Grounds for complaint: state aid for nuclear power in the UK

Energy Fair

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1 Introduction

This document, together with the accompanying *Nuclear Subsidies* report [NSUBS2011], provides the 'grounds of complaint' for Section 5 of the accompanying *Form for the submission of complaints concerning alleged unlawful State aid.*

In Section 2, next, we introduce our complaint informally by describing a range of subsidies enjoyed now by the operators of nuclear power plants in the UK, where the word 'subsidy' has its ordinary non-technical meaning. As a context for our complaint, this section also considers briefly the origins and possible justifications for existing subsidies, describes why we believe that the subsidies are a matter of public concern, and our belief that they should not be allowed to persist in the future.

In Section 3 we consider a subset of the subsidies described in Section 2 and argue that they constitute 'state aid' as defined in European Community law on state aid, that they are incompatible with the common market of the European Community, and that they do not qualify as exemptions under the Treaty establishing the Community.

In Section 4, we propose some steps that may be taken to reduce or eliminate state aid for nuclear power in the UK.

In our Conclusion, we briefly review the main points.

2 Subsidies for nuclear power in the UK

The *Nuclear Subsidies* report from the Energy Fair group [NSUBS2011], which accompanies this document and should be read in conjunction with it, describes seven types of subsidies which are enjoyed by the operators of nuclear power plants in the UK today:

- *Limitations on liabilities:* The operators of nuclear plants pay much less than the full cost of insuring against a Chernobyl-style accident or worse. (S1).
- *Underwriting of commercial risks:* The Government necessarily underwrites the commercial risks of nuclear power because, for political reasons, the operators of nuclear plants cannot be allowed to fail. (S2).
- *Subsidies for protection against terrorist attacks:* At least some of the cost of protection against terrorist attacks is born by the Government. Also, because such protection can only ever be partial, the public is exposed to risk and corresponding costs. (S3).
- *Subsidies for the short-to-medium-term cost of disposing of nuclear waste:* Operators of nuclear plants are paying much less than the full cost of disposing of nuclear waste, and the Government underwrites the risk of cost overruns. (S4).

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- *Subsidies for the long-term cost of disposing of nuclear waste:* With categories of nuclear waste that will remain dangerous for thousands of years, there will be costs arising from the dangers of the waste and the need to manage it. These costs will be borne by future generations, but they will receive no compensating benefit. (S5).
- *Underwriting the cost of decommissioning nuclear plants:* the Government bears the risk of cost overruns in decommissioning nuclear plants. (S6).
- *Institutional support for nuclear power:* the Government is providing various forms of institutional support for the nuclear industry. (S7).

For the sake of brevity, we may refer to any particular type of subsidy using the abbreviation given in brackets after its entry above.

2.1 Possible justifications for subsidising nuclear power

Some possible justifications for providing subsidies for nuclear power are considered in Section 3 of [NSUBS2011]—and all of them are rejected.[1] Any role that nuclear power may once have had in Europe or the USA in providing nuclear materials for use in nuclear weapons has largely disappeared. Unlike earlier times, when nuclear power was seen as the main alternative to coal-fired power, it is now clear that there are more than enough renewable sources of power to meet our needs.[2] Far from providing an answer to the problem of climate change, nuclear power diverts resources away from alternatives that are cheaper and better.[3] And so on.

2.2 Reasons for concern

These subsidies are a matter of concern for the following main reasons:

- Nuclear power has been established for many years, it is not a fledgling industry, and it should be commercially viable without these kinds of support.
- Subsidies for nuclear power are damaging to the commercial interests of companies providing renewable sources of energy, throughout the EU and beyond.[4]
- Likewise, they inhibit the development of renewable sources of energy and may help to explain why the UK is near the bottom of the European league table for the development of renewables.[5]
- Subsidies for nuclear power, taken together with direct and indirect subsidies for fossil fuels,[6] mean that renewables need to be subsidised at higher levels than would

