

# **SECURE ENERGY, BETTER ENVIRONMENT**

*AN ENERGY AND ENVIRONMENT POLICY  
FOR AN INDEPENDENT BRITAIN*

**A POLICY STATEMENT**



**UK INDEPENDENCE PARTY**

# Secure Energy, Better Environment:

*An Energy and Environment Policy for an Independent Britain*

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# 1 Introduction

The World is going through an energy crisis. In January 2008 the price of oil hit \$100 a barrel for the first time. With the rise of China and India as great consumers of raw energy, prices for our traditional oil and gas powered economy are unlikely to fall over the medium to long term.

Energy Security is becoming a major point of concern. Russia is the world's biggest supplier of gas and has been using its near monopoly power to exert political pressure, whilst the Middle East remains unstable.

In the meantime the European Union has made it clear in the new Constitution ( 'Reform Treaty' ) that it regards national energy assets, such as the North Sea oil and gas fields, as Community Assets, the management and control of which should be held by Brussels. Britain's independence of action on its energy policy is directly threatened by the EU's drive for a Common Energy Policy.

A secure supply of cheap plentiful energy is vital to any nation's economic and social well-being. Whilst the world is in the grips of moral panic over the effect of mankind upon the climate, the UK Independence Party believes that it is only the prosperous who are in a position to ensure that environmental degradation can be tackled effectively.

We believe that whilst climate change is proven, the arguments over global warming, and particularly anthropogenic global warming (AGW), are at this time unproven. We believe that the security, happiness and prosperity of the nation are too important to be thrown away in the pursuit of illusory aims.

To that end, we have put together the following policy statement to ensure that Britain's environment and prosperity are secured for future generations.

## **2 The Problem: Energy and Environment Today**

Fears over looming UK energy crisis  
(The Sunday Times, 20th May 2007)

North Sea oil output goes into rapid decline  
(Moneyweek, 7th November 2007)

All but three UK nuclear power stations for shut-down by 2018  
(<http://www.dti.gov.uk/energy/sources/nuclear/technology/generation/page17922.html>)

UK now dependent on imported gas from unstable countries  
(<http://news.bbc.co.uk/1/hi/business/3751810.stm>)

EU consolidates its control of UK energy policy  
([http://europa.eu/pol/ener/index\\_en.htm](http://europa.eu/pol/ener/index_en.htm))

Wind generators produce pitiful amounts of electricity while damaging our countryside  
(Christopher Booker's Notebook, Sunday Telegraph, 13th August, 2006)

Water shortages to get worse in southern England  
(<http://news.bbc.co.uk/1/hi/england/4713592.stm>)

Rain forest destruction speeds up  
(<http://www.rain-tree.com/facts.htm>)

Red tape may be final straw for Scottish farmers  
(<http://news.scotsman.com/topics.cfm?tid=465&id=265072007>)

UK rat population up 35% in one year  
(The Times, 5th January, 2007)

### 3 Executive Summary – UKIP’s vision

3.1 We need to make decisions on energy and the environment for ourselves in Britain, while cooperating with others across the world where this brings gains for everyone. Self-determination is a precondition for the effective management both of our resources and our environment. Restoration of national control is needed to tackle the critical energy supply problems we now face with the depletion of North Sea oil and gas.

3.2 So as to leave our land, waterways, sea and air in good condition for future generations, UKIP supports ways of living and working that reduce waste and avoid unnecessary harm to the environment. This can and should be achieved without putting our economy at risk. Whilst we accept climate change, and whilst global warming may be a threat, there is no agreement about its extent. Nor to the degree to which greenhouse emissions from humans are the cause. We believe that natural cyclical phenomena probably play a larger role in current warming than is commonly acknowledged, and it is therefore foolish at present to commit substantial resources and impose harsh restrictions purely in the cause of reducing CO2 emissions.

3.3 We are against over-zealous or gesture environmentalism, which by inappropriate diversion of funding will harm our ability to respond effectively to real environmental challenges of the present and in the future. While we support the use of regulation and the tax system to help improve the environment, we oppose the use of ‘green taxes’ which masquerade as beneficial to the environment whereas their primary aim is to raise taxes for the Exchequer.

#### 3.4 In relation to energy, UKIP would:

- **ensure secure and affordable energy supplies to safeguard our growing economy**
- **increase nuclear power generation to provide up to 50% of our growing electricity needs within 10-15 years, and accelerate the planning process to allow new reactors to replace old reactors on the same sites**
- **support efficient extraction of indigenous coal for use in cleaner coal-fired electricity generation plants**
- **reduce the use of imported gas for electricity generation while maintaining it for direct heating**
- **require any further schemes of large-scale wind generation to be funded by the market, and limit any large-scale wind generation to offshore only**
- **support technologies and practice which improve energy conservation and efficiency**
- **encourage the development and use of renewable energy sources other than large-scale wind generators.**

### 3.5 In relation to the wider environment, UKIP would:

- **investigate implementation of a nation-wide water supply grid based on existing canals and new pipelines**
- **encourage the reduction of waste, the reuse of materials and proven methods of recycling**
- **introduce a ‘litter deposit’ on recyclable goods as an incentive to avoid waste**
- **reduce environmental bureaucracy to a minimum consistent with good practice and international standards while ensuring that necessary legislation is effectively enforced**
- **limit environmental pressure from an increasing population by controlling immigration.**

## 4 Background to Energy and the Environment

4.1 While favouring the idea of a ‘greener’ lifestyle, people expect higher and higher levels of thermal comfort (both heating and cooling), greater mobility, and a wide range of affordable products and services. This is reflected in a 19% rise in domestic energy use, and a 20% increase in transport energy use between 1990 and 2004 (with overall energy usage in the UK increasing by 8.5% in this period despite a rapid decline in manufacturing<sup>1</sup>).

4.2 To counter the ‘throwaway society’, UKIP would encourage a greater willingness to reduce demands, reuse products, and take better care of our planet. But we think governments should not lightly impose far-reaching restrictions on individual freedoms – for example, dictating where we can live or punishing our travel. Our prosperity and probably our freedom depends to a large degree on maintaining the secure and affordable energy supplies that people want. We would seek economic stability rather than social disruption.

