Consultation on revised draft National Policy Statements for energy infrastructure: Comment form

Organisation name: Biofuelwatch

Responses by Biofuelwatch to questions 3 a) and 3 c) are contained in this document.

Question 3: Do you have any other comments on the revised National Policy Statements and accompanying documents? These are:

a) Revised draft Overarching National Policy Statement for Energy (EN-1)

1.6.2 SOME KEY POINTS FROM THE AOS FOR EN-1 ARE SET OUT BELOW.

• THE ENERGY NPSS SHOULD SPEED UP THE TRANSITION TO A LOW CARBON ECONOMY AND THUS HELP TO REALISE UK CLIMATE CHANGE COMMITMENTS SOONER THAN CONTINUATION UNDER THE CURRENT PLANNING SYSTEM. HOWEVER THERE IS ALSO SOME UNCERTAINTY AS IT IS DIFFICULT TO PREDICT THE MIX OF TECHNOLOGY THAT WILL BE DELIVERED BY THE MARKET AGAINST THE FRAMEWORK SET BY GOVERNMENT.

The use of biomass and bioliquid electricity does not support the aim of speeding up the transition to a low carbon economy.

It is established in DECC's own study, NNFCC10-016, 'Comparison of the Greenhouse Gas Benefits resulting from Use of Vegetable Oils for Electricity etc', Feb 2010, that most bioliquid electricity has higher GHG emissions than unabated natural gas electricity. Several peer-reviewed studies, meantime, show that virtually all current biofuels result in significantly more greenhouse gas emissions than the fossil fuels they replace if indirect as well as direct land-use change and nitrous oxide emissions are taken into account.

Carbon emissions from biomass heat and power generation are incorrectly treated as zero. This is an accounting 'fix', based on the assumption that the emissions will be sequestered by future biomass growth. There is no guarantee, particularly for solid biomass with long growing periods that new additional plantings will be made. And in any case, the future sequestration of carbon, decades or even centuries in the future, even if achieved by new planting, is not an effective remedy for climate change which needs actual emissions and atmospheric levels of carbon dioxide to reduce now.

Solid biomass electricity-only power stations of the type being developed now in the UK are very inefficient (sub 30%). As a consequence, the combustion GHG emissions per unit of electricity are up to 50% higher than a modern coal-fired power station, even without carbon capture.

1.6.11 AS NOTED ABOVE, THE PRINCIPAL AREA IN WHICH CONSENTING NEW ENERGY INFRASTRUCTURE IN ACCORDANCE WITH THE ENERGY NPSS IS LIKELY TO LEAD TO ADVERSE EFFECTS WHICH CANNOT ALWAYS BE SATISFACTORILY MITIGATED IS IN RESPECT OF LANDSCAPE AND VISUAL EFFECTS. EN-1 ALREADY CONTAINS POLICIES WHICH SEVERELY LIMIT THE PROSPECTS FOR DEVELOPMENT OF LARGE-SCALE ENERGY INFRASTRUCTURE IN THE MOST ATTRACTIVE LANDSCAPES AND TOWNSCAPES. TIGHTENING THE DEVELOPMENT CONSENT POLICIES IN EN-1 TO MAKE IT HARDER FOR ENERGY INFRASTRUCTURE TO BE CONSENTED WHICH WOULD HAVE ADVERSE LANDSCAPE OR TOWNSCAPE EFFECTS WOULD BE LIKELY TO MAKE IT SIGNIFICANTLY MORE DIFFICULT TO GAIN CONSENT FOR A RANGE OF LARGE-SCALE ENERGY INFRASTRUCTURE PROJECTS. ALTERNATIVE A4 IS NOT TO BE PREFERRED TO EN-1, AT LEAST UNTIL SUCH TIME AS IT BECOMES CLEAR THAT LEVELS OF NEED FOR NEW LARGE-SCALE ENERGY INFRASTRUCTURE ARE VERY MUCH LOWER THAN GOVERNMENT ANTICIPATES THAT THEY WILL BE FOR THE FORESEEABLE FUTURE.

The assertion in 1.6.11 that the principal area where impacts cannot be satisfactorily mitigated is 'landscape and visual effects' glosses over the fact that there will be other very considerable impacts from new energy infrastructure.

Most of the fuel required for large-scale bioliquid and biomass electricity proposed in the UK Renewable

Energy Strategy will be imported. The planning system attempts to ignore the consequences of fuel production in other countries. This is contrary to Britain's position as a responsible member of the global community; it ignores the precept, 'Think Global, Act Local'; and means national energy infrastructure is being developed without sufficient regard for the principles of sustainable development set out in earlier planning system documents, viz:

- social progress which recognises the needs of everyone;

- effective protection of the environment;

- the prudent use of natural resources;

2.2.4 NOT ALL ASPECTS OF GOVERNMENT ENERGY AND CLIMATE CHANGE POLICY WILL BE RELEVANT TO IPC DECISIONS OR PLANNING DECISIONS BY LOCAL AUTHORITIES AND THE PLANNING SYSTEM IS ONLY ONE OF A NUMBER OF VEHICLES THAT HELPS TO DELIVER GOVERNMENT ENERGY AND CLIMATE CHANGE POLICY. THE ROLE OF THE PLANNING SYSTEM IS TO PROVIDE A FRAMEWORK WHICH PERMITS THE CONSTRUCTION OF WHATEVER GOVERNMENT – AND PLAYERS IN THE MARKET RESPONDING TO RULES, INCENTIVES OR SIGNALS FROM GOVERNMENT – HAVE IDENTIFIED AS THE NECESSARY AMOUNTS OF THE RIGHT KINDS OF MAJOR ENERGY INFRASTRUCTURE IN THE RIGHT PLACES. IT IS IMPORTANT THAT IN DOING THIS, THE PLANNING SYSTEM ENSURES THAT DEVELOPMENT CONSENT DECISIONS TAKE ACCOUNT OF THE VIEWS OF AFFECTED COMMUNITIES AND RESPECT THE PRINCIPLES OF SUSTAINABLE DEVELOPMENT.

