

This article was downloaded by: [Renoldner, Klaus]

On: 28 June 2009

Access details: Access Details: [subscription number 912743203]

Publisher Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Medicine, Conflict and Survival

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title-content=t713673482>

A doctor's view on CO₂: a physician's experience to reduce greenhouse gas emissions

Klaus Renoldner ^a

^a IPPNW Austria, Wien, Austria

Online Publication Date: 01 April 2009

To cite this Article Renoldner, Klaus(2009)'A doctor's view on CO₂: a physician's experience to reduce greenhouse gas emissions',*Medicine, Conflict and Survival*,25:2,166 — 169

To link to this Article: DOI: 10.1080/13623690902943420

URL: <http://dx.doi.org/10.1080/13623690902943420>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

PERSONAL PAPER

A doctor's view on CO₂: a physician's experience to reduce greenhouse gas emissions

Klaus Renoldner*

IPPNW Austria, Wien, Austria

(Accepted 19 January 2009)

This article is based on my personal experience as a general practitioner and family physician in a rural community in Austria situated 100 km from the capital Vienna. Until 1996, I used to drive 30,000 km by car every year to do my business and to follow some private and non-governmental organizations' interests. This included visiting patients daily in their homes; driving to vocational training courses; visiting friends and relatives; travelling once a week to Vienna for training; driving to International Physicians for Prevention of Nuclear War (IPPNW) and United Nations meetings; going on some weekend excursions; and taking holidays with my wife and our three children twice a year.

Beginning to realize the consequences of greenhouse gas emissions and climate change, I felt it important that I change my own behaviour and look at my own use of fossil fuels. I therefore tried to reduce my car use. I resolved to cover my travel as much as possible by bicycle. This I had to do gradually, first only for non-urgent visits and for private trips on weekends and holidays. Later, I got used to cycling the 19 km to the nearest railway station when I had to travel to Vienna or elsewhere and went on by train. Over time I learned to organize my life in a way that enables me to do more than 90% of my still 30,000 yearly km without using my car (which meanwhile became a hybrid car!). I do about 14,000 km by train and 14,000 km by bicycle, and less than 2000 km by car (mainly emergency visits to patients).

Cycling 14,000 km per year means an average of 2 hours cycling per day. This is very healthy. I used to call this integrated cycling, to express that it was part of my daily life and work, integrated recreation and at the same time professionally and ecologically effective. It was the opposite, for instance, of after-work mountain biking or jogging, which often goes along

*Email: reno@wvnet.at

with much more car use. Of course, this cycling lifestyle took additional time, an extra 90 min each day compared with using a car, but the benefit is great with sport and recreation integrated into my work and I have no need to go to a fitness centre after coming home from work in the evenings.

Time spent in trains should not be considered as lost either. I generally use it for reading and for relaxing. I also found that in the case of longer journeys the combination of train and bicycle is best. It is very helpful and useful to arrive at the railway station without needing a taxi and I am able to enjoy cycling for a while after some hours of sitting in the train, to reach the destination. Almost every place in Austria can be reached in this way within one day. There is one problem – some express trains do not transport bicycles.

This change from primarily using the car to climate-friendly transport was not possible in a day. It needed flexibility and creativity, in fact a kind of new logic for daily life. Some things have to go slower, some things are not possible in the way they were. For instance, evening meetings in places where there is no late evening train to come back on require a new approach and new patterns of lifestyle. So for instance, when I have a conference in a place further away I insist on staying there over night and catch the early train for working people and continue by bicycle back to my place.

The ecological benefit of these changes in lifestyle can be estimated by comparing carbon dioxide emissions of the car, the train and the bicycle. According to regional studies using data from the Global Emission Model for Integrated Systems (GEMIS)¹, the gross greenhouse gas emissions of the different means of traffic used in the region are shown in Table 1.

This means that I reduced my emissions arising from my 30,000 km travel from about seven and a half tons to less than one ton of CO₂-equivalents. I called this the first step of CO₂-relief.

At the same time, through travelling in a less expensive way I had yearly savings of more than 6000 Euros, because train and bicycle are much cheaper than the use of a car. These savings I used to invest in increasing the production of clean electricity from wind, solar and small water power sources. My wife also had savings through similar behaviour and we improved the ecological condition of our own house by installing solar water heating, biomass central heating, insulation of walls and photovoltaics to produce electricity.

Table 1. Average carbon dioxide emissions of car, train and bicycle in grams of CO₂-equivalents per person and km.

Car (one person)	248 g
Train (mainly driven by hydropower electricity)	20 g
Bicycle	1 g

Over the 10 years since changing my lifestyle I have invested in shares in clean electricity which now fund the production of almost 200 MWh of clean electric current, enough electricity for more than 50 average households. According to Austrian databases, production of eco-current creates about 25–40 kg of CO₂/MWh, whereas fossil fuels emit about 440 kg of CO₂/per MWh of electricity produced. So the yearly saving of CO₂ in the energy sector that I have enabled is about 200 × 400 kg of CO₂. This is 80 tons! I called this the second step of CO₂-relief.

This second step of CO₂ relief was small in the beginning but is growing each year through additional savings and this continuously growing factor I have called the third step of relief. Even if I stopped cycling, my eco-power plants would continue producing electric current. Thus, with the change in lifestyle, all three of the largest sectors of CO₂ emissions, traffic, industry and energy production (together more than 72% of all CO₂ emissions in Austria) are being substantially reduced.

I just dare to imagine every car driver in Europe reducing his or her annual mileage by about 4500 km, which is about one-sixth of my reduction and one-third of the average per-year mileage of a car-owner in Austria. No matter if he or she covers these miles by train or bicycle, they would save a reasonable amount of money, at least 1000 Euros. Investing these savings in clean energy production could reduce CO₂ emissions in Europe at a growing rate leading to almost all energy production becoming clean. Part of the money of course could also usefully be invested in funds for ecological housing.

Conclusion

I published my experiences first in the Austrian edition of *Medical Tribune*, later in other media. I know there are many proposals for reducing CO₂ emissions and I know the manifold complaints about how expensive climate change is, but it will become more expensive the longer we wait, if we accept the findings of Nicholas Stern in his report to the British government². This article does not contain any economist's computer-based calculations but it is my own practical experience over the years demonstrating that the bicycle can play a key role in liberating money for clean investment and being healthy at the same time.

Notes on contributor

Klaus Renoldner is a family physician at Neupoella in Lower Austria and has been President of IPPNW Austria since 1996. He has worked on ethnomedicine and in primary health care in several countries in Africa and Latin America including the Democratic Republic of Congo (former Zaire) and Paraguay, and at present he is (for the second time) chairperson of the NGO Committee on Peace at the UN in Vienna. He has organized conferences, visited schools and published many articles on sustainability, climate change and climate-friendly life-style in Austria and Germany.

References

1. Global Emission Model for Integrated Systems (GEMIS). Available from: www.oeko.de/service/gemis/en/index.htm
2. Stern N. Stern review on the economics of climate change 2006 Oct 30. HM Treasury Cabinet Office. Cambridge: Cambridge University Press; 2007 [cited 2009 Jan 26]. Available from: www.hm-treasury.gov.uk/sternreview_index.htm