[1] In this context, 'justification' has its ordinary broad meaning, not the narrow technical meaning of 'justification' as it is applied to nuclear power in EU law.
[2] See http://www.energyfair.org.uk/pren and Section 5 of [NSUBS2011].
[3] See http://www.energyfair.org.uk/misallocation.
[4] Why are those companies not making a complaint themselves? Possible reasons include lack of awareness of the subsidies for nuclear power, insufficient time available to study the issues and make a complaint, and caution about rocking the political boat that may provide subsidies for renewables in the future.
[5] For evidence of the way in which nuclear power can crowd out renewable sources of power see "Policy challenges of nuclear reactor contruction, cost escalation and crowding out alternatives" (PDF, 1.7 MB, Mark Cooper, Vermont Law School, September 2010, http://www.vermontlaw.edu/Documents/IEE/20100909_cooperStudy.pdf). See also "VLS study: widely misunderstood in U.S., the French 'nuclear miracle' is plagued by fast-rising reactor costs and 'crowding out' of renewable" (Digital Journal, 2010-09-09, http://www.digitaljournal.com/pr/109960).
[6] Information about direct subsidies for fossil fules may be found in [NSUBS2011, Section 6]. At present, there is an indirect subsidy for coal-fired electricity because 'grandfathering' and the allocation of too many permits in the EU Emissions Trading Scheme means that the cost of emissions is still too low.

otherwise be the case.[7] In effect, there is an 'arms race' of subsidies, with corresponding losses in economic efficiency.[8]

- In terms of the fight against climate change, and other considerations, it is clear that money spent on nuclear power would be a mis-allocation of resources.[9] By disguising the real cost of nuclear power, subsidies may lead to unwise decisions about energy supplies and the conservation of energy (Section 2.3).

2.3 Subsidies for new nuclear power plants?

Although our complaint is about subsidies for nuclear power plants that are operating in the UK now, our main concern is that the same or similar subsidies may be allowed to stay in place, or that new ones may be introduced, with consequent distortions of energy markets in the future.[10]

A ruling against the subsidies for existing nuclear plants would be helpful for two reasons:

- It would send a clear signal to the industry that subsidies for nuclear power are unacceptable and are unlikely to be approved for any new nuclear plants.
- Withdrawal of the subsidies for existing plants would reduce the chance that excess profits from existing plants might be used as a cross-subsidy for the building of new nuclear plants.

We would very much welcome a ruling against subsidies for existing nuclear plants but, to allow those plants to continue in operation until they are worn out, we would not object to some alternative and temporary form of support to allow the industry to cope with 'stranded costs'.

Any such alternative and temporary measures should not, of course, apply to new nuclear power plants.

The UK Government has recently proposed new arrangements governing the operation of any new nuclear plants that may be built in the UK. If, as appears to be the case, the new arrangements have the effect of retaining existing subsidies and, perhaps, introducing new ones, there would be cause for complaint about those as well.

3 'State aid' for nuclear power in the UK

In this section, we argue that all but one of the subsidies listed in Section 1 and described in [NSUBS2011] are 'state aid' as defined in European Community law on state aid. In each case, we argue that it is incompatible with the common market of the Community and that it does not qualify as an exemption under the terms of the Treaty.

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[7] In case anyone should suggest that subsidies for nuclear power are justified because renewables are receiving subsidies, renewables are, in relative terms, fledgling industries and subsidies are justified until prices have been brought down by economies of scale and refinements in technologies. By contrast, nuclear power is a mature technology that has already received large amounts of public support and should now be commercially viable without the subsidies described in [NSUBS2011].

[8] Subsidy races between different types of technology are detrimental to the EU in much the same way as are subsidy races between member states: "…State aid rules, first and utmost, ensure a level playing field for European companies and avoid that Member States engage in wasteful subsidy races, which are non-sustainable for individual Member States and detrimental to the EU as a whole." [V2008, p. 5].

[9] See http://www.energyfair.org.uk/misallocation.