Three of the principles of sustainable development referred to in PPS 1 are:

- social progress which recognises the needs of everyone;

- effective protection of the environment;

- the prudent use of natural resources;

These principles do not limit consideration to impacts on UK citizens, the UK economy or the UK 'environment'. Large scale use of imported biomass will potentially have serious adverse impacts in other countries and the proposed NPSs seek to exclude the views of their 'affected communities'.

2.2.22 LOOKING FURTHER AHEAD, THE 2050 PATHWAYS SHOW THAT DEMAND FOR ELECTRICITY COULD DOUBLE OVER THE NEXT FORTY YEARS, AS A RESULT OF THE NEED TO ELECTRIFY LARGE PARTS OF THE INDUSTRIAL AND DOMESTIC HEAT AND TRANSPORT SECTORS. IT MAKES SENSE TO SWITCH TO ELECTRICITY WHERE PRACTICAL, AS ELECTRICITY CAN BE USED FOR A WIDE RANGE OF ACTIVITIES, OFTEN WITH HIGH EFFICIENCY COMPARED TO OTHER FUELS, AND CAN, TO A LARGE EXTENT, BE SCALED UP TO MEET DEMAND. TO HAVE THE REQUIRED IMPACT ON EMISSIONS, THE ELECTRICITY BEING CONSUMED WILL NEED TO BE ALMOST EXCLUSIVELY FROM LOW CARBON SOURCES. CONTRAST THIS WITH THE FIRST QUARTER OF 2010, WHEN NEARLY 80 PER CENT OF OUR ELECTRICITY WAS GENERATED BY BURNING GAS AND COAL.

All new electricity should logically result in the lowest greenhouse gas emissions possible. However negative impacts on people, biodiversity and ecosystems, soil and water must be fully considered, too. Biomass and bioliquid electricity is not low carbon. Even if combustion emissions and the biomass carbon debt are ignored, low efficiency, unabated bio-power stations generate more emissions than gas-fired power stations.

2.2.28 THE PLANNING FRAMEWORK SET OUT IN THIS NPS AND THE SUITE OF ENERGY NPSS TAKES FULL ACCOUNT OF THE OBJECTIVE OF CONTRIBUTING TO THE ACHIEVEMENT OF SUSTAINABLE DEVELOPMENT AND THIS HAS BEEN TESTED THROUGH THE AOS. THE AOS HAS EXAMINED WHETHER THE NPS FRAMEWORK FOR THE DEVELOPMENT OF NEW ENERGY INFRASTRUCTURE PROJECTS IS CONSISTENT WITH THE OBJECTIVES FOR SUSTAINABLE DEVELOPMENT, INCLUDING CONSIDERATION OF OTHER GOVERNMENT POLICIES SUCH AS THOSE FOR THE ENVIRONMENT, ECONOMIC DEVELOPMENT, HEALTH AND TRANSPORT (SEE SECTION1.6 OF THIS NPS FOR THE AOS).

This is simply not true. Excluding the overseas impacts of fuelling the UK's energy infrastructure is not consistent with 'the objectives for sustainable development'.

3.4.3 THE UK HAS THE POTENTIAL TO DEVELOP A WIDE RANGE AND LARGE VOLUME OF RENEWABLE ENERGY RESOURCES. FUTURE, LARGE-SCALE RENEWABLE ENERGY GENERATION IS LIKELY TO COME FROM THE FOLLOWING SOURCES:

• BIOMASS – BIOMASS IS BECOMING INCREASINGLY IMPORTANT. IT INVOLVES THE COMBUSTION OF RENEWABLE FUEL, SUCH AS WOOD, RETURNING THE CARBON DIOXIDE WHICH THE PLANT ABSORBED DURING ITS LIFE TO THE ATMOSPHERE. WHILST ENERGY IS REQUIRED TO GROW, HARVEST AND TRANSPORT THE BIOMASS IT IS CONSIDERED TO BE A RENEWABLE FUEL AND ITS COMBUSTION DISPLACES EMISSIONS OF CARBON DIOXIDE ORDINARILY RELEASED USING FOSSIL FUELS.

This is a serious error, perpetuating the flawed logic that biomass combustion emissions can be ignored because the biomass has 'recently' captured the carbon. There is a fixed amount of carbon on the planet. What matters for climate change is how much of it is in the atmosphere. Burning trees puts more into the atmosphere, moving it from stored terrestrial carbon to atmospheric carbon. That atmospheric carbon is only re-sequestered if replacement trees are grown and allowed to reach maturity. Which can take decades.

Carbon emissions and concentration levels must be reduced now. Burning biomass does the opposite, and is wrongly designated as renewable energy.

3.6.6 THE GOVERNMENT HAS PLACED TWO CONDITIONS ON THE CONSENTING OF FOSSIL FUELLED POWER STATIONS TO REQUIRE THE DEVELOPMENT AND FACILITATE THE ADOPTION OF CCS ONCE IT IS AVAILABLE. ALL COMMERCIAL SCALE (AT OR OVER 300 MW) COMBUSTION POWER STATIONS HAVE TO BE CONSTRUCTED CARBON CAPTURE READY (CCR) AND NEW COAL-FIRED POWER STATIONS ARE REQUIRED TO DEMONSTRATE CCS ON AT LEAST 300 MW OF THE PROPOSED GENERATING CAPACITY. MORE INFORMATION ON GOVERNMENT POLICY ON CCR AND THE CCS REQUIREMENT IS SET OUT IN SECTION 4.7.

There are at least two biomass power stations proposed for the UK that have a capacity of about 300MW. Because of their relatively low efficiency, they will emit more carbon dioxide than 300MW coal-fired power stations. It is illogical to require coal power stations at this size to be Carbon Capture Ready, and not impose the same condition on biomass power stations that have higher emissions.

Notwithstanding this comment, we do not advocate that biomass power stations should be equipped with CCS, because CCS is an energy intensive solution and while (possibly) reducing emissions, it would have the effect of decreasing efficiency and leading to more biomass consumption.