4.3 While governments may seek to influence people’s behaviour upon matters that are of general concern, regulation is often over-complex, opaque and wasteful, and ‘green taxes’ are little more than ‘stealth taxes’. Strident environmentalism is sometimes used by governments as a cover for taking greater political power and introducing greater intrusion into the lives of individuals. This certainly applies in relation to the extension and consolidation of European Union (EU) power.

## 5 Restraints of EU Membership

5.1 UKIP believes that our resources will be better managed, and our environment more wisely protected and enhanced, when ownership and responsibility (individual, corporate and/or state) are clearly defined and controlled within the UK. Surrender of decision-making power to the EU has been harmful to us, and the implementation of a ‘Common Energy Policy’ by the EU risks mismanagement comparable to that seen under its Common Agricultural Policy (CAP) and Common Fisheries Policy (CFP).

5.2 Significant decisions affecting people's lives, such as the banning of traditional light-bulbs, should not be made remotely by unaccountable EU institutions such as the Council of Ministers.

As a topical example, the EU 'carbon credits' scheme is not working properly, with fraud and rule-breaking widespread<sup>2</sup>. Such schemes require a large, costly bureaucracy. UKIP would end them all and instead employ direct regulation and the tax system to influence energy use.

5.3 The agenda and priorities of the EU in relation to energy are not in the best interests of the UK and are often made worse through 'gold-plating' of EU Directives by the UK government. For example, we would not continue with expensive compulsory domestic 'Energy Performance Certificates' which tell householders little that they cannot judge (often better) for themselves<sup>3</sup>. We would, however, ensure that essential environmental legislation is effectively enforced.

5.4 In order to foster conservation and development of new technologies that enhance efficiency and innovation, UKIP would determine strategic policy based on national needs, with devolution of appropriate powers to local authorities. Most urgently we would implement short- and long-term measures to deal with our vulnerability in energy supply while in the meantime negotiating more effectively for imported supplies.

## **6 Redefine Planning**

6.1 Planning needs to achieve an appropriate balance between conservation and development. In Britain, the recent proliferation of regulations, and specialist bodies to administer and police them, has led to a loss of 'joined up thinking' to deal with large-scale disasters. For instance at present one government body continues to support building on flood plains while another is concerned to improve rapid dissipation of flood waters.

6.2 We would restore and enhance the local democratic control of the formal planning system within a policy framework set nationally (rather than by the EU), with provision for local referenda on contentious planning matters. Such a framework is also needed to define the scope for local discretion.

Major strategic infrastructure projects require an independent planning process that is fair to those most affected by a scheme while allowing judicious decisions to be made in a reasonable time and at reasonable cost.

## **7 Control Population Growth**

7.1 In the UK, the officially recorded population has increased from 50 million in 1960 to about 61 million today<sup>4</sup>, and is rising rapidly. The UK has over twice the population density of France, three times that of Spain, eight times that of the United

States, and twelve times that of Sweden<sup>5</sup>. Adequate energy supply and environmental improvement will be made difficult without a reduction in population growth.

7.2 Recent rapid population growth in the UK is almost entirely due to immigration. We now have no control over people moving here from other countries in the European Union. The Department supposedly monitoring and controlling immigration has few reliable statistics. A senior civil servant recently told a Commons Select Committee that he 'hadn't any idea' how many people had come into Britain as immigrants.

7.3 World population has risen from 3 billion in 1960, to nearly 7 billion now, and is heading towards 9 billion within 30 years<sup>6</sup>. In China and India per capita energy use will increase several times over as people seek to exchange simple rural ways of living for western style affluence, and as these countries increasingly dominate global manufacturing. In China two more coal-powered power stations are starting up every week<sup>7</sup>.

## **8 The UK Energy Challenge**

8.1 We are no longer self-sufficient in energy. Our coal industry has been reduced to a fraction of its previous size despite our large coal reserves. Dominance of coal in electricity generation was replaced by the 'dash for gas'. UK gas and oil production is now in decline, and our precarious reliance on imported fossil fuels is set to increase further over the next few years as existing nuclear generating capacity is reduced by scheduled closures (Appendix A). World energy supplies will become more expensive and security of supply less certain.

8.2 Unless things change radically and quickly, lengthy power cuts will become commonplace, a disastrous situation not least because of our widespread dependence on electronic systems. Under the EU Common Energy Policy, and with further surrender of energy and transport policies in the latest EU Constitution ('Amending Treaty'), the UK would depend on whatever share of 'community resources' it is allocated.

8.3 The Government's recent White Paper on Energy<sup>8</sup> addresses two main objectives: security of energy supplies, and cutting greenhouse gas emissions. It suggests that global energy demand in 2030 will be 50% higher than now (though we think that it could be very much higher than this). UKIP agrees with the first objective, security of energy supply, though how this would be achieved is not disclosed in the White Paper.

On the second objective, the contribution of anthropogenic gases to global warming is less clear-cut than the Government recognises. Pending upgraded data, we would not allow greenhouse gas emission targets to dominate our policies. However, we should reduce dependence on fossil fuels as a conservation and anti-pollution measure, and this would have the concomitant effect of reducing carbon dioxide emissions.

8.4 The Government's 2007 Draft Climate Change Bill<sup>9</sup> intends to achieve a 60% reduction in carbon dioxide emissions by 2050 (compared to 1990), with an interim target of a 26-32% reduction by 2020. The Bill includes a system of 'carbon budgets' to meet

the requirements of the EU Emissions Trading Scheme, and predicates profound controls over both economic activity and individual lifestyles. It allows the UK Government to purchase unlimited carbon credits from foreign countries – yet the complexities and potential deceptions involved in such arrangements are totally unsatisfactory.

In a press release (published 2 August 2007) accompanying publication of their Report, the Joint Committee of the House of Commons and House of Lords on the Draft Climate Change Bill pronounced that: ‘... the Bill raises profound issues about the relationship between government and Parliament, as well as unprecedented questions about the scope and effectiveness of domestic legislation’. They went on to ask: ‘... where legal responsibility for fulfilling the Bill’s core purpose of carbon reduction lies, and how it can be enforced?’ and ‘... what are the limits of domestic legislation in tackling what is, by any definition, an international issue whose nature and impact is still only partially understood?’<sup>10</sup>

8.5 UKIP thinks that adoption of rigid targets on carbon dioxide emissions by the UK is inappropriate, and that the cost of measures seeking to achieve these targets cannot be justified in the absence of clear evidence that such emissions are the major contributor to global warming. The EU, being in total control of energy policy under the rehashed Constitution, can implement futile targets regardless of their impact on UK citizens. This is profoundly undemocratic.