[10] The UK government has said repeatedly that there will be no subsidies for any new nuclear power stations that may be built in the UK. But there are indications that they wish to retain the subsidies described in [NSUBS2011] and other measures have been proposed recently which may turn out to be covert subsidies for nuclear power.

To be explicit, the subsidies that we shall consider are:

- *Limitations on liabilities*, described in [NSUBS2011, Section 2.1] (S1).
- *Underwriting of commercial risks*, described in [NSUBS2011, Section 2.2] (S2).
- *Subsidies for protection against terrorist attacks*, described in [NSUBS2011, Section 2.3] (S3).
- *Subsidies for the short-to-medium-term cost of disposing of nuclear waste*, described in [NSUBS2011, Section 2.4] (S4).
- *Underwriting the cost of decommissioning nuclear plants*, described in [NSUBS2011, Section 2.6] (S6).
- *Institutional support for nuclear power*, as described in [NSUBS2011, Section 2.7] (S7).

We shall refer to them collectively as "the subject of our complaint".

The subsidy that we have omitted—S5, relating to costs arising from nuclear waste that will be dangerous for thousands of years—is in a class of its own. There is no satisfactory solution to this problem and that in itself argues for an outright ban on the building of any new nuclear power stations.

In what follows, we shall consider the issues in relation to relevant headings in [V2008].

3.1 Transfer of state resources [V2008, p 6]

"State aid rules cover only measures involving a transfer of state resources …" and "Financial transfers that constitute aid can take many forms: not just grants or interest rate rebates, but also loan guarantees, accelerated depreciation allowances, capital injections, tax exemptions etc." [V2008, p 6].

In the cases we are considering, these principles apply as described in the following subsections.

3.1.1 Limitations on liabilities (S1)

By putting a cap on the liabilities of nuclear operators, the Government is transferring risk, and corresponding costs, both to the public and to the state. In the event of a Chernobyl-style accident or worse, the Government would incur many costs, mainly in measures aiming to safeguard the health and safety of the population and in measures aiming to clean up the pollution. Other states in the EU and elsewhere that have been affected by radioactive fallout from such an event are likely to make claims for compensation.

It is true that the costs would only occur in the event of a serious accident but this is no different in principle from the way in which loan guarantees only give rise to costs in the event of a default on the loan.

The probabilities may be low but the potential payouts by the state are very large. Overall, the cap on liabilities represents a substantial transfer of state resources to the operators of nuclear plants.

In that connection, it has been calculated that, in France, removal of the cap on liabilities, with a corresponding requirement that nuclear operators should take out full insurance against

nuclear disasters, would increase the cost of French nuclear electricity by 300%.[11] This is an indication of the size of the transfer of resources from the state that arises from the existing limitation on liabilities. Since, like France, the UK subscribes to the Paris/Brussels conventions on third party liability in the field of nuclear power, the transfer of resources is similar.

Apart from the cap on liabilities for nuclear operators, there is a more direct transfer of resources to nuclear operators from the state via the provisions of the Brussels convention:[12]

> *The 1963 Brussels supplementary convention created a system of three tiers to provide for damages. Parties of the Brussels convention must also be party to the Paris convention which provides for the first tier of funds via the nuclear operator's liability. Tier two requires the state to pay the difference between the operator's liability (which is set under national law) and SDR* [Special Drawing Rights] *70 million. Tier three calls upon all parties to the convention to supply up to SDR 50 million. The maximum total amount available for compensation of the 1963 convention is therefore SDR 120 million, though note that this has since been increased …*

The home state and other parties to the convention must step in when liabilities exceed the limit for a nuclear operator—but the overall cap is still much lower than the potential cost of a meltdown.

3.1.2 Underwriting of commercial risks (S2)

As with banks in the recent banking crisis, the operators of nuclear plants cannot, for political reasons, be allowed to fail.[13] To our knowledge, there is no explicit statement anywhere that the Government will underwrite the commercial risks of nuclear operators—but none is needed. It is clear that, because of the physical risks associated with nuclear power, it is politically impossible for any government to allow the operators of nuclear plants to fail.