4.1 INTRODUCTION

4.1.1 THE IPC SHOULD ADHERE TO THE FOLLOWING KEY PRINCIPLES WHEN EXAMINING AND DETERMINING APPLICATIONS FOR ENERGY INFRASTRUCTURE: (I) GIVEN THE LEVEL OF NEED FOR ENERGY INFRASTRUCTURE AS SET OUT IN PART 3 OF THIS NPS, THE IPC SHOULD OPERATE ON THE BASIS THAT (PROVIDED THAT A DECISION TO DO SO WOULD BE IN ACCORDANCE WITH THIS NPS AND ANY RELEVANT TECHNOLOGY-SPECIFIC NPS, EXCEPT TO THE EXTENT THAT ANY OF THE EXCEPTIONS SET OUT IN THE PLANNING ACT APPLY (SEE PARAGRAPH 1.1.2 ABOVE)) CONSENT SHOULD BE GIVEN TO DEVELOPMENT PROPOSALS.

(IV) THE IPC SHOULD TAKE INTO ACCOUNT ADVERSE IMPACTS – ENVIRONMENTAL, SOCIAL AND ECONOMIC – INCLUDING THOSE IDENTIFIED IN THIS NPS AND THE RELEVANT TECHNOLOGY-SPECIFIC NPS, AS WELL AS LOCAL IMPACTS IDENTIFIED IN THE APPLICATION OR OTHERWISE. THE IPC SHOULD ENSURE IT TAKES ACCOUNT OF ANY LONGER-TERM ADVERSE IMPACTS THAT HAVE BEEN IDENTIFIED AND ANY CUMULATIVE ADVERSE IMPACTS.

As outlined above, there are potentially significant adverse impacts in other countries resulting from the production of fuel for biomass power stations in the UK. The wording here is not clear as to whether such

impacts would be material considerations for energy infrastructure planning in the UK. It is positive that the temporal nature of impacts is acknowledged, but the scope ought to extend spatially beyond 'local impacts'.

4.2 ENVIRONMENTAL STATEMENT

4.2.1 ALL PROPOSALS FOR PROJECTS THAT ARE SUBJECT TO THE EUROPEAN ENVIRONMENTAL IMPACT ASSESSMENT DIRECTIVE[61] MUST BE ACCOMPANIED BY AN ENVIRONMENTAL STATEMENT (ES) DESCRIBING THE ASPECTS OF THE ENVIRONMENT LIKELY TO BE SIGNIFICANTLY AFFECTED BY THE PROJECT[62]. THE DIRECTIVE SPECIFICALLY REFERS TO EFFECTS ON HUMAN BEINGS[63], FAUNA AND FLORA, SOIL, WATER, AIR, CLIMATE, THE LANDSCAPE, MATERIAL ASSETS AND CULTURAL HERITAGE, AND THE INTERACTION BETWEEN THEM. THE DIRECTIVE REQUIRES AN ASSESSMENT OF THE LIKELY SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT ON THE ENVIRONMENT, COVERING THE DIRECT EFFECTS AND ANY INDIRECT, SECONDARY, CUMULATIVE, SHORT, MEDIUM AND LONG-TERM, PERMANENT AND TEMPORARY, POSITIVE AND NEGATIVE EFFECTS AT ALL STAGES OF THE PROJECT, AND ALSO OF THE MEASURES ENVISAGED FOR AVOIDING OR MITIGATING SIGNIFICANT ADVERSE EFFECTS.

We note that the provisions of this paragraph are limited and do not recognise the potential global nature of environmental impacts of energy installations in the UK, nor does EN-1 deal with the cumulative / transboundary impacts of multiple energy installations all reliant on the import of biomass fuel.

1. The Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991) records the agreement of UNECE parties (including the UK) and others (e.g. Canada, Russia and the USA) to limit adverse transboundary environmental impacts:

"*Article 2*

GENERAL PROVISIONS

1. The Parties shall, either individually or jointly, take all appropriate and effective measures to prevent, reduce and control significant adverse transboundary environmental impact from proposed activities."

The intention of this Convention is to ensure transboundary effects on the environment are given consideration in development activities. Transboundary impacts will arise from the production of fuel for biomass, biofuel and bioliquid energy installations in the UK. In many cases such impacts will be significant adverse. They will arise in biomass producing countries that are party to the Convention – Russia, the USA and Scandinavia and also in countries in the Global South. Although Global South countries are not parties to the Convention, it must surely be appropriate and consistent with the spirit of the Convention for the UK to apply its principles to impacts in the Global South.

2. The Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions,

(http://ec.europa.eu/environment/eia/eia-studies-and-reports/guidel.pdf) advises:

"6.2.2 Trans-Boundary Impacts

Some indirect and cumulative impacts and impact interactions have the potential to cross administrative boundaries. These could be international boundaries or boundaries between local authorities within a country. This can be especially relevant in cases where pollutants are dispersed in either air or water media over relatively large geographical areas. ***For example, the cumulative effect of acid rain as an indirect impact of emissions from other countries has been identified as a major contributory factor in the decline of pine forest in Scandinavia****.*

Socio-economic impacts may also cross administrative boundaries*. For example, infrastructure development (such as tunnels or bridges) which links different administrative areas may have a profound and sudden indirect or cumulative impact on traffic patterns and other socio-economic factors on a wide scale.*

Project scoping and especially the selection of an appropriate geographical boundary and therefore the area for the collection of baseline data, should where possible take into consideration this potential for trans-boundary impacts. Using natural boundaries, such as watersheds, is often a more appropriate approach to

impacts affecting natural ecosystems than using the local political or administrative areas. The project consultation process should be designed in a co-operative way, so that expert opinion is included from as wide a range as necessary, irrespective of boundaries.

***Trans-boundary impacts are relevant to the assessment of indirect and cumulative impacts as well as impact interactions**. In carrying out an assessment at the project level it must be recognised that it may not be possible to assess trans-boundary impacts in detail. However, where possible, trans-boundary impacts should be identified and quantified so that this will at least be taken into account during the decision-making process."*

(Emphasis added)

We believe it is necessary and a matter of global social justice for the indirect, cumulative and transboundary impacts of energy infrastructure developments in the UK to be subjected to scrutiny in line with these Guidelines. For biomass energy installations the scrutiny should extend to the impacts of fuel production on environmental, economic and social conditions in producing countries.