## **9 Climate Change and Greenhouse Gases**

9.1 While our climate may currently be changing, this has happened in the past. Greenland was covered by forest that supported butterflies less than 1 million years ago. A mere 10,000 years ago glaciers extended south of Birmingham. In Britain, and probably globally, our climate was relatively warm in Roman times and again in the ‘medieval warm period’. This was followed by a ‘little ice-age’ from about 1350 to 1850, followed by a further period of warming. Global temperatures increased during the twentieth century by only about 0.7 degrees Celsius despite the large-scale industrialisation that took place, with little control of emissions.

Cyclical changes in the brightness of the Sun, variations in the Earth’s orbit, and cosmic and solar radiation effects influencing the amount of cloud formation on Earth, may be raising global temperatures directly and indirectly through the release of carbon dioxide and methane from the Earth’s crust and oceans<sup>11</sup>. There is an historical association between global temperature and the level of atmospheric carbon dioxide, but rises in temperature have generally *preceded* rises in carbon dioxide (by about 800 years). Which is ‘cause’ and which ‘effect’ has yet to be settled convincingly. Oceans act as buffer absorbers of carbon dioxide. They may be approaching saturation but the extent and consequences of this are not well established.

9.2 Greenhouse gases (principally water vapour, carbon dioxide, methane, ozone and nitrous oxide) keep our planet habitable. The level of atmospheric carbon dioxide has increased from about 280 parts per million in the pre-industrial period to about 380 ppm in 2005<sup>12</sup>. Some part of this increase is almost certainly due to the burning of fossil fuels,

though the continuing destruction of rain forest (a net absorber) is also a major contributor, together with other anthropogenic sources which include agriculture (for example, methane from farm animals and nitrous oxide from fertiliser use), gas pipeline losses (methane) and so on.

9.3 The Fourth report published by the International Panel on Climate Change<sup>12</sup> (IPCC), using computer models based on a number of scenarios, predicts that the mean global surface air temperature will increase by between about 2 and 6 degrees Celsius by the end of this century. It predicts an increase in adverse weather patterns and a rise in sea-level over this period somewhere in the range 0.2 to 0.6 metres. It sees carbon dioxide released by burning fossil fuels as the main factor driving the change in temperature. But these model forecasts do not correlate well with actual measurements, and many fail to take account of important influences such as cloud formation and dissipation.

One of the first major published sources to accuse greenhouse gases of driving climate change was the UK Meteorological Office Hadley Centre computer model, first formulated with numerous assumed, rather than measured, climate parameters. Very recently Dr Doug Smith's team at the Hadley Centre have modified their basic model to include more 'real' information about natural 'cyclic' factors which include the influence of our oceans, particularly their circulation patterns, and our atmosphere, although cloud effects may still be under-represented. This newly-revised model now predicts little overall warming until after the year 2014. Work elsewhere on cloud effects also suggests that there is still more to be done to achieve forecasting accuracy, even in the short term.

At a conference in Oxford in March 2007, the Chief Officer of the Royal Meteorological Society warned that the global warming situation remains complex, and that sound-bite solutions beloved of press and politicians could bring serious climatology into disrepute.

9.4 If anthropogenic carbon dioxide is indeed proven to be critical to recent global warming, as the IPCC suggests, then UKIP will re-examine its present position. However, the IPCC also says that much of the expected change in temperature and sea-level over the rest of this century will continue even if atmospheric carbon dioxide levels can be held at current values. Even if their view is essentially correct, we should avoid panic actions to cut emissions: this would do little to modify the climate but would risk serious economic, social and political consequences.

If non-human factors prove to be major drivers of recent global warming, our chances of intervening successfully are slight. Efforts then need to be directed to mitigating consequential problems, for example by moving populations from low-lying areas, enhancing sea and other flood defences, modifying agricultural practices to suit the new conditions, and fishing in more northerly waters expected to have enhanced fish stocks.

9.5 The UK produces less than 2% of global carbon dioxide emissions. Reductions in the use of fossil fuels would have to be made globally to reduce the level of carbon dioxide in the atmosphere. There is no present indication that China, India and Brazil, all industrial powers of the future, will comply. While UKIP would support international initiatives that really do bring all the major nations of the world together in a realistic and

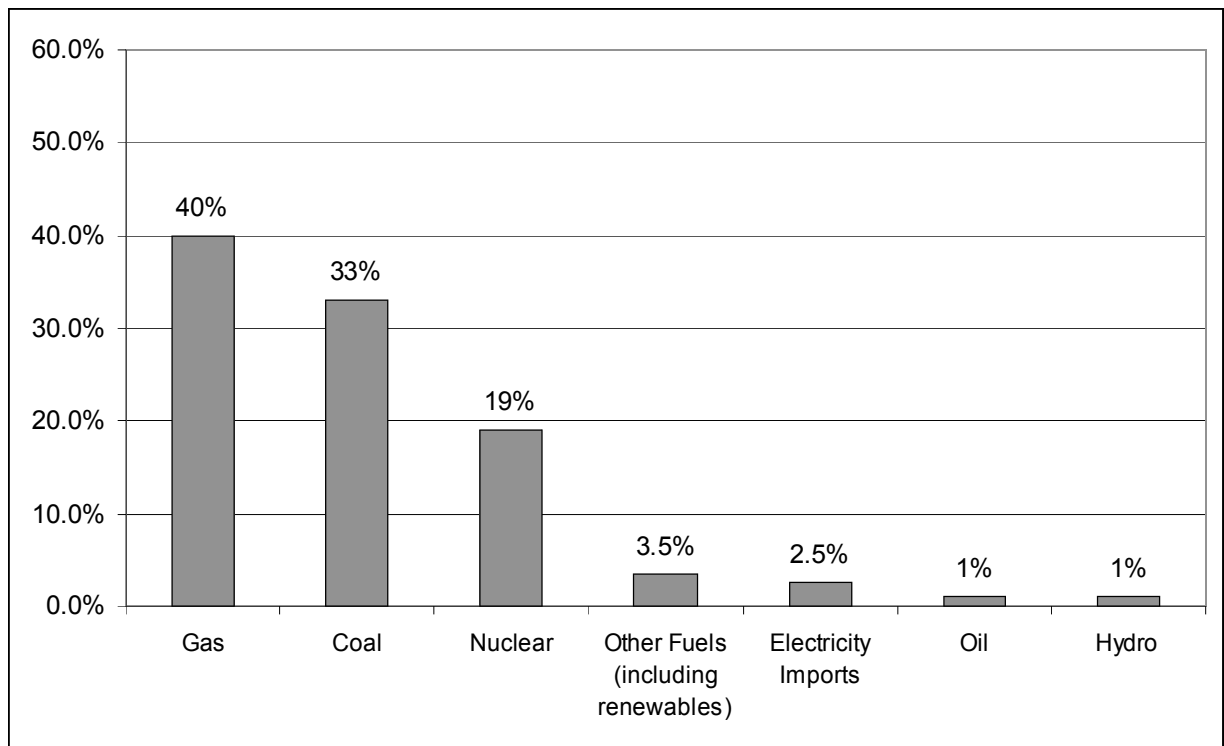
practical way, self-gratifying gestures that ‘lead the way’ while damaging our economy are unconvincing.

