

## Editorial

### Climate Change

*Alan Wells*

In previous issues in 2007 I have reported on the dire warnings from the Intergovernmental Panel on Climate Change. These seemed remote, both geographically and temporally, but this month I can give examples of the current effects of global warming and how predictions that the developed world is best equipped to deal with these effects<sup>1</sup> are true.

I also look at political solutions, from a possibly unlikely source, in attempts to reduce atmospheric pollution.

### Australia

South-east Queensland is reckoned by scientists to be in the grip of the first climate-change driven disaster to strike a developed nation. Where, once, Brisbane householders could tend their gardens with 24-hour sprinklers, dam levels are now at an historic low and residents are being cajoled into using no more than 140 litres of water a day each. Hosepipes are banned and only car mirrors and windscreens may be washed. Households with excessive water usage are required to perform an audit and may be fined. Smaller towns in the area have run dry and are having to have water delivered by truck. The area is highly urbanised but its 4,000 farmers have abandoned growing sweetcorn, green beans and broccoli.

This urban picture is not typical: Australia is one of the world's biggest agricultural exporters. However, the heart of Australia's eastern wheat belt, west of Sydney has also become arid. Pasture has been destroyed by five years of drought. Following the best April rain in 10 years in southern and eastern Australia farmers there are understandably keen to use technology to help them fight the effects of climate change and have employed global positioning system-guided seeders to sow seeds accurately in rows 25.5 cms apart. The system guides the tractor and seeder to an accuracy of 2 cms.

In June great rains drenched parched eastern Australia for three days. The falls were the biggest in 30 years in some areas. Unfortunately the rains that lashed the coast failed to replenish the inland reservoirs and it is expected that irrigation waters to hundreds of farmers will be turned off within months, forcing up fruit and vegetable prices.

No one would begrudge the farmers faced with these conditions using technology; but what happens when the same weather conditions hit agricultural regions of South America and Asia?

### The role of large cities in addressing climate change

From 14–17 May 2007, leaders of municipal governments and international businesses from over 30 world cities convened in New York City for the second C40 Large Cities Climate Summit. Cities are responsible for three-quarters of the world's energy consumption, and as such, the world's largest cities have a critical role to play in the reduction of carbon emissions and the reversal of dangerous climate change.

The majority of the world's people live in cities. With urban lifestyles, city dwellers use vast quantities of energy in everyday activities such as heating or cooling homes and offices, driving to and from work, providing the food we eat and transporting the resources we use. This energy is mostly derived from fossil fuels and significantly contributes to the greenhouse gas emissions that cause climate change.

Cities also contribute to greenhouse gas emissions from waste management practices, and clearing forests and vegetation for urban expansion. All this adds up to climate change being inextricably linked to the increasing demand on resources that flow from a rapidly growing urban population.

City governments, in both rich and poor countries, have considerable influence over their city's greenhouse gas emissions as they often:

- own buildings and facilities such as sports stadiums, street lighting, and waste treatment plants, which directly consume large quantities of energy;
- manage landfills and waste treatment plants, both of which are major sources of greenhouse gas emissions;
- have significant purchasing power, thus being able to influence markets for vehicles, equipment and technologies;
- set local land use policies, determining where development is located and the mix of uses allowed;
- operate public transit and transportation infrastructure;
- apply building codes, determining the energy efficiency of local building stock;
- regulate automobile parking, traffic flow and roadways; and
- own or control their local energy utility.

There are a growing number of cities around the world that are reducing their greenhouse gas emissions. This work is sometimes being carried out in partnership with leading businesses, and has been achieved through initiatives that mandate building energy efficiency and sustainable land use and reduce reliance on single occupancy vehicles. New York's energy

<sup>1</sup> [2007] EELR 160.

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efficiency building code requirements, London, Stockholm and Singapore's congestion charging zones, and Curitiba's public transport system are all excellent examples.

Much of the success of these initiatives is due to each solution meeting the city's specific geographical, political, ecological and economic requirements and the needs of their citizens. Many of these initiatives are making money for the city governments, and are directly and tangibly contributing to the social and economic vibrancy and the health of these cities.

The progress that individual cities are making is being accelerated through a range of partnerships and initiatives that have formed to not only facilitate sharing of information and successes, but also to apply bipartisan political pressure on other levels of governments to assist cities to meet the challenge posed by climate change.

