

**Contact addresses:**

Pacific Ecologist/PIRM

PO Box 12125, Wellington, Aotearoa New Zealand

Editorial office: +64 4 939 4553

pirmeditor@paradise.net.nz

pirmoffice@paradise.net.nz

www.pirm.org.nz www.pacificecologist.org

**The Ecologist**

www.theecologist.org editorial@theecologist.org

Editor	Pat Thomas
Founding editor	Edward Goldsmith
Director	Zac Goldsmith
Art Director	Sam Franks
Green Pages editor	Matilda Lee
Green Pages assistant	Laura Sevier
Health editor	Pat Thomas
Science editor	Peter Bunyard
Reporters	Mark Anslow, Anna daCosta
Researchers	Ed Hammer, Alex Baillie, Maggie King, Merlin Sheldrake, Rebecca Bold, Rosalie Portman
Sub-editors	Maggie Allen, Dominic Burns

**Pacific Ecologist Advisory Board****Jon Barnett** Development Studies, University of Melbourne, Australia**Sharon Beder** professor, Science, Society & Technology Programme, University of Wollongong, NSW, Australia**Sunitha Bisan** president, Management Institute for Social Change (MINSOC), Malaysia**Ron Crocombe** founding Professor of Pacific Studies, University of the South Pacific**'Atu Emberson-Bain** editor, *Sustainable Development or Malignant Growth?* Suva, Fiji**Moana Jackson Te Hau Tikanga** the Maori Law Commission, Wellington, Aotearoa/New Zealand**Penehuro Fatu Lefale** Manager, International Cooperation & Development Unit, National Weather Service Dept, Meteorological Service, New Zealand**Constant C Mews** director, Centre for Studies on Religion & Theology, Monash University, Victoria, Australia**Helena Norberg-Hodge**, International Society for Ecology & Culture**John Peet** University of Canterbury, Aotearoa New Zealand**Wendy Pond** Manu Waiata Restoration & Protection Society for springs and streams, Orewa, Aotearoa, New Zealand**David Robie** Associate professor & director, Pacific Media Centre, Auckland University of Technology, Aotearoa/New Zealand**Dennis Small** founding member GATT Watchdog, Christchurch, Aotearoa New Zealand**Teresa Teaiwa** Pacific Studies, Victoria University of Wellington, Aotearoa New Zealand**Denys Trussell** a founding director, Friends of the Earth (NZ) Ltd, Auckland, Aotearoa New Zealand**Alyn Ware**: Global Coordinator, Parliamentarians for Nuclear Non-Proliferation & Disarmament & Director, Peace Foundation, Wellington Office, Aotearoa New Zealand**Peter Wills** associate professor, Physics Dept, University of Auckland, Aotearoa New Zealand**Subscription rates (1 year, 2 issues):**

New Zealand	NZ\$50 (institution)	\$25 (individual)
South Pacific/Australia	A\$50 (institution)	A\$25 OR NZ\$30 (individual)
Rest of world	£25, US\$40 OR NZ\$60 (institution)	£12.50, US\$20 OR NZ\$30 (individual)

Postage included for all subscriptions.

## Living lightly: the great leap to sustainability on mother earth

### EDITORIAL

How can we bring about a safe climate when inaction for too long has allowed atmospheric carbon dioxide (CO<sub>2</sub>) levels to rise to 390 parts per million (ppm)? If the effects of other greenhouse gases are included, the atmospheric warming potential is equivalent to 455ppm of CO<sub>2</sub>e (CO<sub>2</sub>-equivalent). We are on this dangerous path because rich, industrial countries have promoted worldwide the destructive development model that caused the problem in the first place, and refused for over a decade to lead the way out of danger. Governments have talked but the response has been too weak. Even policies they have devised to bring about sustainable development have perpetuated the unsustainable pattern in a different form. For example, "biofuels" have been harvested from 3rd world countries so the rich world can continue to travel in cars and planes, while 3rd world people suffer again from our profligate consumption (see *Pacific Ecologist* 17). Emission Trading Schemes proliferating around the world are another sustainability hoax. As Sharon Beder reports (p.45), they allow industry to continue to pollute at low cost, rather than speedily achieving the significant changes needed to prevent dangerous climate change.

