is based at Harwell in Oxfordshire with a team of 67 staff working on a wide range of projects in many different disciplines.

Nirex conducts research on options for dealing with radioactive waste, sets specifications and standards and advises the industry on how to treat and package radioactive waste through the application of the Nirex Letter of Compliance Process. It also maintains an inventory of radioactive waste in the UK in conjunction with Defra and communicates with stakeholders including the public to address concerns surrounding radioactive waste management. Their work is carried out in accordance with Government policy ensuring no conflict or overlap with the work of CoRWM or the NDA.

The UK Government and the devolved administrations for Scotland and Wales are currently considering the options for a UK policy for all forms of radioactive wastes. In September 2001 the UK government published a consultation paper, 'Managing Radioactive Waste Safely – Proposals for developing a policy for managing solid radioactive waste in the UK'. A period of public consultation followed until March 2002. In July 2002 the government announced that, following these consultations, it intended to set up a new body, the Committee on Radioactive Waste Management (CoRWM). This has the brief of assessing the options for managing solid radioactive waste and recommending to UK ministers the best solution that will achieve long-term protection for people and the environment. It is expected that this should reach a conclusion in 2006.

8.4 Global Nuclear Decommissioning Opportunities for Scotland

Nuclear decommissioning both within the UK and in global markets will become a major opportunity for Scotland's energy supply chain.

The commercial opportunities offered by a programme of work, the responsibility of the NDA, are worth approximately £56 billion, with a stated annual expenditure of around £2 billion.

A recent NIA study has estimated the potential NDA spend with the supply chain by site in **Scotland** during 2005/06 to be as follows:-

Table 4.1: Potential NDA spend by site in Scotland during 2005/06

Site	Total by site £M	External spend £M
Hunterston A	56.1	34.8
Chapelcross	67.3	41.7
Dounreay	149.7	104.8
Totals	273.1	181.3

Note: The above figures include materials, utilities, catering etc and do not provide an accurate indication of what level of spend may be available to the supply chain.

Information about the NDA and its sites including those in Scotland above can be found at:-

www.nda.gov.uk

From the home page, full details of the NDA Annual Plan, its site Lifecycle Baselines and Near Term Work Plans can be accessed including Dounreay, Hunterston A and Chapelcross.

On the homepage click on "About the NDA" at the top of the page and then "locations" in the LH menu for links to the web sites of all the NDA locations including those above.

Although not part of the civil nuclear programme, AWE at Aldermaston undertakes legacy work through a Legacy Programme which extends over 70 years with a total cost of about £2.5B. It includes a 10 year programme with a £30 million annual spend.

Information about AWE can be found on its web site at:-

www.awe.co.uk

The MOD has requested proposals from industry regarding the safe disposal of decommissioned nuclear powered submarines. Over the next 30 years up to 27 submarines will be taken out of service. The 11 laid up submarines at Rosyth and Devonport are de-fuelled and future decommissioned submarines will be de-fuelled at Devonport prior to entering the Interim Storage of Laid up Submarines (ISOLUS) programme. The project is on hold pending the outcome of the CoRWM review of long term storage of nuclear waste in the UK.

Information on this and access to the MOD procurement portal can be found at:- **www.mod.uk/**

The global decommissioning opportunity outlined in this report is estimated to be worth around £450 billion over the next forty years. Full details are available in this report.

These nuclear decommissioning opportunities in Scotland, the UK and globally provide huge significant opportunities for Scotland's energy companies to establish a major market share and deliver cost effective and innovative solutions.

8.5 Companies in the Nuclear Sector in Scotland

All of the major contractors in the UK nuclear supply chain are members of the Nuclear Industry Association (NIA). NIA members links to all of these company web sites can be found on the NIA web site members home page at: www.niauk.org/members

For non members the NIA web address is: www.niauk.org

Further details of nuclear industry suppliers can be found on the web sites of the main UK site licensees who publish details of companies who have been awarded contracts for supply of goods and services.

www.britishnucleargroup.com/

Click on “suppliers”, “current opportunities”

www.ukaea.org.uk

e.g., click on “contractors”, “Dounreay” “contracts placed”.

The Foratom web site has a list of 63 UK Companies working in the UK nuclear industry, many with links to their company web sites providing details of their products/services together with contact information. See:-

www.foratom.org

Click on “links” on the homepage, then “companies” and scroll down to UK.

All of the above companies work not just in the nuclear sector in the UK but also in Scotland. These companies comprise much of the nuclear decommissioning resource in Scotland. Some have set up offices in the vicinity of the decommissioning sites. There are many more suppliers working at Scottish sites or providing other goods and services to the main site licensees or contractors, many of them smaller local companies.

In addition there are many opportunities for diversification of Scottish companies working for example in the North Sea Oil/Gas Industries into nuclear decommissioning in Scotland. This is an area for further clarification and is mentioned further in section 6 of this Annexe and in the recommendations in section 8.3 of the main body of this study report.