4.2.2 WHILE NOT REQUIRED BY THE EIA DIRECTIVE, THE IPC WILL FIND IT HELPFUL IF THE APPLICANT ALSO SETS OUT INFORMATION ON THE LIKELY SIGNIFICANT SOCIAL AND ECONOMIC EFFECTS OF THE DEVELOPMENT, AND SHOWS HOW ANY LIKELY SIGNIFICANT NEGATIVE EFFECTS WOULD BE AVOIDED OR MITIGATED. THIS INFORMATION COULD INCLUDE MATTERS SUCH AS EMPLOYMENT, EQUALITY, COMMUNITY COHESION AND WELL-BEING.

In the case of biomass energy installations reliant on imported fuel, it will not be possible to adequately assess the likely social effects without considering effects in producing countries.

4.2.3 FOR THE PURPOSES OF THIS NPS AND THE TECHNOLOGY-SPECIFIC NPSS THE ES SHOULD COVER THE ENVIRONMENTAL, SOCIAL AND ECONOMIC EFFECTS ARISING FROM PRE-CONSTRUCTION, CONSTRUCTION, OPERATION AND DECOMMISSIONING OF THE PROJECT. IN SOME CIRCUMSTANCES (FOR EXAMPLE, GAS PIPE-LINES) IT MAY BE APPROPRIATE TO ASSESS EFFECTS ARISING FROM COMMISSIONING INFRASTRUCTURE ONCE IT IS COMPLETED BUT BEFORE IT COMES INTO OPERATION. DETAILS OF THIS AND ANY OTHER ADDITIONAL ASSESSMENTS ARE SET OUT WHERE NECESSARY IN SECTIONS ON INDIVIDUAL IMPACTS IN THIS NPS AND IN THE TECHNOLOGY-SPECIFIC NPSS. IN THE ABSENCE OF ANY ADDITIONAL INFORMATION ON ADDITIONAL ASSESSMENTS, THE PRINCIPLES SET OUT IN THIS SECTION WILL APPLY TO ALL ASSESSMENTS.

In the case of biomass energy installations reliant on imported fuel, it will not be possible to adequately assess the likely social and environmental effects without considering effects in producing countries.

4.5 CRITERIA FOR "GOOD DESIGN" FOR ENERGY INFRASTRUCTURE

4.5.1 THE VISUAL APPEARANCE OF A BUILDING IS SOMETIMES CONSIDERED TO BE THE MOST IMPORTANT FACTOR IN GOOD DESIGN. BUT HIGH QUALITY AND INCLUSIVE DESIGN GOES FAR BEYOND AESTHETIC CONSIDERATIONS. THE FUNCTIONALITY OF AN OBJECT — BE IT A BUILDING OR OTHER TYPE OF INFRASTRUCTURE — INCLUDING FITNESS FOR PURPOSE AND SUSTAINABILITY, IS EQUALLY IMPORTANT. APPLYING "GOOD DESIGN" TO ENERGY PROJECTS SHOULD PRODUCE SUSTAINABLE INFRASTRUCTURE SENSITIVE TO PLACE, EFFICIENT IN THE USE OF NATURAL RESOURCES AND ENERGY USED IN THEIR CONSTRUCTION AND OPERATION, MATCHED BY AN APPEARANCE THAT DEMONSTRATES GOOD AESTHETIC AS FAR AS POSSIBLE. IT IS ACKNOWLEDGED, HOWEVER THAT THE NATURE OF MUCH ENERGY INFRASTRUCTURE DEVELOPMENT WILL OFTEN LIMIT THE EXTENT TO WHICH IT CAN CONTRIBUTE TO THE ENHANCEMENT OF THE QUALITY OF THE AREA.

The use of large volumes (millions of tonnes annually) of imported biomass is not a prudent use of natural resources

4.6 CONSIDERATION OF COMBINED HEAT AND POWER (CHP)

4.6.2 IN CONVENTIONAL THERMAL GENERATING STATIONS, THE HEAT THAT IS RAISED TO DRIVE ELECTRICITY GENERATION IS SUBSEQUENTLY EMITTED TO THE ENVIRONMENT AS WASTE. SUPPLYING STEAM DIRECT TO INDUSTRIAL CUSTOMERS OR USING LOWER GRADE HEAT, SUCH AS IN DISTRICT HEATING NETWORKS, CAN REDUCE THE AMOUNT OF FUEL OTHERWISE NEEDED TO GENERATE THE SAME AMOUNT OF HEAT AND POWER SEPARATELY. CHP IS TECHNICALLY FEASIBLE FOR ALL TYPES OF THERMAL GENERATING STATIONS, INCLUDING NUCLEAR, ENERGY FROM WASTE AND BIOMASS, ALTHOUGH THE MAJORITY OF CHP PLANTS IN THE UK ARE FUELLED BY GAS.

All the large scale biomass and bioliquid power stations currently in planning in the UK have little realistic prospect of being connected to a district heating system, because of their locations, typically near ports. Solid biomass power stations are also particular inefficient, failing by a very considerable margin to achieve the efficiency levels set out in the EU Renewable Energy Directive as expected practice:

"Article 13 (6).

With respect to their building regulations and codes, Member States shall promote the use of renewable energy heating and cooling systems and equipment that achieve a significant reduction of energy consumption. Member States shall use energy or eco-labels or other appropriate certificates or standards developed at national or Community level, where these exist, as the basis for encouraging such systems and equipment.

In the case of biomass, Member States shall promote conversion technologies that achieve a conversion efficiency of at least 85 % for residential and commercial applications and at least 70 % for industrial applications."

(emphasis added)

EN-1 is deficient in not promoting high levels of conversion efficiency, particularly with regard to limited fuel supplies like biomass and bioliquids.

Inefficient extraction of energy from biomass has two serious consequences. It causes more greenhouse gas emissions per unit of delivered energy and it consumes limited natural resources at a faster rate.

