

Oil won't fuel our future: Greenpeace briefing on green transport fuels

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Recent months have brought extreme weather to Britain, flooding thousands of homes and paralysing our transport system.

Extreme weather is no longer simply a natural event. The world's top climate scientists have confirmed that the changes we are experiencing are caused by human activities, chiefly the burning of fossil fuels. Pollution from petrol and diesel is the fastest growing cause of climate change. Breaking the link between transport and oil is vital to address the serious threat of climate change.

In November 2000, Gordon Brown promised "major" tax reductions for the most promising green fuels in the March 2001 Budget, to reduce air pollution and greenhouse gas emissions. Greenpeace warned that by looking only at cutting tax rates on existing fuels, the Government risked overlooking the most promising long-term alternatives, in which significant public expenditure is also needed.

Ultra-low sulphur fuels and unleaded petrol are NOT green fuels because they are based on oil and therefore increase the risk of global climate change. Instead of cutting tax on fuels that wreck the climate, Gordon Brown should use this week's budget to boost genuine green fuels like biodiesel, hydrogen and green electricity.

The oil companies are holding back the growth in green fuels, because they don't sell them on their forecourts. They make billions at the expense of the climate, and should plough this money back into expanding renewable energy and real green fuels, to mitigate climate change.

Greenpeace's recommendations:

- The most important task for the Government is to set in place a strategy for encouraging the use of **hydrogen** as a transport fuel. It should begin by funding a number of demonstration projects to run hydrogen buses in British cities.
- Greenpeace supports the promotion of **battery electric vehicles**, because they can help reduce emissions in the short term and can be part of a long-term fossil-free transport system. This promotion will have to be through grants to cover the higher capital costs of vehicles and the costs of installing recharging points.
- **Biodiesel** and **natural gas** have a transitional role to play. Neither is pollution-free, but both have significant advantages over petrol and diesel. Greenpeace supports cuts in duty on biodiesel and road fuel gases, and increases in the Powershift programme to encourage the purchase of gas-powered vehicles.

The transition fuels

Biodiesel

Bio-diesel is a plant-based fuel that can be used in any diesel engine without modification. It is produced either directly from crops such as oilseed rape, sunflower and soya, or from recycled cooking oil.

Bio-diesel causes only half the damage to the climate of regular diesel. It is also non-toxic and biodegradable, and the only alternative fuel to pass the strict standards of the US Clean Air Act.

Biodiesel is widely used in the US, Germany and France. In most European countries bio-diesel is zero-rated for tax purposes; in Germany and France it costs about 45p a litre and is found in thousands of filling stations. In the UK bio-diesel is taxed at the same rate as petro-diesel. No UK filling stations supply the fuel, despite the fact that Britain is a major producer of oilseed rape. In fact, much of the UK rape crop is exported to make bio-diesel in France.

The overall environmental impact of biodiesel production depends heavily on the farming methods used. Greenpeace is strongly opposed to any use of genetically modified oilseed rape. Support for biodiesel must go hand in hand with increased effort to discourage intensive farming, notably through the introduction of a pesticides tax.

Bio-diesel is not the long-term solution: it is not zero emission and would need more agricultural land than is available to meet existing fuel needs. However it has an important transitional role to play in breaking our addiction to oil.

Road fuel gases

Natural gas is significantly less polluting than petrol or diesel, and existing vehicles can relatively easily be converted to run on it. It is widely used as transport fuel in countries including Italy, Argentina and Japan.

Like biodiesel, gas is not part of the long term solution: it is a fossil fuel and is not zero emission. It does, however, have a role to play in cutting pollution in the short to medium term. The Government should cut duty on road fuel gases, and expand its grants scheme to fund purchase and conversion of vehicles for road fuel gases.

The long term solutions

Battery electric vehicles

Battery powered electric vehicles have zero emissions at the point of use, and are also very quiet, making them attractive for use in urban areas. Life cycle emissions from electric vehicles depend on the source of electricity. Life cycle emissions of carbon dioxide, the main greenhouse gas, are higher than for conventional vehicles if the electricity source is coal; lower if it is gas; and close to zero if the electricity comes from renewable sources such as wind and wave power. A massive increase in renewable energy is needed.

The Government should make funds available for the use of electric buses and other public service vehicles in the areas of worst air quality. Recycling of batteries from electric vehicles should be made mandatory. Batteries have to be replaced at regular intervals, and contain toxins including lead and sulphuric acid. Currently nine out of ten are recycled, but the remaining 10% cause significant hazards.

Hydrogen

Hydrogen can replace oil as the dominant transport fuel across the globe, and in doing so prevent catastrophic levels of climate change. It is likely that one day all vehicles will run on hydrogen – but at present, it is still not available to drivers. Hydrogen is used most efficiently in fuel cells, devices which combine hydrogen with oxygen to produce electricity and water vapour. It can be also used in internal combustion engines, producing low levels of air pollution.

As with electric vehicles, the overall environmental impact depends how the hydrogen is produced. Truly zero emission transport is possible only if the electricity needed to derive the hydrogen from water comes from renewable sources such as wind or wave power. In the short term the hydrogen can be “stripped” out of natural gas, producing very low emissions of carbon dioxide.

Fuel cell cars are being developed by all the major car companies. The first models are expected to come onto the market in 2003 – but take-up will be low unless a refuelling infrastructure is quickly established.

Hydrogen fuel cell buses are already in use in parts of Europe and North America. Buses are likely to be the first major area of application for the new technology as they rely on a limited number of refuelling points.

Greenpeace is calling on the Government to fund demonstration projects for hydrogen fuel cell buses in at least three cities currently suffering from

poor air quality. An investment of £50 million per year could have a significant impact on the development of a hydrogen infrastructure.

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