9.6 Ending or reversing the destruction of rain forest is a high priority which is only likely to be achieved if it can be made advantageous to the nations and local peoples immediately involved. Ironically, rain forests are being cleared in some parts of the world in order to allow the production of biofuel crops, causing untold ecological damage to some of the richest sites of biodiversity on the planet.

*Until the results of more and better climate research have led to agreement between scientists who are fully independent of political or commercial sponsors, UKIP will remain sceptical of apocalyptic claims.*

## 10 The Need for New Thinking about Energy

10.1 Regardless of greenhouse gas emissions, we must cut back on the burning of fossil fuels, as a finite resource that should not be squandered. Use of North Sea gas to generate electricity in the UK over the past decades has been particularly profligate, with about 40% of UK electricity generation now produced from natural gas (see Figure 1). A significant portion of this electricity is then used for heating, a very inefficient process compared to using gas directly for heating. Gas is appropriately used for direct heating but not for base-load electricity generation.



*Figure 1. Electricity generating sources in the UK by energy output (2004 data)<sup>13</sup>*

10.2 Although world oil reserves are not ‘running out’ in the immediate future, global oil production may peak sooner than has sometimes been predicted as ‘easy’ reserves become exhausted. North Sea production is declining rapidly, and UK dependency on imports (gas, oil and coal) makes us vulnerable to interruption of supply, international political pressure, unstable prices and adverse effects on our balance of payments.

*Even if supplies remain available, costs are likely to rise sharply and Britain could experience drastic energy shortages from as early as 2012.*

10.3 Currently we use a higher proportion of gas for electricity generation than elsewhere in the EU. Following the ‘liberalization’ of electricity markets across the EU, the proportion of overall EU electricity generation from gas is expected to rise<sup>14</sup>. Even allowing for gas supplied from Norway, this makes it even more unlikely that within the EU the UK can rely on secure supplies of natural gas at affordable prices and in the quantity needed in the years ahead.

10.4 Since most of the coal used for electricity generation is now imported, UKIP believes it is time to consider reviving parts of the British deep-mine coal industry, provided that this can be achieved at reasonable cost. New efficient, high-technology extraction methods for exploiting our coal reserves need to be encouraged.

UKIP would therefore support the construction and on-going development of modern high-temperature high-efficiency coal-fired power generation plant (such as pulverised-fuel plant, circulating fluidized-bed combustion plant, or integrated gasification combined-cycle plant). ‘Carbon capture’ (carbon sequestration) at power stations might ultimately provide a possible solution to the issue of emissions from the use of coal for electricity generation. We would consider grant support for such capital works.

10.5 Wind generators, whether onshore or offshore, are not competitive in terms of net energy yield when account is taken of the resources involved in construction, maintenance and decommissioning. They depend for their generating power on being connected to the electricity grid at all times, whilst the intermittent nature of the wind means that other power generation capacity has to be kept running to avoid system instability and to make up for the loss of generation when wind speed is either too high or too low. They are harmful in a number of ways, including being visually intrusive and noisy. They may also require additional electricity pylons to take their output to population centres, such as the highly destructive 137 mile Beaulieu to Denny line proposed by Scottish and Southern Energy, which could ruin many areas of natural beauty in the Scottish Highlands with 600 pylons, and UKIP opposes the scheme.

*UKIP does not support on-shore wind farms.*

10.6 Existing large scale wind-generation schemes already operating in the UK, and those currently being planned, were an easy political response to an arbitrary EU-driven quota requiring 10% of energy generation to come from renewables by 2010. The cost of wind generation schemes is heavily subsidised by the consumer through a system of Renewable Obligation Certificates which all electricity power providers must purchase from the suppliers of ‘renewable energy’ or, if they fail to do so, face severe fines. The

system is ultimately controlled by the European Commission<sup>15</sup>.

Subsidising expensive and inefficient forms of energy generation in order to pacify a Green lobby not only penalises the consumer but also ensures that British manufacturing industry is put at a disadvantage against overseas competitors. If the economics of large-scale wind generation were to change in the future we would expect investors to enter this market without public subsidy, in which case UKIP would only allow large-scale wind generation located offshore.

10.7 We recognise that wind energy can be valuable in the context of ‘microgeneration’ – that is, the small-scale generation of electrical power by individuals, organisations or businesses to meet their local needs, particularly in areas remote from large-scale power sources. Microgeneration avoids the loss of energy that occurs during transmission in the national grid, but it can not make a significant contribution to industrial needs.

10.8 Whilst conservation and renewable energy sources are important, they cannot presently come close to meeting our realistic energy requirement. Although fossil fuel use will need to continue for various purposes into the foreseeable future, we urgently need to start reducing our dependence on gas for electricity generation. The decline of gas will leave a yawning ‘energy gap’ in capacity which we must quickly fill.

10.9 Our related policies on transport and regarding agriculture and fishing are contained in separate policy statements.