The process of bailing out a nuclear company is a costly operation in its own right—and those costs fall to the state. Also, the bail out of a company exposes the Government to commercial risk. Even if the failing company is ultimately sold, there is likely to be an overall loss.

If nuclear operators were to obtain this kind of underwriting from commercial sources, it would be expensive. That is a way of measuring the transfer of resources from the state to the operators of nuclear plants.

3.1.3 Subsidies for protection against terrorist attacks (S3)

In the UK, the nuclear industry is required to pay for some of the protection that is needed against terrorist attacks. But the civil nuclear industry also receives protection by the police and the army. Since terrorists are much more likely to attack nuclear installations or trains and ships carrying nuclear materials than they are to attack a wind farm or a sweet shop, the

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[11] Appendix J of the report "Environmentally harmful support measures in EU member states" says "Scenario B, in which all liabilities are covered at the upper damages estimates, results in premiums of 5.0 c€/kWh. This insurance scenario would thus lead to a tripling of current total generating costs." (p 132). The report, which was commissioned by the DG Environment of the European Commission, 2003, can be downloaded from http://www.mng.org.uk/gh/resources/EC_env_subsidies.pdf (PDF, 1.1 MB).

[12] This is from the website of the World Nuclear Association, 2010-10-11, http://www.world-nuclear.org/info/inf67.html.

[13] As evidenced by the way the UK government had to bail out British Energy in 2005 at a cost of about £5 billion. See, for example, "Ministers 'wrote blank cheque' to bail out nuclear power group", The Guardian, 2006-03-17, http://www.guardian.co.uk/business/2006/mar/17/nuclearindustry.politics.

protection which the nuclear industry receives from the police and the army is an unfair subsidy for the industry. This is a direct transfer of resources from the state to the nuclear operators.

But perhaps more important, any such protection can only ever be partial. There is the ever-present risk that terrorists will manage to create a 'dirty' bomb or otherwise spread radioactive materials in the environment. This means that there is a transfer of risks, and corresponding costs, from nuclear operators to the public and the state—much as was described in Section 3.1.1.

As with S2, the subsidy can be removed by requiring the nuclear industry to take out appropriate insurance.

3.1.4 Subsidies for the short-to-medium-term cost of disposing of nuclear waste (S4)

It is clear from the evidence presented in [NSUBS2011, Section 2.4] that the operators of nuclear plants in the UK are paying much less than the full commercial cost of disposing of nuclear waste. Since the balance is paid by the state, this is a direct transfer of resources from the state to nuclear operators. Judging by the evidence presented in [NSUBS2011, Section 2.4], the size of this transfer is very substantial and that, without it, nuclear power would not be commercially viable.

In addition, there is considerable uncertainty about the final cost of disposing of nuclear waste and the Government shoulders the risk of cost overruns. The way in which the Government bears that risk can be seen from a detailed analysis, commissioned by Greenpeace, of the proposed 'Fixed Unit Price' arrangements for the disposal of nuclear waste, which are a variation of existing arrangements (see [GPR2010, GPB2010]). Existing arrangements and the proposed future arrangements do not address the fundamental problem that nuclear operators are sheltered from the risk of cost overruns.

If nuclear operators were to take out insurance against these risks, it would be expensive. As with S2 and S3, that would be a way of measuring the size of the transfer of resources that occurs when the state takes on risks that properly belong to commercial companies.

3.1.5 Underwriting the cost of decommissioning nuclear plants (S6)

As with the disposal of nuclear waste, there are considerable uncertainties about the cost of decommissioning nuclear plants. As described in [NSUBS2011, Section 2.6], the Government bears the risk of cost overruns.

An indication of the size of the risk that the Government is exposed to, and the corresponding transfer of resources from the state to the nuclear industry, is the fact that decommissioning of nuclear plants is now costing the UK Government about *half* of its total budget for energy.[14] This rather startling statistic is also an indication of the way that nuclear power drains resources away from the renewable sources of power that are now urgently needed.