G8 countries have recently agreed for the first time to a target to stabilise the climate at 450ppm CO<sub>2</sub>e, or no more than two more degrees of warming, and to work toward an 80 percent cut in greenhouse gas emissions by 2050. Yet as UN Secretary-General Ban Ki-Moon warns, the 2050 target is too far in the future, strong cuts need to be made by 2020. Still, it's seen as a good omen for the post-2012 climate change meeting to be held in Copenhagen in December 2009. Much depends on this meeting. Delays now of only a few years in achieving real emissions reductions, as Andy Reisinger says in his article (p.38), will saddle future generations with increasing risks of catastrophic climate change and escalating mitigation costs. Sea-level rise and rainfall reduction in already dry parts of the world are irreversible over the next 1000 years, even if all CO<sub>2</sub> emissions stopped completely after 2100. If we achieve the 450ppm target, sea level will rise by 0.4 to 1.2m at least from thermal expansion alone, with possibly several metres more from melting glaciers and loss of parts of polar ice sheets. How many Pacific Islands and other parts of the world will vanish with this target?

There is no time to lose in cutting emissions and even the 450ppm level is far from safe. In 2008, eminent NASA climate scientist and activist James Hansen and a group of scientists wrote: "If humanity wishes to preserve a planet similar to that on which civilization developed, paleoclimate evidence and ongoing climate change suggest CO<sub>2</sub> will need to be reduced from its current 385ppm to at most 350ppm. If the present overshoot of this target of CO<sub>2</sub> is not brief, there is a possibility of seeding irreversible catastrophic effects." 350 is therefore the target we must aim for and the 350.org movement is gaining strength around the world (and in NZ, see inside front cover and p.54).

So what can we do, if we can't rely on our governments for the fundamental changes needed to make the great leap to sustainability? Is it possible to change our way of life easily without much struggle, seeing the terrible problems it's creating? In being aware of the immense damage being done and suffering caused by the mining and scouring of the earth for metals, fuels and other resources, (p.26) and the greenhouse gases involved in this and in manufacturing and running our cars, planes,

*Continued on page 33*

eliminated meat from their diets one night a week, the environmental effect would be equivalent to taking “30 to 40 million cars off the road for a year.”<sup>21</sup>

For personal health, the benefits of adopting a plant-based diet are well established. For climate change and our planetary emergency which calls for drastic and urgent change, it will mean the difference between life and death. Each one of us has a responsibility to act in the short time that remains to ensure a future for ourselves, our children, and our planet. It's time to take action. The quickest way to slash our greenhouse gas emissions on an individual and planetary scale, and the most effective means of preventing more environmental devastation on a major scale, is to reduce or eliminate meat and dairy consumption. Let's make the connection in time. ■PE

■ Dr Aryan Tavakkoli MBBS FRACP, practices as a Consultant Physician in Respiratory Medicine in the Hutt Valley, Wellington, New Zealand. She qualified from St. Bartholomew's Hospital Medical School, London, in 1991, and achieved her specialty in General Internal Medicine and Respiratory Medicine after postgraduate training in South-East England. She has spoken widely about the many-fold and far-reaching effects of our diets, particularly on the environmental effects of our dietary choices. Aryan thanks her sister 'Kian Tavakkoli' for her help in editing this article.