4.7.5 ALL COMMERCIAL SCALE FOSSIL FUELLED GENERATING STATIONS HAVE TO BE CARBON CAPTURE READY (SEE CCR SECTION BELOW). IN ADDITION TO SATISFYING THE CCR CRITERIA, NEW COAL-FIRED GENERATING STATIONS, OR SIGNIFICANT EXTENSIONS TO EXISTING STATIONS, IN ENGLAND OR WALES MUST HAVE CARBON CAPTURE AND STORAGE ON AT LEAST 300 MW NET OF THE PROPOSED GENERATING CAPACITY AND SECURE ARRANGEMENTS FOR THE TRANSPORT AND PERMANENT STORAGE OF CARBON DIOXIDE. COAL-FIRED GENERATING STATIONS OF LESS THAN 300 MW NET CAPACITY SHOULD SHOW THAT THE PROPOSED GENERATING STATION WILL BE ABLE TO CAPTURE CO_2 FROM THEIR FULL CAPACITY. OPERATORS OF FOSSIL FUEL GENERATING STATIONS WILL ALSO BE REQUIRED TO COMPLY WITH ANY EMISSION PERFORMANCE STANDARDS (EPS) THAT MIGHT BE APPLICABLE, BUT THIS IS NOT PART OF THE CONSENTS PROCESS.

Because of their low efficiency, biomass power stations will emit more carbon dioxide per unit of electricity than coal-fired power stations. It is illogical to require coal power stations to be able to show that they will be able to capture CO_2 from their full capacity and not impose the same condition on biomass power stations which have higher emissions.

Notwithstanding this comment, we do not advocate that biomass power stations should be equipped with CCS, because CCS is an energy intensive solution and while (possibly) reducing emissions, it would have the effect of decreasing efficiency and leading to more biomass consumption.

ANCIENT WOODLAND AND VETERAN TREES

5.3.14 ANCIENT WOODLAND IS A VALUABLE BIODIVERSITY RESOURCE BOTH FOR ITS DIVERSITY OF SPECIES AND FOR ITS LONGEVITY AS WOODLAND. ONCE LOST IT CANNOT BE RECREATED. THE IPC SHOULD NOT GRANT DEVELOPMENT CONSENT FOR ANY DEVELOPMENT THAT WOULD RESULT IN ITS LOSS OR DETERIORATION UNLESS THE BENEFITS (INCLUDING NEED) OF THE DEVELOPMENT, IN THAT LOCATION[90] OUTWEIGH THE LOSS OF THE WOODLAND HABITAT. AGED OR 'VETERAN' TREES FOUND OUTSIDE ANCIENT WOODLAND ARE ALSO PARTICULARLY VALUABLE FOR BIODIVERSITY AND THEIR LOSS SHOULD BE AVOIDED[91]. THE IPC SHOULD ENCOURAGE THE CONSERVATION OF SUCH TREES AS PART OF DEVELOPMENT PROPOSALS

This requirement to encourage the conservation of ancient woodland and veteran trees should extend to such trees in other countries. Doing otherwise would be failing to apply the principles on global sustainable development.

Also, tree plantations used for timber and biomass are often established on biodiverse grasslands, which results not only in massive biodiversity losses but also in high carbon releases because grasslands store significant amounts of carbon. Given that there is no way of preventing such direct, let alone indirect impacts in a new global biomass market, we believe that the precautionary principle must be applied, which means that large-scale biomass burning must not be supported/subsidised.

c) Revised draft National Policy Statement for Renewable Energy Infrastructure (EN-3)

2.5.1 THE COMBUSTION OF BIOMASS (FUELS OF RECENT BIOLOGICAL ORIGIN AS DESCRIBED IN EN-1 SECTION 3.5 AND PARAGRAPH 2.5.6 BELOW) FOR ELECTRICITY GENERATION IS LIKELY TO PLAY AN INCREASINGLY IMPORTANT ROLE IN MEETING THE UK'S RENEWABLE ENERGY TARGETS.

Our view is that the combustion of biomass for electricity generation should not be given an important role in supplying the UK's renewable energy and that large-scale biomass burning must not be subsidised. The adverse environmental impacts of large-scale biomass combustion are not sustainable.

Industrial scale biomass and biofuels should not be considered as renewable, nor a valid approach to mitigating climate change. The long-term, global impacts of their production fail to satisfy the principles of sustainable development.

Although biomass energy is categorised as 'renewable' by Government and EU policy, it is widely accepted that there is a limit to the amount of biomass that can safely be extracted from forests before it becomes unsustainable.

Furthermore, when trees are cut down and burned as biomass, the carbon contained in the wood is emitted as carbon dioxide. It will take new trees decades to re-absorb that carbon dioxide. Soils that have been depleted, compacted and eroded as a result of aggressive logging practices may not regenerate and re-sequester the emitted soil carbon for centuries, if ever. This means that burning trees will inevitably worsen climate change during the all-important period when emissions must be reduced drastically if we are to have any hope of avoiding the worst impacts of climate change.

The accounting methodology that treats biomass combustion emissions as zero is simply incompatible with physical reality. The accounting rules that fail to consider all the land-use change effects of biomass and biofuel production also ignore physical reality. The so-called sustainability criteria that ignore many of the social impacts of biofuels in producing countries are incompatible with global equity and justice.

.Black Carbon, which is emitted by combusting biomass, is considered by some scientists to be the second largest contributor to global warming after CO2. Yet the biomass sustainability criteria and the carbon saving threshold

proposed in ROO 2011 do not attempt to deal with the issue or apply any factor to allow for this deleterious impact of burning biomass.

Black Carbon has been implicated by a recent study as having up to 60% of the climate warming effect of CO2, by both creating "brown clouds" and darkening and thus increasing the heat absorption of snow and ice in polar regions.(Ramanathan, V. and G. Carmichael. 2008. Global and regional climate changes due to black carbon. Nature Geoscience 1: 221- 227.)

Joan Ruddock MP as Energy Minister in the last government stated in November 2009: "Specific estimates of black carbon emission have not been made in support of the development of the Renewable Energy Strategy" (Written Answer, 24.11.09, col. 81W). The EN-1, EN-3 and Renewable Obligation Order all perpetuate this very serious omission

The UN's Economic Commission for Europe found that, "Urgent action to decrease (black carbon) concentrations in the atmosphere would provide opportunities, not only for significant air pollution benefits (e.g. health and crop-yield benefits), but also for rapid climate benefits, by helping to slow global warming and avoid crossing critical temperature and environmental thresholds," (UNECE's Executive Body for the Convention on long-range transboundary air pollution, meeting in Geneva, 15-18 December 2008).

