

The Link between Environmental Policy and Bicycle Planning

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Summary

Climate Network Europe (CNE) was created to meet the challenge of climate change. The overall aim of the network is to promote government and individual action to limit human induced climate change to ecological sustainable levels. The last years the effects of climate change where shown to us very clearly. We can't deny that the effects of the increase in CO₂ are there. The future threats look even worse. The surplus carbon dioxide that is already in the atmosphere will continue to impose its effects for one to two centuries, while still more greenhouse gasses are added by us. In December 1997 the Conference of the Parties adopted the Kyoto Protocol, which commits developed countries to reduce their emissions of greenhouse gases by at least 5% by the period 2008-2012. Without any additional policy measures, EU total greenhouse gas emissions are expected to increase by some 6% in 2010 from 1990 levels.

Transport is highly reliant on the use of non-renewable fossil fuels and is therefore a major contributor to greenhouse. The transport sector is in the "business as usual" scenario expected to increase its CO₂ emissions by 39% by 2010 from the 1990 levels. This may jeopardise the EU's achievement of its target of an 8% reduction in greenhouse gas emissions.

Different policies to solve the transport problem are proposed, but till now they did not yet managed to break the increase in road transport. The promotion of bicycles as a means of transport has high potentials.

1. What is Climate Network Europe?

Climate Network Europe (CNE) was created to meet the challenge of climate change. It is one of several focal points world-wide of Climate Action Network. Other CAN focal points can be found in Africa, South Asia, South East Asia, Latin America, the USA, Central and Eastern Europe. CAN members form a true international NGO consortium with 285 members. Climate Network Europe is a network of 75 NGO's in the European Union, Switzerland, Norway, Malta and Iceland. CAN Membership is open to all environmental, development and other citizen-based organisations that subscribe to the goals of CAN and are active on climate-related issues. This flexible structure provides a NGO forum to get together and share ideas, concerns and information on climate change.

The overall aim of the network is to promote government and individual action to limit human induced climate change to ecological sustainable levels (scientific research shows that we will need a reduction of at least 50% to stabilise our greenhouse gasses!!).

2. Why is there a need for environmental policy to reduce CO₂?

The last years the effects of climate change where shown to us very clearly. We cannot deny that the effects of the increase in CO₂ are there:

- Since the end of the last century temperatures have drifted up by 0.6 °C.

- The last decade was the hottest on record
- More and more storms are raging around the world (like the one we had in Europe last year).
- Asian monsoons are becoming less predictable.
- We witnessed unusually extreme droughts and floods in China, East Africa, the Middle East, Europe, North America, New Zealand and the Indian subcontinent.
- Coral reefs are threatened world-wide by bleaching due to increasing sea surface temperatures, because of this, coastlines and nurture places for fisheries are in danger.

The future threats look even worse. The surplus carbon dioxide that is already in the atmosphere will continue to impose its effects for one to two centuries, while still more greenhouse gasses are added by us.

- Sea levels are already set to rise by 50 centimetres by 2100, and if the Western Antarctic ice mass slips into the sea, they could go up six meters.
- In some regions, especially in the tropics and subtropics, food security may suffer significant, adverse consequences. Even though the effect of climate change on global food production are predicted to be small, grain yields are likely to decline dangerously in the South over the next 50 years due to climate-induced soil degradation, floods, droughts and increased pest infestations
- Increases in temperature and changes in precipitation and sea level, as well as the possible increase in frequency and intensity of severe climate events will effect human health both directly and indirectly. In indirect effect could be that disease-carrying insects such as malaria mosquitoes
- will spread into new regions.
- For the natural ecosystems there will be a shift in the composition and geographic distribution as individual species respond to changes in climate. Most likely there will be reductions in biological diversity and a reduction of the goods and services that ecosystems provide society.
- Some countries will face threats to sustainable development from losses of human habitat due to sea level rise, reductions in water quality and quantity, disruption of extreme events, and an increase in human diseases like malaria.
- Millions of "climate refugees" may soon be on the move.

The precautionary principle invites us to take rather more serious view than the 'pure' scientific assessment of the probabilities might suggest. With this in mind you wonder why policies are not taken immediately.

3. Kyoto Protocol and Europe

In the 1980s scientific evidence linking greenhouse gas emissions from human activities with the risk of global climate change started to arouse public concern. In 1992 the United Nations Framework Convention on Climate Change was adopted and entered into force on 21 March 1994. With this convention parties are obliged to reduce their greenhouse gas emissions. Without a target this was very difficult to control and in December 1997 the Conference of the Parties (COP), which is the supreme body of the Convention, adopted the Kyoto Protocol, which commits developed countries to reduce their emissions of greenhouse gasses (including CO₂, CH₄, N₂O, HFC, PFC and SF₆) by at least 5% by the period 2008-2012. The outstanding issues of the protocol (all the details on how to show process, how to reduce greenhouse gasses...) should be finalised by the end of this year, when COP6 will be held in Den Haag. After that Parties should be able to ratify the Protocol and show demonstrable progress by 2005.

The European Union and its member states committed themselves to reduce greenhouse gas emissions by 8% by 2008-12 compared to 1990 levels and to be on track for further reductions after 2012. Instead of all the Member States taken up the same reduction target, they reached an agreement on how to share the burden of fulfilling the community's Kyoto commitment. This means for instance that the Netherlands has to reduce its emissions by 6%, Germany by 21%, Greece can have a growth of 25%...

Without any additional policy measures, "business as usual" (BAU), EU total greenhouse gas emissions are expected to increase by some 6% in 2010 from 1990 levels. So this means that the community has to make efforts to reduce its greenhouse gasses by 14%.