8.6 Other Information

8.6.1 Scottish Enterprise/Scottish Development International & the LEC's

Scottish Enterprise is the main economic development agency for Scotland, funded by the Scottish Executive. Its website can be found at:-
www.scottish-enterprise.com

The web site contains a mine of very useful information for Scottish companies and from its home page you can access the following:-

“Services to Business” – Contains information/fact sheets on how to start and run a successful business.

“Services to Business International” – Find out about expanding overseas (for Scottish businesses). Consider the information on Business Gateway International (BGI), International Business Opportunities (IBO).

“Services to Industry Groups” – Click “Energy” on sub menu to get help for companies in the power generation sector via the quick links. It includes help with funding, growing business in international markets and much other relevant information.

Consider the information under “power generation initiatives” in the LH sub menu which includes a diversification tool kit to help companies who supply the oil and gas sector (and the companies who support them), to prepare and tackle the opportunities for diversification. Also there is information on key facts including the nuclear industry.

“Decommissioning opportunities” is also on the LH sub menu and this provides links to market research reports, decommissioning events archives and useful websites and other nuclear related news.

Return to the web site home page and click “about Scottish Enterprise” for its structure, contact information and links to the Local Enterprise Companies (LEC's) and information on job opportunities and tenders.

The Scottish Enterprise network has 12 LEC's located across the Southern half of Scotland from the Grampians down to the borders. **These organisations are one of the main ways to access the range of services provided by Scottish Enterprise and its partners.**

For each LEC you will find a geographic profile, local initiatives, news, contact information and much more.

In October 2001, the Scottish Executive launched its new strategy for Scotland's international economic development. As a result, Scottish Development International was formed, replacing the former inward investment group Locate in Scotland and the former export promotion group, Scottish Trade International.

Scottish Development International is 100% government funded and is jointly operated by the Scottish Executive and Scottish Enterprise with Headquartered in Glasgow. Its web site is at:-
www.scottishdevelopmentinternational.com/

It has offices in the UK, mainland Europe, North America and Asia and links to their international offices are available from the home page. There is also much additional helpful information.

8.6.2 Highlands & Islands Enterprise (HIE) and the LEC's

The Highlands and Islands Network consists of the main body, Highlands and Islands Enterprise, based in Inverness and ten Local Enterprise Companies (LEC's). The HIE web site is at:-
www.hie.co.uk/

This has links to the LEC web sites on its home page (LH side menu).

All of these are very informative web sites providing much useful information and help on such things as financial assistance and developing Scottish companies both at home and into global markets.

8.6.3 Development of Scotland's Nuclear Decommissioning Industry

8.6.3.1 Opportunities for Scotland

This report outlines significant opportunities for the Scottish Energy Industry in Scotland, the UK and in Global nuclear decommissioning markets of which an overview is provided in section 4 of this Annexe above and in much more detail in the main body of the report. It is necessary for Scotland to capitalise on these opportunities to utilise them to full advantage and the question is how best to do this?

- ***Having considered the market opportunities Scotland and its regions can exploit, which opportunities have the most potential for Scottish companies?***

There is no simple answer, it is dependant upon company internal and external factors described in the main body of this report. The guidance provided on market selection in section 4 of the study report should be followed by Scottish companies and organisations interested in entering the global nuclear market. However, the majority of Scottish companies wishing to enter the decommissioning supply chain are likely to be tier 3 and 4 suppliers and global markets may not be the initial best choice. Going international can be expensive, in terms of both money and management time and commitment, so a company needs to gain competitive advantage by going international. Some of the FSU and Eastern European countries may provide the best opportunity for a Small or Medium Enterprise wishing to enter the overseas decommissioning market by partnering or alliancing with a UK or foreign company already having a presence in the market there.

- ***What comprises the decommissioning resource in Scotland, who are the companies, what do they supply and what are the supply chain strengths and weaknesses in Scotland?***

These questions are all answered in this report to a certain extent. The same companies and their strengths and weaknesses, apply to companies working at the Scottish nuclear sites as the rest of the UK. However, there is an additional resource in Scotland that has yet to be tapped and it is this resource and its capability that needs to be identified such that it can be assisted and utilised.

- ***What are the skills required for decommissioning and what needs to be done for Scottish suppliers to improve the decommissioning skill base?***

The skills required for Scottish companies will be the same as those companies already working in the nuclear industry and which are identified in the main body of this report which also points to those skills that are in short supply. What needs to be done for Scottish people and suppliers either as new entrants to the nuclear decommissioning market or diversifying into another part of it is an area for further development.

- ***How many jobs are likely to be created as a result of global decommissioning activities in Scotland (a) in Scotland (b) globally?***

The jobs at Scottish decommissioning sites can be split into permanent site staff and contract staff employed at site required at each stage of decommissioning. The global picture will depend upon the known uptake by UK companies. There is a need for further research in this area to understand, monitor and address the impact on regional and national economies.

- ***What will be the impact upon unemployment and income in Scotland and its regions as a result of decommissioning activities?***

There is a need for further research in this area to understand the impact on Scottish regional and national economies and allow any deterioration to be addressed.