As before, a calculation of the size of the insurance premiums that would be needed to cover those risks would provide a measure of the transfer of resources from the state.

3.1.6 Institutional support for nuclear power (S7)

From the evidence presented in [NSUBS2011, Section 2.7], it appears that the UK Government is providing a considerable amount of support for the nuclear industry via the provision of staff, facilities, quangos, grants, and more.

[14] See "Nuclear decommissioning to cost UK half of overall energy budget", Platts, 2010-09-15, http://www.platts.com/RSSFeedDetailedNews/RSSFeed/HeadlineNews/Nuclear/8955462/.

We believe that the onus should be on the UK government to provide information about the nature or quantity of this kind of support and to demonstrate that the institutional support that it is providing for the nuclear industry conforms with Community law. A detailed analysis is needed of all the staff (full time equivalents), facilities, and money that is supporting the nuclear industry, both within government and within other organizations that receive funds from the government.

3.2 Economic advantage [V2008, p 6]

"The aid should constitute an economic advantage that the undertaking would not have received in the normal course of business." [V2008, p 6].

In Section 2.11 of [NSUBS2011], we have calculated that withdrawal of just one of the subsidies for nuclear power—limitation on liabilities—would raise the price of nuclear electricity to slightly more than 20 US cents per kWh, a price that would make it quite uncompetitive. Withdrawal of the other subsidies would raise the price even more.

It is clear from this evidence and from other evidence presented in [NSUBS2011] and in Section 3.1 of this document, that the operators of nuclear plants are benefitting very substantially from the subsidies which are the subject of our complaint. That clearly gives them a considerable economic advantage in the market for electricity and, more generally, energy. Without those subsidies, it is unlikely that nuclear power would be commercially viable.

3.3 Selectivity [V2008, p 6]

"State aid must be selective and thus affect the balance between certain firms and their competitors." [V2008, p 6].

The state aid that we have described in clearly selective because it benefits the operators of nuclear power plants and puts the suppliers of other kinds of power at a relative disadvantage.

"A scheme is considered 'selective', if the authorities administering the scheme enjoy a degree of discretionary power." [V2008, p 6]. This is clearly true of the measures that we have described. The UK government is free to modify or withdraw any of the arrangements that we have described to eliminate selective benefits for nuclear operators.

A possible objection is that the UK government has subscribed to the Paris/Brussels Conventions on third party liability in the field of nuclear energy. However, the government is free to withdraw from those agreements or to renegotiate relevant parts.

In case anyone suggests that subsidies for nuclear power are justified because renewables are receiving subsidies, nuclear power is a mature technology that has been established for many years, has already received very substantial amounts of support,[15] and should be commercially viable without subsidies. By contrast, most renewables are still finding their feet commercially, and need support until prices can be brought down via economies of scale and refinements in the technologies. Without subsidies for nuclear power and fossil fuels, there would be less need to provide subsidies for renewables (see [NSUBS2011, Section 6]).

3.4 Effect on competition and trade [V2008, p 7]

"Aid must have a potential effect on competition and trade between Member States. It is

[15] "More than half of the subsidies (in real terms) ever lavished on energy by OECD governments have gone to the nuclear industry." From "Nuclear power out of Chernobyl's shadow", *The Economist*, print edition, May 6th 2004.

sufficient if it can be shown that the beneficiary is involved in an economic activity and that it operates in a market in which there is trade between Member States." [V2008, p 7].

The operators of nuclear plants in the UK, who are the beneficiaries of the subsidies which are the subject of our complaint, are clearly involved in an economic activity—the generation and sale of electricity.

It is clear that those beneficiaries operate in a market in which there is trade between Member States. There is already a transmission link between the UK and France with traffic in both directions and, via transmission links between Scotland and Northern Ireland and between Northern Ireland and Eire, electricity may be traded between mainland Britain (where nuclear plants are sited) and Eire, and between Northern Ireland and Eire.