2.5.8 GOVERNMENT IS PROPOSING THE INTRODUCTION OF SUSTAINABILITY CRITERIA FOR BIOMASS WHICH PLANTS OF 1MW CAPACITY AND ABOVE MUST MEET IN ORDER FOR THE OPERATOR TO RECEIVE INCENTIVES UNDER THE RENEWABLES OBLIGATION (RO). THE RO IS THE MAIN SUPPORT MECHANISM FOR RENEWABLE ELECTRICITY IN THE UK; THE RO AND ITS ASSOCIATED ANNUAL REPORTING SCHEME IS MANAGED BY THE REGULATOR OFGEM. BY INTRODUCING SUSTAINABILITY CRITERIA UNDER THE RO RATHER THAN WITHIN THE PLANNING REGIME, THE SAME SET OF CONTROLS CAN BE APPLIED ACROSS THE UK AND TO BOTH NEW AND EXISTING POWER PLANTS. THESE PROPOSED SUSTAINABILITY CRITERIA INCLUDE A MINIMUM GREENHOUSE GAS (GHG) EMISSIONS SAVING RELATIVE TO FOSSIL FUEL AND GENERAL RESTRICTIONS ON THE USE OF MATERIALS FROM LAND IMPORTANT ON CARBON OR BIODIVERSITY GROUNDS, SUCH AS PRIMARY FOREST, HIGHLY BIODIVERSE GRASSLANDS OR PEATLANDS. DEVELOPERS SHOULD CONSIDER CAREFULLY HOW THEY PLAN TO SOURCE SUITABLE VOLUMES OF SUSTAINABLE BIOMASS FEEDSTOCKS AS THEY WILL NEED TO SATISFACTORILY DEMONSTRATE TO OFGEM, ON AN ANNUAL BASIS, THE SUSTAINABILITY OF THE BIOMASS FEEDSTOCKS THEY ARE USING IN ORDER TO RECEIVE INCENTIVES UNDER THE RO. UNLESS GOVERNMENT ABANDONS ITS PROPOSED POLICY IN THIS AREA, IT WOULD BE UNNECESSARY DUPLICATION FOR THE IPC TO CONSIDER FURTHER THE SOURCE OR SUSTAINABILITY OF THE PROPOSED BIOMASS FUEL TO BE USED WITHIN THE PROPOSED PLANT, AND THERE IS NO NEED FOR THEM TO DO SO.

The sustainability criteria proposed for biomass energy installations under the RO are deficient. The proposals for monitoring and certification are not credible.

Volumes

The RO does not consider the totality of the impacts of biomass fuel production and combustion at the scale envisaged by the UK Renewable Energy Strategy. Sustainability cannot be considered on a case by case basis, when each new development adds to demand for a limited resource.

The 2009 Renewable Energy Strategy proposed a large increase in biomass energy and acknowledged that UK indigenous sources would be unable to meet the suggested level of consumption. Although in the subsequent NREAP, UK Govt was unable to offer any indication of the levels of imports:

"Our research looked at the potential supply of imports to 2020 and beyond. The analysis showed that the amount of global woody biomass resource could potentially be very large. This is based on the assumption that they are grown predominantly on abandoned agricultural land, with demands for land for food and for first generation biofuels feedstocks being supplied first. Achieving this potential would rely on a swift increase in energy crop planting. We have not estimated what proportion of bioenergy output will be from domestic sources and what proportion will be from imports."

"The analysis considered that biomass, specifically woody biomass, will increasingly become a globally traded commodity. Imported biomass products are likely to continue to play a role in the UK's use of bioenergy. We estimate

that the global availability of biomass, taking into account sustainability constraints, is potentially some 55,00TWh per year by 2020."

The NREAP pointed to a swift increase in Energy Crop planting but current proposals for large biomass electricity generation are primarily based on imports of wood fuel from mature trees, not from Energy Crops. ConFor's assessment (see below) based on dialogue with the biomass generators found that there was actually little interest in using Short Rotation Coppice woodfuel:

"Some existing energy plants have indicated that they will take SRC material if it is available e.g. E.ON at Lockerbie, Wilton 10 and Drax. None of the existing or planned energy plants with generating capacity of 5MW or more included in this survey are expecting to depend on SRC crops as a base load fuel source over the next 15 years."

The poor economics of SRC compared with biomass from forests are confirmed in a statement from the Biomass Energy Centre website:

"In countries with large areas of existing forest and woodland there tends to be little interest in establishing dedicated energy crops. This is because although conventional forestry produces much lower levels of biomass output per hectare compared to many energy crops, the cost of producing each tonne of biomass in the forest are also significantly lower. Consequently there is little attraction in establishing energy crops on high quality agricultural land."

www.biomassenergycentre.org.uk/portal/page?_pageid=75,17301&_dad=portal&_schema=PORTAL

Since imported biomass from trees and residues is cheaper than home-grown SRC biomass, and is already available, generators will prefer that source of supply. Furthermore, experience so far suggests that domestic SRC has low yields, with a maximum of 8 tonnes per hectare, and several SRC crops pose a high invasive species risk. Four biomass power stations proposed by Forth Energy in Scotland alone would require 80% of all arable land in Scotland if domestic SRC were the only feedstock (rather than imported wood being the main one). Domestic SRC crops are therefore not a viable fuel source for supplying the considerable biomass electricity generating capacity proposed for the UK, stimulated by the Renewable Obligation support arrangements.

Even in the UK, more tree and 'energy crop' plantations will have disastrous impacts on biodiversity, potentially reduce food production (in Scotland, the Forestry Commission is acquiring good farmland in the Lowlands for this purpose) Plantations are likely to have seriously negative climate impacts by destroying native ecosystems, potentially including peatlands, moorlands, heathlands, and forests,

Large electricity generators need long-term fuel supply contracts in order to secure financing. Given the already tight supply situation in the UK, such contracts must inevitably look to imports from areas where there are established forests / plantations or where tree plantations grow fastest, which is in the tropics and subtropics. Proposals for possible future plantings of Energy Crops do not provide adequate security for financiers.