The Second Summit's final communique makes encouraging reading:

"We, leaders and delegates of large city governments, recognise the responsibility that city leaders and cities will have to play in reducing greenhouse gas emissions. We commit to work together to accelerate action to reduce greenhouse gas emissions and adapt to climate change.

Noting the latest findings of the UN's Intergovernmental Panel on Climate Change, we recognise the urgency with which we must act to tackle climate change, and that any delay in action will result in additional damages and additional costs to adapt to and mitigate climate change. City and business leaders also recognise the economic benefit of taking climate action.

We urge G8 leaders at their [...] summit in Heiligendamm to commit to a long-term goal for the stabilisation of atmospheric greenhouse gas concentrations. We call on G8 leaders to take the latest assessments of the IPCC and the findings of the Stern review into account in their discussions.

We further urge Parties to the UN Framework Convention on Climate Change to begin global negotiations on a post-2012 framework at their meeting in Bali in November, and to ensure that there is no gap between the current commitment period to 2012 and what will follow subsequently.

Cities account for 75% of global carbon emissions, the fight against climate change will therefore be won or lost in cities, and governments should engage more closely with city leaders supporting them in initiatives to cut greenhouse gases such as the procurement alliances and other projects agreed at the C40 summit in New York on 16<sup>th</sup> May 2007."

The mayoral declaration, however, needs to be put into its political context. Here is an example of political reality.

### China's biofuel moratorium

Western politicians want us to embrace alternative food-based fuel technology. Calls for biofuels are politically attractive amid rising petrol prices and concerns about global warming. Corn-based ethanol gives 35% more energy than it takes to produce and greenhouse gas emissions per gallon of fuel used are between 18–29% lower with ethanol than fossil fuels. World ethanol production has increased massively in the last decade. Indeed, its production is the third largest use of corn in the US where President Bush even called for the annual production of 35 billion gallons of corn-based ethanol in the US before environmentalists pointed out that an additional 129,000 square miles (more than the size of Kansas plus Iowa) of farmland would be needed to achieve that level of production. There is even disagreement about the sustainability of corn-based ethanol. One study has shown that planting the extra corn crops demands the burning of massive amounts of fossil fuel and erodes soil 12 times faster than it can be reformed and recommended that sugar cane would be more environmentally friendly and efficient.

In China, where environmental activists are increasingly vocal, ethanol has been produced from corn and other food crops only for its leaders to discover that this policy was rapidly driving up the costs of corn and grain, just as it has done in the US where corn has been mass planted at the expense of other crops, nearly doubling futures prices for corn in eight months. For decades grain security has been at the top of the Chinese political agenda. The Chinese solution to its grain crisis has been to ask the four companies producing more than one million tonnes of ethanol annually to switch to using non-food crops, such as cassava and sorghum.

Maybe, just maybe, in the run-up to son-of-Kyoto Convention on Climate Change post 2012 we should stop criticising China as a potentially massive polluter of the planet and give its State Environmental Protection Agency and National Energy Leading Group more credit for promoting sustainability than we customarily give democratically elected leaders in the West.

"All is not butter that comes from the cow"<sup>2</sup>

If you feel guilty about driving a four-wheel drive vehicle, take heart! My own guilt has been partially assuaged by paying more for my UK road tax but now I discover that I can drive over 30 miles and still

<sup>2</sup> Thomas Fuller, *Gnomologia*. No. 527.

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produce less carbon dioxide than a cow produces in a day. In Britain agriculture accounts for 37% of methane (a greenhouse gas 20 times more powerful at driving global warming than carbon dioxide) and 67% of nitrous oxide emissions. Apparently, emissions from cattle and sheep account for about a quarter of the methane pumped into Britain's atmosphere. The emissions from the livestock essential to the rural economy are predicted by the UN Food and Agriculture Association to increase by up to 60% by 2030. Scientists are now urgently working on both

making a fodder that is more digestible and improving the longevity of dairy cattle to be able to produce the same amount of milk from fewer animals.

I hope farmers realise that soon it will no longer be sufficient to farm organically to have green credentials. They will be expected to go to the expense of introducing new strains of feed to longer-living cattle with genetically-engineered digestive systems. Marketing that should provide an interesting challenge for those in charge of designing food packaging and eco-labels.