TO: Energy Review Consultation, Department of Trade and Industry

FROM: Steve Dawe, on behalf of Kent Green Party

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Contact details:
Steve Dawe, Kent Green Party, 27, Audley Avenue, Tonbridge, Kent TN9 1XF
01732 355185/07747 036192 – www.kentgreenparty.org.uk – greenparty@gn.apc.org

Green Party policies on energy and climate change can be found at
www.greenparty.org.uk Policies stated here are those favoured by Kent Green Party,
adding detail in some areas to existing Green Party policies.

Introduction:
Kent Green Party covers the County of Kent and the Medway Unitary Authority, with local
branches in various parts of Kent. Kent Green Party recognises that housing expansion
and other new development in Kent represents a considerable challenge in terms of
energy use since UK housing remains highly energy inefficient and UK transport modes
have contributed significantly to a rise in UK greenhouse gas emissions over the last three
years for which figures are available. Research suggests Kent may lose 230 sq km of land
by 2080, since each millimetre of sea level rise corresponds to an inward shoreline
movement of 1.5 metres. We judge that Government has relied on the private sector and
general exhortations to the public to create a reduction in greenhouse gases. This has
failed, and far more effective measures are needed. We believe these measures are
available, can be taken and will lead to more employment. Our responses to the
questions offered in this Energy Review will demonstrate how.

Key omissions from this review which also need consideration:
1. Peak Oil: We note suggestions that oil reserves in the Middle East have been
radically over-stated leading to predictions of $100 a barrel oil prices within 3
years. We note that the Shell oil corporation has been caught exaggerating its
oil reserves by in excess of 25%. No one knows with any certainty actual
reserves present in a variety of undemocratic oil-producing states. Estimates of
the peak of oil production vary between 2006 and 2020, with an increasing
number of predictions favouring early dates in this period, such as those made
by the Petroleum Review, Exxon, the Association for the Study of Peak Oil and
the Oil Depletion Analyses Centre. China is adding to its oil consumption at about
15% per year at present. The UK Government, paradoxically, currently has no
policy on Peak Oil. The peak of production for natural gas is possibly about a
decade after that of oil, but this is dependent on accurate estimates of reserves
which it can be asserted do not exist for many non-democratic states, eg Saudi
Arabia.

2. A commitment to a carbon free energy supply and carbon free transportation
system, with targets, timescales and funding where necessary:

3. Micropower as a normal part of construction, renovation or refurbishment:

4. Avoidance of committing the UK to US fossil fuel foreign policy objectives, such as
further wars and interventions concerning states with oil/gas or that offer access to
oil/gas. US foreign policy is deeply influenced by the location of fossil fuel reserves.
We are disturbed by recent leaked reports of UK Government discussions concerning an attack upon Iran.

5. Recognition that failure to act to curb greenhouse gas emissions will create the largest movements of people which have ever occurred on this planet. The Environment Minister of Bangladesh, in 2001, envisaging 20 million refugees from her country if official estimates of global warming proved correct, wondered if rich countries would take them as environmental refugees. The UN has yet to adopt a definition of, or an effective response to, the growing global phenomenon of environmental refugees. A one metre rise in sea level would force 80% of Guyana’s population to move. A 50 cm rise would be sufficient to bankrupt the economy of Venezuela, and compromise access to its claimed oil reserves. Salination of cultivated land in countries such as Bangladesh, Egypt, India and Nigeria could prompt massive population movements from comparatively modest increases in sea level, or in the range of storm surges. The Sahel region of Africa has experienced 25 years of rainfall reduction, according to the Intergovernmental Panel on Climate Change. Norman Myers has estimated environmental refugees at 25 million globally by about 1995 and forecasts about 150 million such refugees by 2050.

6. Recognition that the general failure to reduce greenhouse gas emissions may contribute to a ‘runaway’ greenhouse scenario becoming a reality. It is already disturbing that research done over 4 years for the Arctic Council of 8 countries with Arctic territories has demonstrated that the northern polar areas are warming at twice the global rate of increase. There are a large number of reports on declining ice cover in polar and mountainous areas; concerning more rapid speed of movement and disappearance of glaciers; of the emergence of permafrost into swamps for parts of the year.

7. Recognition that global warming is already killing people: 35,000 people in Europe in the summer of 2003, with hot weather attributed to global warming by the UK Met Office. Research for a range of UN bodies suggested that 150,000 extra deaths resulted from global warming in the year 2000 alone. The European Commission’s Clean Air for Europe initiative estimates premature deaths from air pollution each year at approximately 370,000 people, most of which results from transport sector emissions.