## **11 Nuclear Energy is UKIP's preferred solution**

*UKIP believes that nuclear generation is the only feasible technology available to meet Britain's large-scale energy needs.*

11.1 After some fifty years in commercial use, nuclear power generation is a well-proven technology, and because of the increasing cost of fossil fuel, and concern over carbon dioxide emissions, it is now undergoing a world-wide revival. This renaissance in various countries and the fundamentals of the technology are summarised by Professor Richter of Stanford University<sup>16</sup>.

11.2 The economics of nuclear power, which is heavily capital dependent, were assessed some years ago by the Royal Academy of Engineering<sup>17</sup> as broadly comparable with fossil-fuel generation. Today, with oil at a historically high price (approaching \$100 per barrel and expected to rise further), nuclear power is highly competitive. The French nuclear programme, undertaken in the 1970s and 1980s, provides a model of a sensible, well-organised transition to nuclear power generation, taking full benefit of the economies of a large-scale programme. To help achieve its targets for reduction in carbon dioxide emissions, Germany is presently considering reversal of plans to scrap its nuclear power generation. In Eastern Europe there are plans to replace former Soviet-built nuclear reactors with modern plant<sup>18</sup>.

11.3 The UK currently has 19 operating reactors at 10 power stations providing about

19% of the electricity in the UK (7.5% of total UK energy needs) and reducing national carbon dioxide emissions by between 7 and 14%. However, nearly all the existing UK nuclear power plants are scheduled for closure within a few years (Appendix A) so that extending the life of existing plants where technically feasible should be implemented urgently. Around the world, a number of countries are now planning to keep nuclear reactors running for up to twice their original design-life. Necessary modifications to achieve this are thought to cost between 25% and 40% of that needed to commission new reactors<sup>19</sup>.

11.4 There are strong arguments for increasing nuclear generating capacity in the UK from the current level. Calculation (Appendix B) suggests that Britain should aim for about 50% of UK electricity generating capacity to be nuclear-based. Given an immediate decision, this could be achieved within 10-15 years. Although this proportion is lower than the 75% currently in France, it would allow UK nuclear generation to run at nearly full capacity throughout the year, giving maximum return on the high fixed investment. The UK would enhance security of electricity supply without discouraging investment in renewable energy sources for the future.

11.5 With modern designs and a strong regulation and inspection system, nuclear power is now safe<sup>16</sup> and residual public concerns must be weighed against the dangerous consequences of potential electricity blackouts. Some of these concerns have a historical basis. Reactors of the Chernobyl type were of an inherently unstable design and confined to the former USSR, but even so the Chernobyl accident would not have occurred had not the operators disabled the reactor's safety systems.

A new generation of light-water reactors has been designed to be simpler to construct, operate and maintain, and they have inbuilt passive systems which make them many times safer than the early reactors. Neither should nuclear plant be a focus for terrorist attack. Such plant is well protected by security barriers and procedures, and is heavily encased in a protective physical barrier that would be difficult to penetrate. None of the hundreds of such reactors operating worldwide has yet been the subject of terrorist attack.

11.6 To reverse the run-down of our nuclear capability and know-how, UKIP would support British involvement in new nuclear power plant construction contracts in the UK. Some public investment will be needed to finance the decommissioning of existing plants, but this cost would be minimised through the building of replacements at the same site. We would accelerate planning permission by means of suitable Acts of Parliament for the building of new reactors on existing nuclear sites, with full local authority participation.

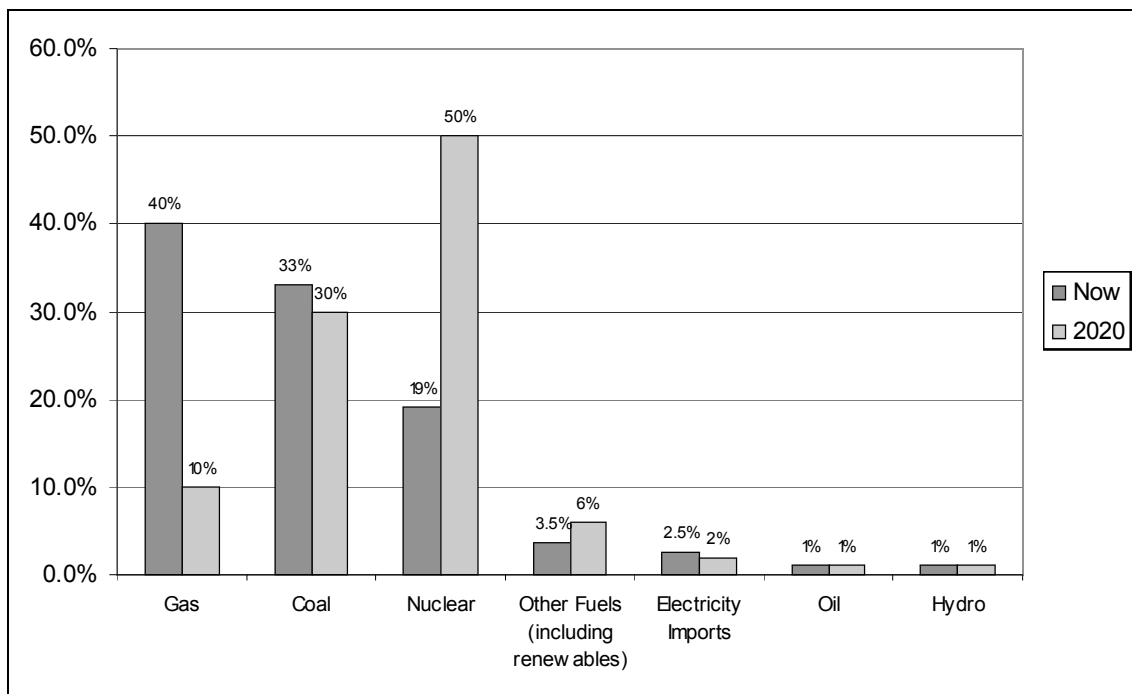
Decisions must be taken very soon on licences for new UK reactors, ideally to commence building by 2012 as the massive civil engineering resources built up for the Olympic Games become available for other works.

11.7 Revival of the nuclear power programme globally would be likely to drive up the price of uranium. UKIP suggests that the UK should restart a fast-breeder nuclear power development programme as a follow on to a thermal nuclear power programme, with the aim of constructing commercial breeder reactors some ten years hence (see Appendix C).