It is likely that these kinds of cross-border trading will increase in the future since the 'BritNed' transmission link is under construction between the UK and the Netherlands (it is due to go into operation in 2011) and the planned expansion of offshore wind power in waters around the UK,[16] with the consequent need for submarine HVDC transmission cables, has given considerable momentum to the proposed European supergrid of submarine transmission links between member states.[17]

3.5 Compatible State aid [V2008, p 7 ff]

"According to Article 87(1) of the Treaty, aid measures that satisfy all the criteria outlined above are, in principle, incompatible with the common market. However, the principle of incompatibility does not amount to a full-scale prohibition. Articles 87(2) and 87(3) of the Treaty specify a number of cases in which State aid could be considered acceptable (the so called "*exemptions*"). [V2008, p 7].

It appears that the subsidies which are the subject of our complaint are unlikely to qualify as exemptions in any of the categories described in this section of [V2008] or in the factsheets in the latter part of that document.

As mentioned earlier, any possible justification for subsidising nuclear power as a means of fighting climate change is contradicted by good evidence that there are more than enough alternatives that are better and cheaper.[18]

3.6 Basic methodology used in State aid assessment [V2008, p 10 ff]

With regard to the 'balancing test' described in this section, it appears to us that the effect of providing subsidies for nuclear power are wholly negative (as outlined in Section 2.2) and that there are no offsetting benefits.

There is no well-defined objective of common interest, and the subsidies are 'well designed' only in the perverse sense that they have the effect of disguising the nature and extent of the transfer of resources from the state.

3.7 Notification and authorization procedures [V2008, p 13 ff]

"Member States are required to inform ('*ex ante notification*') the Commission of any

[16] See, for example, "New UK offshore wind farm licences are announced", BBC News, 2010-01-08, http://news.bbc.co.uk/1/hi/business/8448203.stm.
[17] See, for example, "The North Sea supergrid" (Environmental Research Web, 2010-12-18, http://environmentalresearchweb.org/blog/2010/12/the-north-sea-supergrid.html), and Friends of the Supergrid, http://www.friendsofthesupergrid.eu/.
[18] See http://www.energyfair.org.uk/misallocation.

plan to grant or alter State aid and they are not allowed to put such aid into effect before it has been authorised by the Commission (‘*standstill-principle’*). … Any aid, which is granted in absence of Commission approval, is automatically classified as ‘*unlawful aid*’.” [V2008, p 13].

To our knowledge, none of the subsidies which are the subject of our complaint have ever been notified to the Commission. And it appears that none of them would qualify for exemption from the notification requirement. Unless there is evidence to the contrary, it appears that all of them should be classified as ‘*unlawful aid*’.

4 Proposed actions

If our complaint is upheld, then steps should be taken to reduce or eliminate the subsidies which are the subject of our complaint. In this section, we outline how this may be done.

The subsidies which are the subject of this complaint provide support for nuclear power in either or both of two ways:

- The operators of nuclear plants are exempted from paying costs that businesses of a similar kind would normally be required to pay.
- Risks and corresponding costs are transferred from the operators of nuclear plants to taxpayers and members of the public.

In general, these subsidies may be stopped in the following way:

- Operators of nuclear plants should be required to pay the full costs of running their businesses.
- Where there are risks that may result in costs falling on taxpayers or members of the public, the operators of nuclear plants should be required to take out full insurance from commercial insurers.

With regard to the second point, we wish to emphasise that ‘full insurance’ means insurance against claims for damage, *without any cap or ceiling*. Otherwise, bankruptcy may be used as a way of denying compensation to the victims of a nuclear disaster.

If commercial insurers are unwilling to provide the necessary insurance,[19] the operators of nuclear plants should pay an appropriate insurance premium to the government (the insurer of last resort), *calculated by two or more independent actuarial experts*.

In what follows, we shall consider how these principles may be applied to each of S1, S2, S3, S4, S6 and S7.