8. Awareness that global warming has the capacity to undermine the global economy through the impact of increasing numbers of major disasters exacerbated or caused by global warming. There was a four-fold increase in the number of major climate and flood related disasters in the 1990s when compared to the 1960s. Continuation of this trend would mean the value of such disasters being greater than total world product by 2065.

**Key Questions for the Review**

Q.1. What more could the government do on the demand or supply side for energy to ensure that the UK’s long-term goal of reducing carbon emissions is met?
1. Provide a compulsory minimum policy for sustainable buildings, for new build, incorporating: cavity wall insulation; solar water heating; solar panels; solar tiles; low energy light bulbs/tubes; mini wind turbines; clear policies to maximize solar ‘gain’. This requires that the Government allocate more funds to local authorities to increase the numbers of building inspectors and to ensure they are fully trained to test the energy efficiency of buildings. Sources of funding for grants may be obtained by transfers from other areas of public spending eg. Cutting the defence budget; ending private sector subsidies such as arms export assistance, cost-over-runs, the Private Finance Initiative, ending new trunk road construction, stopping transport infrastructure support to airport expansion, etc.;

2. Prepare a programme to retrofit the UK’s existing building stock with the technologies listed in item one, providing a comprehensive system of grants and compulsory rules, and tax breaks for conversion concerning refurbishments;

3. Ensure each local authority has additional funds to allow it to run an Energy Efficiency section, comprising at least 3 officers in each district council and more in unitaries to promote energy efficiency within the council itself and in local public and private enterprises, and to put an end to fuel poverty which has killed over 30,000 people in the UK during the last two winters for which figures are available;

4. Adopting a Swedish approach to oil use, planning to phase out fossil fuel use in energy and transportation over a 15 year period;

5. Adopting a commitment to renewable energy like that of Austria, which will reach over 78% electricity from renewables by 2008;

6. Adopting a commitment to the use of hydrogen fuel cells like that of Iceland, which is likely to become the world’s first hydrogen-powered economy. It is essential that the full potential of sites for offshore wind is realized so that production of hydrogen fuel cells occurs using renewable energy as soon as possible, and on a large scale;

7. Accepting the advice of the Association for the Conservation of Energy which argues that a 50% reduction in energy demand is possible in this country;

Q.2. With the UK becoming a net energy importer and with big investments to be made over the next twenty years in generating capacity and networks, what further steps, if any, should the government take to develop our market framework for delivering reliable energy supplies? In particular, we invite views on the implications of increased dependence on gas imports.

1. The UK has the best potential in Europe for wind, wave and tidal power. The British Wind Energy Association has asserted that offshore wind power alone could provide as much as 8 times the electricity we use now. Wave power has been estimated as potentially providing 15% of UK electricity demand and tidal power 6.5%. Combined with microgeneration, energy conservation, Combined Heat and Power, selective use of biofuels, hydrogen, use of biomass in power stations rather than fossil fuels, the UK is uniquely placed to meet its own needs and export to other European states. We recommend re-nationalisation of the electricity grid to
permit levels of investment to increase, in order to reduce transmission losses, and to accommodate more production of power in decentralized locations including homes and enterprises. In market terms, people and enterprises must be guaranteed good minimum prices for the electricity or other energy they produce, in order that utility bills may be reduced, so there is a clear financial incentive to people to participate and by so doing reduce their bills and their greenhouse gas emissions. We rule out any taxation of micropower production as this would stifle progress towards reducing greenhouse gas emissions.

2. Attack and abandon the current EU emission trading scheme which permits corporate bodies emitting 45% of the EU’s carbon dioxide emissions to continue to do so. This scheme distorts competition, is more costly for the public than direct grants to individuals and enterprises for investing in technologies to cut emissions and encourages existing energy producers to keep polluting installations in operation.\textsuperscript{15} The Energy Efficiency Innovation Review suggested a supplier trade and cap scheme for the period after 2011, and the Association for the Conservation of Energy suggests personal carbon trading should be developed\textsuperscript{16} – a logical extension of creating micropower as a normal feature of the entire built environment.