The response to the RES and RO 2009 banding has been a large number of proposals for medium-large biomass generation schemes of which a significant proportion is designed to use only bulk supplies of imported wood. Supplies are intended to come from as far as North & South America, and Africa.

Poyry/McKinsey has estimated that current proposals in the UK for biomass power will consume at least 35 million tonnes of wood per annum (tinyurl.com/39t7von). This level of consumption dwarfs the UK's production capacity and has led UK users of wood for construction and furniture etc to express concerns that their raw materials will be subject to significant supply and price pressures.

ConFor's April 2010 report - Wood Fibre Availability and Demand in Britain, 2007-2025, by John Clegg Consulting Ltd – has shown that there is no large resource of untapped woody biomass in the UK that could sustain any significant expansion of large biomass power generation. The Clegg report conservatively estimates 30 million tonnes additional demand for biomass. Total UK wood production is currently about 10 million tonnes, and less if oven-dry tonnes are considered, the unit used to estimate wood requirements for power stations.

The Forestry Commission's Woodfuel Strategy aims to develop an additional 2 million tonnes of biomass per year, though we have serious concerns over the impacts of greater deadwood, whole tree and even stump removal on biodiversity, forest carbon storage, forest soils and their ability to support trees in future, as well as about the likely expansion of tree plantations in the UK. Two million tonnes, however, does not even meet one third of biomass capacity planned by just one large generator - Drax.

It is evident that the vast bulk of planned biomass burning for electricity implied by the UK RES and UK NREAP will have to be supplied by imports. This has major implications for sustainability. At a global as well as a national level our current demand for wood is already highly unsustainable so any increase in the demand to provide bioenergy can never be sustainable.

Monitoring and Certification

The RO proposes a method for assuring biomass sustainability through self-reporting of some aspects of the fuel supply chain. Biofuelwatch believes that:

1. the sustainability criteria approach is flawed: Not only are the criteria incomplete, they fail to take account of important 'collateral' effects of biomass production and combustion, they do not address demand, they cannot address indirect impacts, certification is unenforceable and will be used to greenwash industrial tree plantations and industrial logging that are inherently unsustainable

2. self-reporting is an implausible way to monitor against the criteria given the high reliance on imports, and the rapid expansion of global trade in biomass. It is simply not credible to expect a biomass certification scheme to succeed when there are major problems with existing certification schemes such as the FSC and PEFC

3. in any case with the volumes of biomass being considered, the wider environmental, economic and social impacts are so significant that the proposals could never achieve 'sustainability'

It is a serious concern that the fast-growing demand for bioenergy in the UK and elsewhere in Europe is an unsustainable demand which, directly and indirectly, will lead to tree plantation expansion and more destructive logging, much of it in the global South.

Sustainability and greenhouse gas standards are a misguided approach which cannot and will not prevent serious negative impacts on the climate, on forests and grasslands, on forest-dependent peoples and other communities who will be affected by tree plantations and logging, and on UK communities who will be affected by more harmful air pollution.

Human rights abuses, including evictions and pesticide poisoning, slave-like working conditions, more hunger and malnutrition as people are displaced from their land, forests and pasture are turned into plantations – those realities of tree plantations will be entirely ignored under the proposed ROO 2011 sustainability criteria.

Given the legal position of DECC that global free trade obligations restrict the UK's capability to monitor and control overseas production of biomass, Biofuelwatch has serious reservations that the proposals for sustainability – even in the limited and inadequate form they are advanced in the ROO2011 consultation – can ever be achieved:

"The UK government has no way of imposing, or enforcing, a standard for 'sustainability' on forestry operations in other EU Member States or third countries, and to do so could involve an unlawful restraint on trade."

A stretched international supply chain is virtually impossible to monitor or control. The experience with timber extraction for construction, furniture and paper production bears this out. It has been necessary for the EU to legislate this year to ban imports of illegally harvested timber even though voluntary certification schemes run by the FSC and PEFC have been in operation for many years. It is implausible that illegally harvested timber will not find its way into the biomass supply chain, as demand is stimulated by renewable energy financial incentives.

We believe that the concept of illegal timber is not very meaningful anyway. In Indonesia for example, what distinguishes legal from illegal timber is often just whether companies have paid for a logging licence - impacts on forests and communities are ignored.

A significant proportion biomass imports are likely to come from countries where governance arrangements are weak. An example is given in the Environmental Investigation Agency report , 'UP FOR GRABS - Deforestation and Exploitation in Papua's Plantations Boom':

"Between 2000 and 2005 massive illegal logging and timber smuggling activities focusing on merbau timber in Papua led to 300,000 cubic metres of logs flowing unimpeded to China every month for the flooring sector. This was a billion dollar a year racket coordinated by international criminal syndicates facilitated by corrupt officials and security apparatus at the highest levels. In Indonesia commercial stocks of merbau are only found in Papua. Papuans were being robbed, typically receiving just US$ 10 for timber fetching over US$250 in China and sold as flooring for US$2,288 in the EU."

(http://www.eia-international.org/files/news566-1.pdf)

The 2010 "Report from the Commission to the Council and the European Parliament on sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling" commented in relation to certain countries outside the EU, that:

"At a global level, deforestation and forest degradation continue...Among the root causes for deforestation and forest degradation are weak governance structures for forest conservation and sustainable management of forest resources, in particular in developing countries. A large number of countries are party to intergovernmental initiatives to put in place criteria and indicators to monitor sustainable forest management, but they are not entirely based on common principles and criteria and do not have a mechanism for verifying compliance with the agreed principles."

Primary forests logged industrially for the first time - certified or otherwise - are destroyed and what remains is permanently ecologically damaged. Logged primary forests' carbon stores, biodiversity and ecosystems will never be the same. Selectively logged rainforests become fragmented, burn more and are prone to deforestation.