## REFERENCES

1. UN FAO Report, 2007, *Livestock's Long Shadow*: <http://www.fao.org/docrep/010/a0701e/a0701e00.htm>
2. 'It's Better To Green Your Diet Than Your Car.' *New Scientist* 2005 Issue 2530, p.19
3. Dr. Barry Brook, Director, Research Institute for Climate Change and Sustainability, Adelaide University, Australia: [http://suprememastertv.com/bbs/board.php?bo\\_table=sos&wr\\_id=232](http://suprememastertv.com/bbs/board.php?bo_table=sos&wr_id=232)
4. "Twenty years later: Tipping points near on global warming" <http://www.guardian.co.uk/environment/2008/jun/23/climatechange.carbonemissions>
5. "Melting Methane Thawed Frozen Planet", <http://www.abc.net.au/science/articles/2008/05/29/2259091.htm>
6. Walter K M, Zimov S A, Chanton J P, Verbyla D and Chapin III F S 2006 "Methane bubbling from Siberian thaw lakes as a positive feedback to climate warming", *Nature* 443; 71-75, 7 Sept. 2006 [http://www.alaska.edu/uaf/cem/ine/walter/publications\\_docs/Walter\\_nature05040.pdf](http://www.alaska.edu/uaf/cem/ine/walter/publications_docs/Walter_nature05040.pdf)
7. <http://viva.org.uk/mediareleases/display.php?articlepid=177> Agriculture in the UK 2008: Tables and Charts: <http://statistics.defra.gov.uk/esg/publications/auk/2008/excel.asp>
8. Source: Foodwatch: Greenhouse effect form different kinds of eating habits, per capita and per annum, presented in car kilometers. *Spiegel Online International*, 27 August 2008 <http://tinyurl.com/557yxs>
9. Vegetarian Diets: American Dietetic Association Position Paper, *J Am Diet Assoc.* 1997; 97:1317-1321
10. Pieter van Beukering, Kim van der Leeuw, Desirée Immerzeel and Harry Aiking (2008) Meat the Truth. The contribution of meat consumption in the UK to climate change. Institute for Environmental Studies (IVM), VU University, Amsterdam, the Netherlands; HM Government (2006) Climate Change, the UK programme 2006 <http://tinyurl.com/5q3vwx>
11. NZ Ministry of Agriculture and Forestry: Climate Change: <http://www.maf.govt.nz/climatechange/>
12. "Global Warning! The Impact of Meat Production and Consumption on Climate Change", Dr Rajendra Pachauri, London, 8 Sep 2008, [http://www.ciwf.org.uk/includes/documents/cm\\_docs/2008/11/london\\_08sept08.pps](http://www.ciwf.org.uk/includes/documents/cm_docs/2008/11/london_08sept08.pps)
13. WHO Global Strategy on Diet, Physical Activity and Health, 2004: [www.who.int/dietphysicalactivity/en/](http://www.who.int/dietphysicalactivity/en/)
14. FAO of UN. [www.fao.org/nr/water/infoces.html](http://www.fao.org/nr/water/infoces.html) 'Water 101: Water for Food'
15. <http://www.fao.org/nr/water/promotional.html>
16. Water Inputs in California Food Production, Water Education Foundation September 1991, Chart E3, page 28, <http://tinyurl.com/6kd6kx>
17. The Pleasures of the Flesh, Monbiot, 2008: <http://www.fao.org/docrep/010/ai465e/ai465e04.htm>
18. FAO 2008 "Food Outlook" <http://www.fao.org/docrep/011/ai474e/ai474e01.htm>
19. FAO of UN, 'Hunger on the Rise': <http://www.fao.org/newsroom/en/news/2008/1000923/>
20. United Nations Environment Programme 2007: [www.unep.org/geo/geo4](http://www.unep.org/geo/geo4)
21. Michael Pollan's "Food for Thought": <http://www.truthout.org/112708Y>
22. Irreversible climate change due to carbon dioxide emissions Proceedings National Academy of Sciences PNAS February 10, 2009 vol. 106 no. 6 1704-1709, Susan Solomon, Gian-Kasper Plattner, Reto Knutti, and Pierre Friedlingstein.

## Editorial, continued from page 2

cell phones, walkmans and other conveniences, is it possible to give up these non-essential things? We can live probably much better without them. Our ancestors, the hunter gatherers, with few possessions and very low energy consumption were the original affluent society with material needs easily met in a few short hours a week (p.3). They were confident in nature's abundance because their material demands were small, whereas our demands are huge and 1 billion people suffer extreme hunger as a result. Gandhi said: "Man should rest content with what are his real needs and become self-sufficient. If he does not have

*this control he cannot save himself*," (p.9-10). How true this is today. Our way of life is causing serious environmental problems, Ted Trainer writes and has only been possible because rich countries take far more than their fair share of the world's resources in a global economy that condemns most of the world's people to grinding poverty. He sees hope in the Transition Towns movement (p.11). We must work hard he says to make the transition in time to far simpler living standards, high levels of self-sufficiency, and a radically different culture in self-sufficient collectives. ■ Kay Weir