4.1.1 Limitations on liabilities

The operator of any nuclear power plant should be required to pay the full cost of insuring against claims arising from nuclear accidents, up to and including a Chernobyl-style accident or a full melt down of the plant. Claims should be considered from any and all countries that may be affected, not just the UK.

A possible objection is that the Government would be bound by the Paris/Brussels conventions on third party liability in the field of nuclear energy.

In that case, we believe that the following procedure should be followed:

[19] On its website, the World Nuclear Association says that, contrary to what is sometimes said, commercial insurance companies are willing to take on the insurance of nuclear installations (see http://www.world-nuclear.org/info/inf67.html).

- The Government should withdraw from the conventions or renegotiate relevant parts.[20]
- UK laws or regulations should be changed to ensure that the operators of any new nuclear plants would be required to pay for full insurance against nuclear accidents, up to and including a Chernobyl-style accident or a full meltdown.

It is sometimes argued that, with careful engineering, the risk of disaster can be reduced to a level where it can be ignored. Our response is that the question of whether or not the risk is small enough to be ignored is not for the nuclear industry to judge. The best way of assessing that risk is to require the operators of nuclear plants to obtain insurance against disaster or, if that is not possible, for the operators of nuclear plants to pay premiums to the government calculated by two or more independent actuarial experts.

4.1.2 Underwriting of commercial risks

To ensure that taxpayers are not providing a subsidy for nuclear power by underwriting the commercial risks of the operating company, the operators of any nuclear plant should be required to take out appropriate insurance.

4.1.3 Protection against terrorist attack

The operators of any nuclear plant should be required to pay the full cost of protecting the plants from terrorist attack and the full cost of protecting trains and ships carrying nuclear fuel to the plant and carrying nuclear waste away from the plant.

Since any such protection can only ever be partial, the operator of any nuclear plant should also be required to take out insurance against the damage arising from a terrorist attack, including any consequent damage caused by terrorists by means of a 'dirty bomb' or similar device.

4.1.4 Short-to-medium-term cost of disposing of nuclear waste

To ensure that there are no subsidies for the disposal of nuclear waste, the operator of any nuclear plant should be required to pay the full commercial price for the short-to-medium-term costs of disposing of nuclear waste, and they should be required to take out insurance against cost overruns in the disposal of nuclear waste.

4.1.5 Underwriting the cost of decommissioning nuclear plants

The operator of any nuclear plant should be required to put aside money to pay for decommissioning and, more importantly, they should be required to insure against cost overruns in decommissioning.

4.1.6 Institutional support for nuclear power

The Government should identify all nuclear-related expenditure in government offices, quangos or other institutions that provides support for the nuclear industry which is not general support for the energy-supply industry. All such expenditure should be stopped.

[20] This makes good sense in any case because any justification that may once have existed for limitations on liabilities for nuclear power has long-since disappeared. With the end of the cold war and moves towards nuclear disarmament, few if any nuclear materials are required for nuclear weapons. There are now many good alternatives to nuclear power.

5 Conclusion

In this document we have argued that the six types of subsidy for nuclear power which are listed in Section 3 and described in [NSUBS2011] constitute 'state aid' as defined in European Community law, that they are incompatible with the common market of the Community, and that they do not qualify as exemptions under the Treaty establishing the Community.

There is no justification for this kind of aid since nuclear power has been established for many years and should be commercially viable without support. It is harmful to the commercial interests of renewable energy companies, it is hindering the development of renewable sources of power, it is creating an 'arms race' of subsidies with consequent losses in economic efficiency, and by diverting funds away from solutions that are better and cheaper, it is a hindrance in the fight against climate change.

These subsidies may be removed by requiring the operators of nuclear plants to pay all their costs and to insure fully against risks that may otherwise cause costs to fall on to taxpayers and members of the public.

Those reforms, with others outlined in [NSUBS2011, Section 6], would largely remove damaging distortions in EU energy markets.

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