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CLIMATE CHANGE

BUENOS AIRES SEES AGREEMENTS AND DIVISIONS.

In November 1998 nations convened in Buenos Aires to discuss further the problem of climate change and the implementation of the Kyoto Protocol on reducing the emissions of greenhouse gases. At this fourth Conference of Parties (COP4) it was agreed that the Kyoto Protocol's mechanisms for greenhouse gas emissions trading should be finalised by the year 2000. [Emissions trading has been highlighted as a possible way for richer countries to 'buy the right' to release greenhouse gases from less developed countries.] The Buenos Aires 'Plan of Action', as it has been named, also resulted in an agreement over the deadline for the development of rules ensuring compliance with the Kyoto Protocol. Completion of these rules is expected to take place at the sixth conference of the parties to the climate convention (COP6) in October 2000.

Industrialised nations, especially the US, had previously struggled to agree with developing nations over the action plan. Developing nations were attempting to slow the introduction of emissions trading mechanisms until such time as developed countries improve reductions in their own emissions. An easing of the disagreements

arose when the Argentinean president determined that the nation hosting talks would voluntarily commit to an emissions abatement target. This is something that many other developing countries are reluctant to consider, but President Carlos Saul Menem highlighted the fact that his country's economic growth has outweighed its increases in greenhouse gas emissions.

Environmental groups were also divided in opinion over the outcome of the talks. Some saw them as stalling for time, whereas others were more positive, for example, the Worldwide Fund for Nature, who said that the talks represented "another small turn on the rudder of the climate change supertanker."

Source: Global Environmental Change Report, Vol.X, No.21, 17th November 1998.

PREDICTED INCREASE IN CO₂ EMISSIONS BY 2020

According to the International Energy Agency, if we continue in a "business as usual" manner, then we could see a 70% increase in CO₂ emission between 1995 and 2020. This increase can be associated with a 65% increase in energy demand during this time.

These figures have been predicted using a new world energy model. The model

projects that 95% of additional global environment demand between now and 2020 will be met by fossil fuels. This will mean that sometime between 2010 and 2020 there will be a peak in world oil production from conventional sources. Hence, we may see a rise in oil price and a move from conventional to unconventional sources. It is expected that there will be an adequate supply of natural gas to meet energy demand until 2020. Unless a more vigorous stance is adopted regarding climate change and the implementation of the Kyoto Protocol, renewable energy will still be responsible for less than 1% of world electricity generation in 2020.

Source: Global Environmental Change Report. 27th November 1998

NORTH WEST ENGLAND CLIMATE CHANGE EFFECTS

A report published in December by the North West Climate Group outlines the impact that climate change will have on the North West region of England. The area is the first in Europe to assess the impacts that climate change may have on the environment, and also on economic and business sectors. The North West has a population of 7.2 million, and a gross domestic product of £60 billion, and hence is an important region in the EU in terms of demographics and economics.

Scientific experts now largely agree that man-made global warming is occurring. The report describes how the North West hopes to be a pioneer in the planning of a sustainable future, taking into account the actuality of climate change. By the mid-21st Century it is thought that temperatures in the region will have increased by between 0.8°C and 2°C, and winter rainfall is predicted to increase by between 6% and 14%. Summer rainfall, however, may fall by up to 10%, and sea levels will have

risen by anything from 12 centimetres (cm) to 67 cm.

A review of the recent history of the North West climate, included in the report, indicates how temperatures have risen in the region. In addition, rainfall has become much more variable, both in frequency and intensity. The report highlights how climate change will effect the water industry in particular, as well as the chemical and food industries, electricity distribution, construction and fisheries.

Source: The North West Climate Change Impacts Study, December 1998.

AIR QUALITY

NEW ENVIRONMENT BILL

At the end of November, the Pollution Prevention and Control Bill was introduced by Lord Whitty in the House of Lords. This was mainly to fulfil the UK's implementation of the EC Directive on integrated pollution prevention and control (IPPC).

The new wide-ranging legislation encompasses, for the first time, other environmental factors causing pollution from industry, including noise and energy use. Potentially polluting activities to air, water and land will be prevented or reduced, leading to improvements in the protection of the environment as a whole. A consistent framework will be provided to allow for the retention of any aspects of the Local Air Pollution Control (LAPC) regime not covered by the Directive.

The Environmental Protection Act 1990, Part 1, which established integrated pollution control (IPC), as well as LAPC, is the main existing legislation to be repealed. IPPC is to replace IPC, while LAPC will remain essentially unchanged for the present. The Secretary of State,

under the 1990 Act, is able to limit total releases of any substances, or part of substances, within the UK. Industry is also allocated quotas for the release of these substances, facilitating the reduction of gas emissions from power stations and large combustion plants. The new bill will enable similar schemes to be implemented, although the term “emissions” will now include releases to water and land, as well as air. Trading quotas will be enabled under the new bill, via the Secretary of State, allowing industries to arrange a trading scheme for gas emissions. However, it is thought that the main reasoning behind this scheme is to establish a trading system for CO₂ in the future.