- ***For nuclear decommissioning the right business environment has been created by the advent of the NDA to attract companies and industries to Scotland. Which companies /organisations wish to set up businesses in Scotland and where, to take advantage of the opportunities?***

What more can and needs to be done to enhance the business environment, e.g., communications infrastructures or research? There is need for further research to answer these questions.

- ***It is also necessary to understand what opportunities exist for diversification of companies working in other industries in Scotland into nuclear decommissioning, such as North Sea Oil & Gas and overseas and how best to exploit this opportunity?***

This report provides some answers to this question in sections 6.1.1, 6.1.2 and 6.2.2. This however has to be implemented and led.

- ***What needs to be done to address the above questions further?***

As can be seen, this report goes a long way to answering the above questions for the UK as a whole and much of it is also relevant to the Scottish situation. Where answers are not available a number of recommendations are made to Scottish Enterprise, HIE, their LEC's and SDI to address them in Section 8.3 (table 8.2) of the main body of this report.

8.6.3.2 Threats for Scotland as a Result of Global Nuclear Decommissioning

It is not only necessary to understand the opportunities created in the nuclear decommissioning market but also the threats for Scotland due to global decommissioning.

- What will be the impact upon employment and income in Scotland and its regions as a result of Scottish nuclear decommissioning activities?
- Are the correct skills for decommissioning available in Scotland where they are needed and which companies want them?
- There is likely to be much competition from companies and organisations elsewhere in the UK and overseas not only for decommissioning contracts but also from other regions wishing to develop their own infrastructure. How should Scottish companies and organisations counter these potential threats?

This report helps to clarify and understand these threats and it is important that they are asked, so that answers can be obtained for the future.

Where answers are not available recommendations are made in section 8.3 (table 8.2) of this report to Scottish Enterprise, HIE, their LEC's and SDI to address them.

8.6.4 Useful Contacts and Web Sites

The Scottish Parliament: – www.scottish.parliament.uk/home.htm

The Scottish Executive: – www.scotland.gov.uk/home

UK Government websites

Information about the NDA, its purpose, structure and resources with details of forthcoming events for suppliers can be found at:

www.nda.gov.uk

An important website that explains the current and forthcoming changes in the nuclear clean up arrangements is:

www.dti.gov.uk/nuclearcleanup

General information on the nuclear sector may be found at:

www.dti.gov.uk/energy/nuclear/index.shtml

Information regarding the management of radioactive waste, an important issue, which is closely related to nuclear decommissioning, can be found at:

www.defra.gov.uk/environment/radioactivity/waste/index.htm

Information concerning the transport of nuclear materials and waste can be found at:

www.dft.gov.uk (word search home page use "nuclear")

Ministry of Defence

www.mod.uk/

Regulators

The Nuclear Safety Directorate of the HSE including the Nuclear Installations Inspectorate

www.hse.gov.uk/nsd/index.htm

The Environment Agency (covering England & Wales)

www.environment-agency.gov.uk/

Scottish Environment Protection Agency

www.sepa.org.uk/radioactivity/index.htm

Nirex

www.nirex.co.uk/

Nirex was formed in 1982 to implement a strategy for the safe disposal of wastes of low and intermediate-level radioactivity and in 2005 was made independent of the nuclear industry, in a move that will boost transparency and accountability in the long-term management of radioactive waste.

CoRWM

UK Government appointed independent committee consulting and recommending a long-term solution on how higher level wastes should be managed in the long-term.

www.corwm.org.uk/

Development agencies and enterprise organisations

Scottish Enterprise

www.scottish-enterprise.com/energy

Highland and Islands Enterprise

www.hie.co.uk/

Nuclear Industry Association (NIA) & other trade associations

The NIA represents over 115 companies operating in the whole of the UK nuclear industry. As it represents the licensees and the contractors, there is a wealth of on information on this site or linked to it.

www.niauk.org

FORATOM

www.foratom.org

The European Atomic Forum (FORATOM) is the Brussels-based trade association for the nuclear energy industry in Europe. Its main purpose is to promote the use of nuclear energy in Europe by representing the interests of this important and multi-faceted industrial sector. The membership of Foratom is made up of 16 national nuclear associations and nearly 800 firms are represented.

UK Trade and Investment

www.uktradeinvest.gov.uk/ukti/appmanager/ukti/splash

Scottish Development International.

www.scottishdevelopmentinternational.com/pages/index.asp

Licensees coming under the new NDA arrangements

United Kingdom Atomic Energy Authority

www.ukaea.org.uk/

British Nuclear Group

www.britishnucleargroup.com/

In addition, BNFL (<http://www.bnfl.com>) has recently created a new site for Sellafield on which they have published components of the Near Term Work Plan.

www.sellafield.com

Main licensees currently outside of the new NDA arrangements

British Energy

www.british-energy.com/

DML

www.devonport.co.uk/

AWE

www.awe.co.uk/

Urenco

www.urengo.com/

Rolls-Royce

www.rolls-royce.com/marine/default.jsp