COMBINED HEAT AND POWER (CHP)

2.5.24 THE GOVERNMENT'S STRATEGY FOR CHP IS DESCRIBED IN SECTION 4.6 OF EN-1, WHICH SETS OUT THE REQUIREMENTS ON APPLICANTS EITHER TO INCLUDE CHP OR PRESENT EVIDENCE IN THE APPLICATION THAT THE POSSIBILITIES FOR CHP HAVE BEEN FULLY EXPLORED.

2.5.25 IF AN APPLICATION DOES NOT DEMONSTRATE THAT CHP HAS BEEN CONSIDERED, AS DESCRIBED IN EN-1, THE IPC SHOULD SEEK FURTHER INFORMATION FROM THE APPLICANT. THE IPC SHOULD NOT GIVE DEVELOPMENT CONSENT UNLESS IT IS SATISFIED THAT THE APPLICANT HAS PROVIDED APPROPRIATE EVIDENCE THAT CHP IS INCLUDED OR THAT THE OPPORTUNITIES FOR CHP HAVE BEEN FULLY EXPLORED. FOR NON-CHP STATIONS, THE IPC MAY ALSO REQUIRE THAT DEVELOPERS ENSURE THAT THEIR STATIONS ARE 'CHP READY' AND ARE CONFIGURED IN ORDER TO ALLOW HEAT SUPPLY AT A LATER DATE.

For major energy infrastructure developments, i.e. the ones that will consume the highest levels of fuel and will generate the highest levels of emissions, this requirement is too lax. Biomass and Bioliquid power stations would have to operate at the very highest levels of conversion efficiency to achieve a prudent use of natural resources and to minimise environmental impacts.

The EU Renewable Energy Directive requires as expected practice:

"Article 13 (6).

With respect to their building regulations and codes, Member States shall promote the use of renewable energy heating and cooling systems and equipment that achieve a significant reduction of energy consumption. Member States shall use energy or eco-labels or other appropriate certificates or standards developed at national or Community level, where these exist, as the basis for encouraging such systems and equipment.

In the case of biomass, Member States shall promote conversion technologies that achieve a conversion efficiency of at least 85 % for residential and commercial applications and at least 70 % for industrial applications."

(emphasis added)

Allowing the development of electricity-only (non-CHP) biomass and bioliquid power stations with conversion efficiencies below 50% is contrary to the RED.

Inefficient extraction of energy from biomass has two serious consequences. It causes more greenhouse gas emissions per unit of delivered energy and it consumes limited natural resources at a faster rate.

Notwithstanding these comments, Biofuelwatch is not advocating the large scale use of biomass for energy even if conversion efficiencies were significantly improved.

CARBON CAPTURE READINESS (CCR)

2.5.26 THE GOVERNMENT'S POLICY AND CRITERIA ON CCR FOR NEW COMBUSTION GENERATING STATIONS WITH A GENERATING CAPACITY AT OR OVER 300MW ARE SET OUT IN SECTION 4.7 OF EN-1. CCR IS THEREFORE RELEVANT TO PROPOSED BIOMASS PLANT AT OR OVER 300MW OF GENERATING CAPACITY. IF AN APPLICATION TO BUILD SUCH PLANT DOES NOT DEMONSTRATE THAT CCR HAS BEEN ASSESSED ACCORDING TO THESE REQUIREMENTS, THE IPC SHOULD SEEK FURTHER INFORMATION FROM THE APPLICANT. THE IPC SHOULD NOT GIVE DEVELOPMENT CONSENT UNLESS IT IS SATISFIED THAT THE PROPOSED DEVELOPMENT MEETS ALL THE CRITERIA AND IS, THEREFORE, CCR. IF IT CANNOT BE SATISFIED THAT THE PROPOSAL MEETS THE CRITERIA, CONSENT SHOULD BE REFUSED.

Because of their relatively low efficiency, biomass power stations emit more carbon dioxide per unit of electricity than coal-fired power stations. Assuming a conversion efficiency of 30% for solid biomass and 45% for coal, the combustion CO_2 emissions from a **200MW** biomass power station will be equivalent to those from a 300MW coal fired power station.

There are at least eight biomass power stations with capacity between 200 and 300 MW proposed in the UK before 2020. The total cumulative biomass electricity capacity proposed by 2020 is in the order of 4 GW. It is illogical to apply CCS only to large scale coal power stations when biomass cumulatively could be emitting as much as 6GW of modern coal generation or considerably more capacity from natural gas.

Notwithstanding this comment, we do not advocate that biomass power stations should be equipped with CCS, because CCS is an unproven energy intensive solution and while (possibly) reducing emissions, it would have the effect of decreasing efficiency and leading to more biomass consumption.

BIOMASS/WASTE IMPACTS – AIR QUALITY AND EMISSIONS

INTRODUCTION

2.5.35 GENERIC AIR EMISSIONS IMPACTS OTHER THAN CO_2 ARE COVERED IN SECTION 5.2 OF EN-1. IN ADDITION THERE ARE SPECIFIC CONSIDERATIONS WHICH APPLY TO BIOMASS/WASTE COMBUSTION PLANT AS SET OUT BELOW.

2.5.36 CO_2 EMISSIONS MAY BE A SIGNIFICANT ADVERSE IMPACT OF BIOMASS/WASTE COMBUSTION PLANT. ALTHOUGH AN ES ON AIR EMISSIONS WILL INCLUDE AN ASSESSMENT OF CO_2 EMISSIONS, THE POLICIES SET OUT IN SECTION 2.2 OF EN-1 WILL APPLY, INCLUDING THE EU ETS. THE IPC DOES NOT, THEREFORE NEED TO ASSESS INDIVIDUAL APPLICATIONS IN TERMS OF CARBON EMISSIONS AGAINST CARBON BUDGETS AND THIS SECTION DOES NOT ADDRESS CO_2 EMISSIONS OR ANY EMISSIONS PERFORMANCE STANDARD THAT MAY APPLY TO PLANT.

We agree that CO2 emissions will be a significant adverse impact of biomass/waste combustion plants. We disagree that they can be ignored in assessing individual applications. The EU ETS is flawed in its treatment of combustion emissions. Those emissions from biomass electricity generation (and from heat generation) will enter the atmosphere and contribute to global warming regardless of accounting treatment.