Source: ENDS Report 286, November 1998, DETR 1016, 30 November 1998

US DIESEL MAKERS CHEAT ON EMISSION CONTROLS

Seven US manufacturers of heavy duty diesel engines have been made to pay penalties that total US\$83.4 million. Caterpillar, Cummins, Detroit Diesel, Mack Trucks, Renault, Navistar and Volvo Trucks installed deceit devices that enabled vehicles to meet emission standards during testing. Once on the highways the devices disable and emissions are increased by up to three times. 1.3 million engines have been sold in total since 1988, meaning 1.3 million tonnes of excess nitrogen oxides (NO_x) have been emitted in this time, or the equivalent of NO_x emissions released by 65 million cars.

Source: ENDS Report, November 1998.

PARTICULATES STUDY HIGHLIGHTS LINK WITH PREMATURE DEATH

A six-year study carried out in Finland at the Helsinki Centre for the Environment has established a link between air pollution and early deaths. The study shows that

PM₁₀ concentrations in particular, and even relatively low levels such as those found in Finland, are responsible for premature deaths from all causes and cardiovascular causes. Pollution caused by ozone and SO₂ was also found to have a positive correlation with cardiovascular deaths of under 65 year-olds.

Pollution in Helsinki is unusual as there is comparatively little traffic or industrial derived particulates, but the problem arises from gritting sand and road dust released during thaws. The increase in deaths from respiratory diseases occurs during the April thaw, when there is a corresponding peak in particulates.

Source: Air Quality Management, December 1998

OZONE DEPLETION

PROGRESS IN HCFC REPLACEMENT

New markets in refrigeration and air conditioning are opening in response to proposed controls on HCFC refrigerants, and HFC producers are vying with producers of the “natural” refrigerants, ammonia and hydrocarbons. The ban on HCFCs is proposed to take place in 2008, but sales of the ozone depleting chemical are still high.

The EC member states are to phase out the chemicals by 2015, but tighter regulations have been proposed which involve banning their use in most equipment from 2001, as well as replacing virgin HCFCs in existing equipment by 2008. In addition, amounts of HCFCs placed on the market will be limited in order to restrict supplies.

HCFC equipment is, however, still being installed in industrial systems despite the EC proposals meaning that they will have to be replaced by alternative refrigerants or recycled HCFCs within nine years. New domestic refrigerators and mobile air

conditioners no longer use HCFCs, and transport refrigeration and supermarket systems use much smaller amounts than previously.

Several major manufacturers are planning to market HFC systems for use in small air conditioning units, but the high global warming potential of these chemicals has caused doubts to be expressed over their long-term acceptance as a HCFC replacement.

Source: ENDS Report 286, November 1998.

SUSTAINABLE DEVELOPMENT

A POTENTIAL SUSTAINABILITY INDICATOR

Recent Government publications have stressed the need to reduce car usage. Yet much of the increase in vehicle mileage in recent decades is attributable to both the trends of growing car availability and greater centralisation of services, such as out-of-town foodstores and hospitals, leading to increasing car dependency. Land use planning will need to manage this fundamental issue better if road traffic is not to grow at 1.6% per annum to 2016 as currently predicted.

Measuring pedestrian accessibility in urban areas could be one way to judge the effectiveness of planning policies aimed at both reducing car dependency and excessive carbon dioxide emissions. A means of gauging such accessibility has been demonstrated in principle by a Masters student, at Manchester Metropolitan University, as part of a recently completed dissertation.

The study utilises surface population modelling, proposing 'households' as a key dataset. Such datasets can be generated easily using postcode data. An assessment was then made of the

proportion of 'households' with 'ready pedestrian access' to given amenities for Bolton Metropolitan Borough, considering people's willingness to walk and a minimum defined standard of amenity.

Subject to a standardised methodology, the Study raises the prospect of measuring pedestrian accessibility for key amenities locally but with the potential for collating such data for large parts of urban areas, thereby offering a significant nationwide sustainability indicator. Evidence from the research suggests this could be achieved economically.

Source: An Application of Geographical Information Systems to Urban Planning and Sustainability Appraisal, by R.A. Shirres (c/o ARIC).

ENERGY

PLAN FOR WIND POWER TO GENERATE 10% OF THE GLOBAL ELECTRICITY SUPPLY

A "Global Action Plan" for wind power has been proposed by the Danish Forum for Energy group. The plan aims to use wind power to generate 10% of the global electricity supply by 2017. The plan was announced on the 6th November, at a press conference in Buenos Aires.

The plan announced that there would be an increase in the use of wind turbines in developing countries that have an adequate resource. There will also be a transfer of wind power technology to developing countries and international funding, to promote its wide scale usage.

Denmark and Germany are current leaders in the use of wind power and they will be encouraged to play a large part in the plan, by supporting pilot actions.

Source: Sustainable Energy News. November 1998. No. 23.