4. Who is responsible for this emission trend?

The dominant human activity or driving force for climate change is fossil fuel combustion (due to its carbon dioxide emissions). Other activities that contribute to greenhouse gas emissions are agriculture, land-use changes (including deforestation), waste disposal to landfills and industrial processes such as cement production, refrigeration, foam blowing and solvent use. Gasses and particles emitted from aircrafts also contribute to climate change.

The energy sector (mainly power and heat generation) is the main contributor to the EU CO₂ emissions (32%), followed by transport (22%) and industry (21%). Transport is the fastest growing sector, with emission forecast to increase 39% above 1990 level by 2010. In contrast industrial carbon dioxide emissions are forecast to decrease by 15% between 1990 and 2010. Emissions from the domestic/tertiary sector are projected to remain stable due to changes in market for electrical and heating equipment. Emissions in the power/heat production are projected to remain at 1990 levels till 2010, when some increase is expected due to infrastructure changes, such as retirement of nuclear power plants at the end of their lifetime.

5. Transport and its impact on greenhouse gasses

To reduce the impact of transport on the environment is one of the main challenges for policy makers in the coming years. Transport is responsible for many environmental problems related to noise and air pollution. As a result of traffic growth, the EU carbon dioxide emissions have increased by 40% just since 1985.

Passenger and freight transport have more than doubled over the past 25 years with the strongest growth being in air and road transport. During recent decades there has been a dramatic shift towards road transport: the car increased its share of passenger transport from 65% to 74% between 1970 and 1997 and trucks now account for 45% of total freight transport compared with 30% in 1970. Between 1970 and 1997, passenger and freight transport in the EU increased annual by an average of 2,8% and 2,6% respectively, while GDP growth over the same period was 2,5%. For road and air-passenger travel particularly, the boost in demand can be attributed to higher incomes, a fall in transport prices in real terms and changes in patterns (for example as a result of urban sprawl).

Transport is highly reliant on the use of non-renewable fossil fuels and is therefore a major contributor to greenhouse emissions. CO₂ emissions from transport are directly proportional to gasoline and diesel fuel consumption. During a period when other sectors of energy consumption have to rely to a greater degree on other fuels (like wind and solar energy), oil consumption

by transport has been rising continuously. In OECD countries transport accounts for more than 60% of total oil consumption and about 20% of total fossil fuel use. Road transport also generates other greenhouse gases such as the CFC's (which are also ozone depleting) used in automobile air conditioning systems...

In urban areas, levels of motor vehicles related pollutants frequently exceed internationally agreed air quality guidelines. High levels of air pollution, apart from generally lowering the quality of life in the cities are also responsible for a large number of adverse health effects, ranging from respiratory problems to carcinogenesis.

The energy and carbon dioxide efficiency (i.e. energy use per passenger and per freight per unit) has shown little or no improvement since the early 1970s. The increasing use of heavier and more powerful vehicles - together with decreasing occupancy rates and load factors has outweighed increases in vehicle energy efficiency due to technological advances. As a result, growing transport volumes led to about a 14% increase in energy consumption and a 12% increase in carbon dioxide emissions between 1990 and 1996. These trends show that to reduce the sector's energy consumption and emissions, policies should now focus on demand management measures to curb growing transport volumes together with technical efficiency improvements.

6. Transport related policies to solve the problem

There is a fundamental connection between the whole global warming debate and how to create better living environments, sustainable transport policies and a society which conserves finite resources and emphasises social and community objectives more than it does the pursuit of speed, mobility and privatised consumption.

Possibility for reducing CO₂ emissions is divided into technical "fix" solutions and those solutions, which tackle the problem more fundamentally. Technical solutions have very little to offer when the traffic volumes are doubled in the following years! A few examples of both policies are listed below:

- Fuel economy (tax)
- Alternative fuels
- Reducing engine size and power
- Electric vehicles
- Transferring journeys to a mode which produces less CO₂
- Land use and other changes to shorten journey length
- Speed limitation
- Traffic management and traffic calming
- 'Civilising' the lorry and transferring freight from road to combined transport
- Lowering growth in vehicle miles traveled
- Fuel cell technology

Pricing is considered as one of the key policies for promoting an environmental friendly balance between different forms of transport. However current prices tend to favor private road transport over public transport. For example, rail and bus fares have increased more rapidly than gross domestic product over the past decade while the price of driving a private car has largely remained stable. For the moment the current transport revenues cover only partly the sectors significant external costs caused by road and rail noise, local air pollution, climate change and accidents.

Better coordination of transport and spatial planning (urban and regional) and the use of telecommunication would also help to increase accessibility while at the same time reducing the need for more mobility. (all demand side measures).

7. Bicycle as transport

If there is one mean of transport that has no adverse effect on the environment then it is the bicycle. Cycling does not lead to noise and congestion nor does it contribute to air pollution. The bicycle makes effective use of human power and natural resources, and the physical activity of cycling is healthful. The use of the bicycle in the EU has stabilized over recent decades at about 185 km/person /year. In Denmark and the Netherlands these numbers are significant higher (about 900 and 850 km respectively).

Over half of all car journeys are less than 6km in length and 10% are for local trips covering distances less than 1000 meters. Especially short car journeys are bad for the environment. The promotion of bicycles as a means of transport has high potentials but poor safety on the road is often mentioned as key obstacle to cycling.

In the UK, an action for the promotion of cycling has been undertaken by several major cycling charities, who have teamed up to provide employers with information on how to draw up Green Commuter plans for their employees. Advice is given on access routes, safe parking, raising awareness among employees, providing changing facilities and offering incentives to use bicycles and public transport for business trips.

Future co-operation between Climate Action Network and Cyclist federations would be an opportunity to raise public awareness around climate change and to show people that by cycling they can personally have influence on our environment.

8. References

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