3. Regulations should be introduced, and where appropriate should be promoted as EU policies to facilitate: compulsory building energy management systems, ensuring boilers for example operate at optimum temperatures and only when necessary; converting motors used in industry to the most efficient available and ensuring access to renewable energy supply to power them; no new electric heating in new build with CHP being favoured for large new buildings; reduction and elimination of ‘stand-by’ features in appliances; abolition of ordinary light bulbs in favour of compact fluorescent bulbs; savaplugs being fitted to all new and existing appliances; (plus renewable energy and home insulation initiatives).\textsuperscript{17}

\textbf{Q.3. The Energy White Paper left open the option of nuclear new build. Are there particular considerations that should apply to nuclear as the government reexamines the issues bearing on new build, including long-term liabilities and waste management? If so, what are these, and how should the government address them?}

1. Nuclear energy is too expensive to be considered as a source of new energy supply. The Nuclear Decommissioning Authority has raised its estimate of nuclear clean-up liabilities to £70 bn and the addition of 7 British Energy nuclear stations to this figure, plus Ministry of Defence nuclear sites and long-term waste storage produces a total nuclear liabilities figure of £160 bn.\textsuperscript{18} The Performance and Innovation Unit has judged nuclear, in 2020, to provide electricity at a price of 3-4p per kw/h to the consumer: more expensive than onshore wind, offshore wind, gas or coal.\textsuperscript{19} British Energy suggests it can build 11GW of nuclear capacity at £1000 per kW, ignoring the fact that the last nuclear station cost about £3000 per kW to build. It should be noted that microgeneration starts from a baseline of about £500 per kW (installed).\textsuperscript{20} Exploitation of remaining uranium supplies will require the use of fossil fuels, which are becoming more expensive. The European Commission estimates that uranium reserves are about 2 million tonnes.\textsuperscript{21} The impact of a large-scale nuclear programme by China will inevitably reduce resources and drive up uranium prices, making nuclear power ever more uneconomic. The World Nuclear
Association has indicated it sees problems with uranium supply beyond 2015. The history of nuclear power in the UK does not give any grounds for optimism: Dungeness B took 17 years to build; Sizewell B was the subject of a public inquiry in 1982, but was not operating at design capacity until 1995: it offers electricity at the equivalent of £3000 per kw/h, according to the National Audit Office. Dounreay provides a fine example of the limits to the idea of fast breeder reactors, never having operated at more than 18% of its original intended capacity. At present, after incurring £160 bn in liabilities, nuclear meets only 8% of UK energy demand. The Committee on Radioactive Waste Management has estimated a 10 station nuclear programme would raise nuclear waste storage of spent fuel alone by 400%. This technology is also inflexible, being only suited to baseload production of electricity, lacking the flexibility of other technologies. Contrary to the claims of the nuclear industry, nuclear is not required to provide baseload electricity supply. Nor is this technology 'carbon-free': the IAEA has shown that wind power has about one third of the greenhouse gas emissions from production chains’ of nuclear power, so there is no effective argument that nuclear will help to reduce greenhouse gas emissions. The Sustainable Development Commission has suggested that a doubling of nuclear capacity could cut carbon dioxide emissions by 8% by 2035, with no cuts occurring before 2010: an optimistic assessment since the growth of traffic and aviation emissions, if not addressed, would eliminate any such cut. NIREX has demonstrated that up to 11 of the UK’s existing nuclear sites are vulnerable to rising seas during this century, thanks to what may well be under-estimated assessments of global warming. The Sustainable Development Commission has identified intergenerational impacts in the form of nuclear waste, total costs of nuclear power, international safety and security and the need to reduce energy demand as factors for rejecting a nuclear power station programme.

Q.4. Are there particular considerations that should apply to carbon abatement and other low-carbon technologies?

1. Primarily that we are allowing competitive advantage to European neighbours which are progressively increasing their use of renewable energy resources. By 2001, the proportions of renewably-sourced electricity generated in the following countries were as follows: Sweden, 57%; Finland, 33%; Portugal, 30%; Italy, 19%; Denmark, 17%, Spain, 16%; France, 13%. The UK figure at this date was 2.7%.

Q.5 What further steps should be taken towards meeting the government’s goals for ensuring that every home is adequately and affordably heated?

1. See Question 1, our answer no. 2. Our key concern in Kent is that each local authority must have an Energy Efficiency section. Related to this, we have called upon the Office of Deputy Prime Minister to ensure each local authority has the resources to fund at least two empty property officers, whose actions could be integrated with those of energy efficiency and building control officers to ensure energy efficient refurbishments as we suggest elsewhere in this submission.