11.8 Controlled nuclear fusion requires no expensive fuel, has negligible need for nuclear waste disposal, and produces no greenhouse gas emissions. The rewards of achieving this on a commercial scale would be immense, though difficult technical problems remain, such as containing the ‘plasma’ (fusion material) whilst conducting away heat and developing suitable materials that can stand neutron bombardment over a sustained period.

UKIP believes that although the technology of nuclear fusion should be pursued, international collaboration to share the immense costs would be desirable, and we accept that large-scale industrial power generation may not be achieved for some decades and perhaps even generations.

11.9 Figure 2 shows the proportion of different sources for generating electricity in the UK by 2020 as a result of implementing UKIP’s energy policy. There are many uncertainties in making such forecasts (including the unknowable impact of future technologies), but the thrust of those changes which we believe are necessary is clear – much greater use of nuclear power, much less use of gas for power generation, an increase in the use of proven renewable sources in many forms, and coal remaining important but with greater use of UK reserves.



*Figure 2. Comparison of source mix for generating electricity in the UK (by energy output) now (2004 data<sup>13</sup>) with approximate expected source mix by 2020 as a result of implementing UKIP’s energy policy*

## **12 Energy Conservation and Renewable Energy Sources**

12.1 UKIP would encourage more efficient use of energy using a strategic policy framework within which market mechanisms would operate. Energy conservation requirements within existing building regulations would be retained, but we would review aspects of the regulations that are ineffective, or that reduce the options for how to use existing buildings.

We would promote energy saving in other sectors of the economy, such as transport and business, through a mix of regulation and incentives, recognising that we must rely ultimately upon education and the enlightened self-interest of users. This policy would be encouraged through the commissioning of TV programmes explaining the benefits and savings to be made. As a long-term educational exercise, we would encourage schools to include instruction in effective energy saving and the avoidance of waste, as well as the efficient use of resources.

12.2 We support further development of the many potentially valuable forms of renewable energy, and would ensure that new schemes for distributed electricity generation from proven renewable sources can be connected to the national transmission grid without unnecessary impediment. But we believe that all the costs involved in renewable energy sources must be taken into account, so that there is no case for subsidising further schemes such as large-scale wind generation.

12.3 Fossil fuels will continue to be a major source of energy for the foreseeable future. Liquid fossil fuels will continue to be the most convenient and economic source of power in transport applications, such as aircraft, cars, trains and trucks though, as the economics become more favourable, we would support further development work on non-fossil alternatives such as electric, hydrogen, hybrid and fuel-cell vehicle propulsion systems. For short journeys, the electric or hydrogen-cell vehicle, refuelled overnight with cheap nuclear-generated electricity, is an exciting concept which UKIP supports.

12.4 Biofuel crops, while potentially of value in appropriate circumstances, have downsides, such as destruction of important habitats, taking land out of production for food, requiring energy and resources in cultivation, transport and processing, damaging the soil or requiring excessive water use. However, UKIP would certainly encourage the use of suitable waste biomass material, for example as supplementary fuel for coal power stations.

## **13 Non-Energy Resources**

13.1 More people and greater affluence mean increased pressures on all material resources worldwide. This must be a concern for the UK, though our technology has a good record of finding substitutes for materials that become too expensive. A key raw material for the synthesis of many modern products is oil; reducing its use for energy generation would allow British reserves to be conserved for longer and allow their use primarily as a raw material for the chemical industry.

13.2 Many other material resources will continue to be required into the future. Minerals are largely imported, and future security of supply and costs are a potential major issue as global demand rises. However, the increasing value of many such materials gives an extra incentive for more effective salvage and recycling worldwide, for example recovery of the range of metals present in discarded electronics components<sup>20</sup>.

Quarrying remains an important activity in the UK, supplying such industries as cement production and road construction, and we need to ensure that these activities can continue to supply our reasonable needs without disproportionate environmental harm. UKIP's policy is to favour extraction where ensuing damage to geographical features can be made good after production ceases, such as through appropriate infill and landscaping.

13.3 All major UK water policy areas are now governed by EU legislation (in particular the EU Water Framework Directive, which came into effect in 2000)<sup>21</sup> and yet more regulation is planned. This would add an extra £1 billion per year on to water bills, and the UK may be forced to spend further billions changing its water treatment systems. These matters should be decided for ourselves in the UK in relation to our national priorities and the willingness of British consumers to meet the cost.

UKIP would ensure that national water policy is suited to UK needs, and review the roles of the various government regulators in this area which at present are almost entirely defined by EU legislation. We would review the operation of the existing water and sewerage businesses in the UK, and make appropriate changes to increase security of supply, environmental enhancement, and value for money. We favour users paying the economic cost of water supply and paying directly for the cost of sewage treatment and disposal. With regard to water discharges, we support the general principle that 'the polluter pays'.

13.4 In most years we experience severe water shortages, particularly but not exclusively in the South and East of the UK. Demand for water continues to rise, and while short-term measures such as reducing leakage and more storage are important, we would examine the long-term feasibility of a national water grid, which may include greater use of canals to transfer water, with possible new links created. The funding for this would partly be assisted by the British Independence Fund, and construction would provide vacancies for UK workfare placements.

## **14 Waste and Recycling**

14.1 Globally, resources are wasted on a large scale. Products are over-packaged, in non-recyclable materials, with designs that do not facilitate future repair. People often want the 'latest model' or an 'upgrade' when an existing product is still functioning well: the life of a mobile phone, an inherently durable product, is often now just a few months. Shops lose heat into the street for fear that a closed door will deter customers, houses are often poorly insulated, and offices have plasma screens and other electronic equipment permanently switched on. Air conditioning too readily replaces natural ventilation.

UKIP would promote a less wasteful culture, greater reuse of products, and the removal

of unnecessary regulations that inhibit the sale and reuse of second-hand goods and materials. We need to change tax and regulatory regimes that currently encourage wasteful activity and consumption, particularly in commerce and industry. We also need detailed scrutiny and amendment of the relevant Health and Safety regulations that may discourage such reuse on grounds that are excessively cautious.

14.2 As well as promoting the reduction of waste at source and the reuse of products and materials, we believe that there is scope to enhance domestic recycling using a more flexible system of contractors, while reducing costs and inconvenience to the public.

UKIP would introduce a series of regulatory policies and fiscal incentives to encourage manufacturers and suppliers to adopt or re-adopt recyclable packaging – such as glass, cardboard, tin cans and recyclable plastics – and to reduce the quantity of overall packaging. We propose a ‘litter deposit’ attached to all recyclable packaging which is reclaimable from participating retailers. This will encourage the reduction of littering and provide pocket money for young collectors.

14.3 There is scope for greater use of technology in the handling and salvage of waste. Plastics and electronic goods are a particular problem for recycling unless so designed. Much of the UK’s waste nominally sent for recycling is scandalously diverted to landfill sites in for instance China and South Africa, where the regulations on disposal are less stringent. Much computer and other ‘e-waste’ currently ends up in China illegally. However, various mechanical and chemical processes are being developed for recovering valuable and potentially toxic materials from e-waste, including polymers and a wide range of metals<sup>20</sup>.

14.4 Government policies and arbitrary targets, driven in the UK by EU directives, have often led to recycling activities with negative net environmental benefit. Potential fines imposed by EU Courts for missing recycling targets represent a considerable burden on local councils passed on as higher taxes. An example of dubious recycling is the collection of garden waste from houses in the UK, using fleets of lorries. This wasteful routine was introduced by local authorities, with Government encouragement, as a way of artificially boosting recycling figures to avoid EU fines<sup>22</sup>, and leading to a farcical position where householders composting their own garden waste at home prejudice the local authority’s recycling figures and make EU fines more likely.

In conformity with EU directives we have seen the widespread imposition of ‘alternate weekly collections’ for household waste. This imposes major storage problems on householders and encourages the breeding of vermin. According to the National Pest Technicians Association, the number of brown rats in Britain increased by 35% in 2005<sup>23</sup>. Linked to the introduction of alternate weekly collections are over-complex requirements for householders to sort waste, and the transporting of waste over long distances, often destined to be remixed where specialised disposal facilities do not exist.

*UKIP would immediately review domestic waste disposal in consultation with the local authorities that are responsible for its implementation.*

14.5 The present Government has also been working on a scheme of ‘variable

household-waste charging<sup>24</sup>. We believe that such schemes are unnecessarily complex, will be difficult to control, will encourage fly-tipping, and are motivated in part by a general desire of Government to take more powers and intrude into people's everyday lives, backed by spy cameras and costly 'bin police'. UKIP strongly opposes such an approach. Household waste could be collected, sorted and processed using a flexible system of licensed contractors at much less cost to the householder or taxpayer than the current system. A more flexible system would provide cost-effective methods for dealing with waste in the most appropriate ways. In some circumstances, householders might even receive payment for their rubbish once sorted appropriately.

14.6 While UKIP says that much more waste can be and should be recycled, we also recognise that recycling itself has an environmental cost, and some waste will be best used to generate heat and power. For other suitable waste, landfill is still the best environmental option, particularly with associated methane recovery and electricity generation. Widespread closure of landfill sites in the UK has been driven by EU policies designed originally for Holland and Belgium.

Suitable landfill sites in the UK are not in short supply, and landfill is only 'expensive' because the government imposes taxes to limit its use and thereby avoid EU fines. We already have the technology to extract and utilise methane from landfill. Modern lining techniques, gas monitoring, leachate separation techniques, and on-site leachate treatment, all mean that modern landfill performs much better than in the past.

*UKIP believes the UK should aim to be approximately self-sufficient in our capacity to process the waste we produce.*

14.7 To reduce waste associated with excessive bureaucracy, we would simplify, amend or abolish regulations that promote wasteful activities in government itself. For example, the Department for Environment, Food, Environment and Rural Affairs (DEFRA), while now almost entirely restricted to implementing policy handed down by the EU, continues to micromanage ever more areas of activity, working directly through its core operations and through its many agencies, other linked bodies, and contractors<sup>25</sup>. This has led to major bureaucratic incompetence, as in the notorious administration in England of the 'single farm payment' scheme which wasted large amounts of money, incurred massive fines from the EU, and caused widespread expense and distress amongst its 'customers'<sup>26</sup>.

## **15 Pollution, Hazards and Flood Control**

15.1. After reinstating British national control, UKIP would review the role of the existing governmental agencies concerned with all aspects of air quality, pollution and environmental hazard. We would ensure that there are enough people in the field to monitor and enforce essential environmental protection.

Chemical hazards must be managed in accordance with internationally recognised standards, and we would remedy the harmful effects of the EU directive on the

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), which entered into force in June 2007 and which UKIP would repeal. This highly bureaucratic system makes it difficult for small chemical companies to compete, so that it becomes more attractive for companies to move their operations outside the EU.

15.2 UKIP would review the role of the Environment Agency (for England and Wales, and the equivalent bodies covering Scotland and Northern Ireland), and other relevant bodies, in order to clarify responsibility for all rivers and watercourses in relation to the prevention of flooding and the management of flooding incidents. We would direct adequate funding to strengthening flood defences (coastal and inland), including funding from saved EU membership costs.

## **16 Research, Development and Training**

16.1 Our future depends substantially on our new technology. UKIP would therefore support UK research and development in science, technology and engineering generously through the research grants system, particularly to our world-leading universities and colleges, and by ensuring that the regulatory and tax framework assists UK companies in cooperating and competing globally.

16.2 With regard to vital nuclear power, the present Government has recently forced the sale by BNFL of nuclear design capacity, and of Britain's share of the URENCO gas-centrifuge process. We would ensure that the UK retains and strengthens what nuclear design and construction capability remains, with involvement in international collaborations where this is appropriate, including cooperation within the Commonwealth.

16.3 As we reinvigorate the nuclear industry in this country, we are likely to find that we are short of expertise. Our existing universities can provide high-quality graduate technologists and engineers in sufficient numbers, but there will be a substantial shortfall in the supply of technicians. This would require us to address defects at various points in the education system incorporating apprenticeships ( to be addressed in an updated policy statement on education ).