Comments are also invited on the following issues, as described in the text:

i. The long term potential of energy efficiency measures in the transport, residential, business and public sectors, and how best to achieve that potential;

1. Transport: There has been a 23% rise in greenhouse emissions from transport in Europe since 1990, which negates reductions in emissions made outside the
transport sector.\textsuperscript{31} Also, freight transport volumes have risen 34\% in Europe over the past ten years.\textsuperscript{32} In the 15 pre-2004 members of the EU, transport now produces 21\% of total greenhouse gas emissions.\textsuperscript{33} Aviation emissions of greenhouse gases grew 62\% 1990-2003; maritime transport emissions are currently about 13\% of global transport emissions with growth of 35-45\% predicted 2001-2020.\textsuperscript{34} We must plan for a substitution of existing surface transport using fossil fuels, to vehicles using hydrogen fuel cells and electricity. Other sectors may well take longer to plan for, but curbing marine and aviation emissions is essential during the period of technological changeover to – possibly – the use of hydrogen fuel cells in shipping particularly. There must be a recognition of severe limitations to the exploitation of biofuels, given the land area required, and awareness that they cannot offer emission-free transport. So called ‘energy from waste’ projects offer significant transport emissions during normal operations which can be considered to offset the ‘benefits’ of the energy they produce. Aviation will be producing 60\% of our total emissions by 2030 unless the Government places aviation charges upon air travel and air freight which actually reduce aviation fuel use.\textsuperscript{35} Since traffic congestion may continue to increase even if emissions from transport are cut by the use of newer technologies, nationwide congestion charging will still be needed.

2. Residential: See Q1, our answers 1 & 2. Also, it should be noted that the average British home is responsible for more carbon dioxide emissions than the average British car. If we hit the target of 210,000 new homes built per year to current standards, then by 2050 an extra 28.9 million tones would be emitted from the residential sector, increasing total UK emissions by 19\%.\textsuperscript{36}


4. Public sector: See Q1, our answers 1 & 2.

\textit{ii. Implications in the medium and long term for the transmission and distribution networks of significant new build in gas and electricity generation infrastructure;}

1. We are concerned about the potential conflict between rehabilitating the centralized Grid structure to accommodate new large scale energy installations such as nuclear and the need to allow for households and enterprises to use the built environment for decentralized generation of electricity in particular. This concern is shared by the Sustainable Development Commission, which sees possible barriers to a decentralization-led reform of energy supply unless there is a move to ensure adequate and appropriate investments likely to support micropower.\textsuperscript{37} It should be noted that 40\% of electricity demand is met by decentralized energy sources in the Netherlands.\textsuperscript{38} The New Economics Foundation has also argued that investment in nuclear could have the effect of ‘crowding out’ renewables by absorbing limited resources.\textsuperscript{39}

\textit{iii. Opportunities for more joint working with other countries on our energy policy goals;}

1. Given the exceptional potential for wind, wave and tidal power in the British Isles, collaborative projects and exports of electricity to the continent should be possible.
The French Government has crippled its energy diversity with a rapid programme of nuclear power stations which are now showing generic faults. It will require considerable assistance from neighbouring states to maintain energy supplies as its nuclear installations pass into history. The UK is uniquely placed to support investments in domestic energy supplies and transmission by exporting to France in particular. Collaborative projects with Ireland, eg wind farms in the Irish Sea, may also be possible. More generally, there is a potentially huge market for solar technology export to the Middle East, as oil supplies dwindle.

iv. Potential measures to help bring forward technologies to replace fossil fuels in transport and heat generation in the medium and long term.

1. Abandonment of the costly nuclear dream.

2. Investigating standards for the future ‘energy stations’ needed to replace contemporary petrol stations incorporating hydrogen fuel cell and electric vehicle serving technologies and facilities.

3. Ensuring no new buses are purchased unless they are using electricity or hydrogen fuel cells;

4. Ensure no new fossil fuel power stations are built;

5. A rapid speed up in offshore wind installation permissions to facilitate this sector reaching its full potential by the earliest possible date, including the use of further sites off the Kent coast.

6. Setting a date within the EU to stop the production of new vehicles using oil.

7. Transfer of a significant proportion of R&D assistance in the UK away from other sectors towards renewables.


5 Simms, 2005, p.64.


7 Simms, 2005, p.66.

8 Simms, 2005, p.23.

9 Simms, 2005, pp67-68.


14 New Economics Foundation – Mirage and Oasis, p.2.


18 The Independent on Sunday – True price of UK’s nuclear legacy - £160 bn. – 2nd April 2006.

19 SERA – What’s in the mix, p.6, hereinafter ‘SERA’, p.………..


21 SERA, p.8.

22 SERA, p.8.

23 SERA, p.15.

24 SERA, p.27.

25 SERA, p.20.


27 SERA, p.9.

28 SERA, p.21.

29 SERA, p.21.


31 EEA, p.9.


33 EEA, 2006, p.16.

34 EEA, 2006, p.16.

35 SERA, p.28


39 New Economics Foundation – Mirage and Oasis, p.3.