16.4 We would also encourage research and development activity to exploit diverse renewable energy sources. Whilst we recognise that it is not yet possible to identify those technologies certain to be of long-term benefit, some examples of potentially important new or established technologies that we would wish to encourage are:

*solar heating; electricity generation using solar or thermophotovoltaic (TPV) cells; tidal power; power-generating buoys to harness wave energy; hydro-electric power; geothermal energy; extracting methane from sewage and landfill; the conversion of coal into methane underground; crops that can be converted directly into diesel, alcohol, or new high energy fuels such as 2,5-dimethylfuran (DMF), used for space heating or fuelling electricity generation; solid state lighting technology; production of 'bioplastics' from plant material; production of fuels from bio-waste; 'microgeneration' and the development of local distributed power and heat schemes.*

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**Appendix A: Nuclear stations currently operating in the UK and those that have ceased operation**

<b>Operator: BNFL Magnox</b>	<b>Capacity MW</b>	<b>Published Lifetime</b>
Oldbury	434	1967-2008
Wylfa	980	1971-2010
<b>Operator: British Energy</b>	<b>Capacity MW</b>	<b>Published Lifetime</b>
Hinkley Point B	1220	1976 – 2011
Hunterston B	1190	1976 – 2011
Hartlepool	1210	1989 – 2014
Heysham 1	1150	1989 – 2014
Dungeness B	1110	1985 – 2018
Heysham 2	1250	1989 – 2023
Torness	1250	1988 – 2023
Sizewell B	1188	1995 – 2035
<b>Closed nuclear power plants</b>	<b>Capacity MW</b>	<b>Lifetime</b>
Windscale	32	1963 – 1981
Berkeley	276	1962 – 1989
Hunterston A	300	1964 – 1989
Winfrith	92	1968 – 1990
Trawsfynydd	390	1965 – 1991
Dounreay	234	1976 – 1994
Hinkley Point A	470	1965 – 2000
Bradwell	246	1962 – 2002
Calder Hall	200	1956 – 2003
Chapelcross	200	1959 – 2004
Sizewell A	420	1966 – 2006
Dungeness A	450	1965 – 2006

(Source: <http://www.dti.gov.uk/energy/sources/nuclear/technology/generation/page17922.html>)

## **Appendix B: UKIP calculation supporting the aim for about 50% nuclear power generation capacity within 10-15 years**

This is based on information in National Grid document SYS2006 ([http://www.nationalgrid.com/uk/sys\\_06/default.asp?action=mnch7\\_5](http://www.nationalgrid.com/uk/sys_06/default.asp?action=mnch7_5))

B1 Base load of the UK in midsummer is about 25,000 MW. It is sensible that this be taken by hydroelectric power and nuclear power since both are capital intensive and therefore lose money when not generating. Available primary hydro-power is approximately 2,500 MW with a further 2,500 MW pump-storage hydro-power which could be "pumped up" using nuclear-generated power during times of minimum demand (in the middle of the night). This predicates a total available nuclear capacity of 25,000 MW (25,000 - 2,500 + 2,500) in the middle of summer.

B2 Since it is normal to carry out essential maintenance and refuelling of nuclear power plant in summer, let us assume that only 75% of capacity is available. This indicates that the maximum sensible total nuclear capacity would be about 33,000 MW.

B3 Peak demand in the middle of winter is around 60,000 MW. Assuming that the availability of all generating plant is 90% (disregarding wind turbines which have an availability of only around 30%), this implies a total generating capacity of 67,000 MW. For safety, we should add at least 5% on top of this, which implies a total UK generating capacity of at least 70,000 MW.

So, in rough terms, the nuclear capacity should be in the region of 50% of the total, which in terms of actual power provided over a 24 hour period comes to a figure which approaches the French figure of 75%. France seems to have a flatter load demand than the UK, in part because it exports about 4,000 MW of power through the cross-channel link.

B4 Further, if we assume a big change towards a 'hydrogen economy' in which road vehicles are powered by hydrogen fuel cells, then the UK could boost demand in the middle of the night to generate hydrogen, thus increasing the base load and the demand for nuclear power whilst decreasing the requirement to import oil. The hydrogen economy may be some years away but Honda is to sell a hydrogen fuel cell car in Japan soon, and other car companies are working on similar plans.

## Appendix C: The possible role of fast breeder reactors

C1 In a conventional thermal nuclear reactor, such as a Sizewell B type pressurised water reactor, only  $U^{235}$  (which comprises 0.7% of natural uranium) can be used in the fission process whereas, in a fast breeder reactor, most of the remaining 99.3% of predominantly  $U^{238}$ , can be “bred” to become plutonium 239 ( $Pu^{239}$ ), which is fissionable after reprocessing.

Thus, in a fast breeder reactor, the energy available from natural uranium can be increased, in theory, by more than a factor of 100 (in practice, by a factor of at least 50). A further advantage is that, since there is less input of uranium fuel, there is also a very much reduced output of high active waste. With regard to the management of nuclear waste, newer techniques such as deep burial underground offer the prospect of safe long-term storage in the UK<sup>1</sup>.

C2 Some  $Pu^{239}$  is “bred” in a conventional nuclear reactor; not enough for a self-sustaining programme, but sufficient to store for the subsequent launch of a fast breeder programme. This would be self-sustaining because, in the fast breeder, more  $Pu^{239}$  is “bred” from  $U^{238}$  than is consumed.

C3 Experimental fast breeder reactors, using liquid sodium as the coolant, were built and operated in the USA, the UK, France and Japan but all suffered from minute leaks in the sodium to water boilers which slowed their development. Since breeder reactors are inherently more expensive to build than conventional thermal nuclear reactors, they become economically viable only when the cost of reprocessed fuel is substantially cheaper than that of natural uranium.

The price of uranium fell dramatically following the Three Mile Island incident (which, whilst deeply regrettable, unlike the everyday events in coal mines, oil rigs, and gas fields, did not have fatal results) and the consequent slow down of the worldwide nuclear power programme; as a result, the worldwide enthusiasm for the breeder reactor waned. Recently, nuclear programmes have expanded throughout the world, forcing up the price of uranium ore and thus enhancing the economic viability of breeder reactors.

C4 Research and development is now confined to France, Japan and India; the most ambitious and promising programme is being pursued by Japan, a country that has little in the way of indigenous energy resources. A possible way forward could be to seek collaboration with the Japanese to develop a commercially viable fast breeder reactor<sup>2</sup> or with Commonwealth countries with expertise in this area such as India.

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