

A race to faster change

The Sustainable Living Foundation, the Australia New Zealand Society for Ecological Economics, Green Innovations, and other interested bodies and individuals, are creating an international action competition called *The Race to Sustainability* to encourage a ramp-up in the pace at which communities are committing to achieving sustainability.

The concept emerged from a search for a metaphor that was already well understood by people – one that could encourage communities and regions to cooperatively achieve sustainability as fast as possible. Line honours will go to the community that achieves a measured sustainable state fastest however, a community that does the most to help others achieve a sustainable state could also win a place.

The race aims to be both a galvanising mechanism and a way to develop better understanding of the concept of sustainable living and the necessary strategies for achieving it, thereby reorientating current counterproductive thinking.

Over the last decade the simple concept of sustainability has become an overly complicated, seemingly unattainable notion. To some it is now a journey instead



Kerala State in India has already made huge strides in sustainable practice. CSIRO Forestry and Forest Products

of a destination, involving trading-off environmental, social and economic issues. Essentially focus has been lost on key idea behind sustainability: to actually maintain the things that we depend on and care for.

This loss of focus gives little incentive to develop a practical, action-oriented definition based on the intention to actually achieve sustainability. It discourages facing up to the full scale of sustainability threats, and to any fundamental weaknesses in our

current action programs in terms of the scale and speed of change they are designed to promote.

By using the race metaphor, however, there is a specific defined goal (a finishing line), a compelling sense of urgency and measured progress on the way to attaining it. This is the practical mindset needed for thinking about – and acting on – sustainability issues.

Effective action requires first defining

Cooling Tokyo's hotspots – naturally

It appears cities are really feeling the heat. Recently, NASA researchers published the results of a satellite-monitoring project in which the temperatures of large metropolises were monitored in relation to the surrounding countryside. They found that cities, in many cases, were up to ten degrees warmer than the surrounding non-urban areas.

Tokyo is similarly warming. 'Over the last century, Tokyo temperatures have increased five times as fast as global warming,' Takehiro Mikami, a professor of climatology at Tokyo Metropolitan University, recently told the *New York Times*. While global warming has prompted a one degree rise in average worldwide temperature since 1990, Tokyo's average temperature has increased by 5.2 degrees.

Additionally, winters are warming up, and starting later. 'Leaves used to start turning their colours in the end of November,' added Shinsuke Hagiwara, chief researcher at the National Institute for Nature Study. 'Now they only start in mid-December.'

Solar radiation is absorbed during the day and stored in Tokyo's thousands of acres of asphalt and concrete streets, parking lots, buildings and sidewalks – even car bodies are known to absorb large amounts of heat. When night falls, these objects release heat, keeping the city warmed than it would otherwise be. The term 'heat island' is becoming more and more a part of Japanese vocabulary and Tokyo city officials are beginning to address the problem of thermal pollution.

Many large cities rely on parks and plantings to lower temperatures. Central Tokyo, however, is only 14 per cent covered by greenery – considerably less than New York, London or Berlin.

City officials are now looking at methods and systems for cooling the city, and so far, one of the more successful efforts involves mimicking nature by building air-cooling, air-cleansing rooftop gardens. Landscaping firms have sprung up across the city, some dedicated solely to the creation of rooftop gardens.

'If a roof is rated to take people, which most are, it can easily take a roof garden,' said Takaharu Yoshioka, of Greenwich Garden, a landscape design company. 'Last year we did only 50 roof gardens. So far this year we have already had 200 orders.'

A recent city survey found that some 11.5 square miles of roof surfaces could be converted into gardens. And last year the

what entities need to be sustained, and then ensuring their maintenance is not traded-off. The wider scope of sustainability must also be considered. We might want to, for example, sustain a business, an ecosystem, a society, a life, or a culture. The larger the system to be sustained, the more important it will be to take into account implications in the social, environmental and economic domains. Significantly, in the race, the development of both the means to get to the finishing point, and the clarification of the precise nature of the goal or finishing point, will occur while the event is running.

This will be long distance event – a persistent change spanning many years. It could, though, be shorter than we expected if the right social consensus is generated. South Korea's transition from an agricultural to world-competitive industrial economy, for example, took a mere 20 years. The South Koreans, however, had the advantage of implementing a model of industrialisation previously tested in other places.

Given that the required economic model for sustainability is still being formed, the race may take quite a bit longer than 20 years to run. Then again, after the Pearl Harbour attack in 1941 the US transformed from the world's largest consumer economy to the world's largest war economy in just one year. Sustainability progress is about will.

Communities or societies have remarkably different characteristics that

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constantly evolve, and yet all can achieve a sustainable state. Local sustainability, however, cannot be truly achieved if broader global sustainability is not achieved as well. In essence, the community that wins the race will not really have fully achieved sustainability until other communities are over the line too, and global sustainability has been assured.

Greater leverage for change can be generated if people enter the race via larger communities (e.g. from 1 million to 20 million). The larger scale means that they can tackle issues of economic structuring and the dynamics of the global economy more effectively than small, municipal-scale communities can. The value of geographical rather than specialist communities participating in the race is that they require an holistic, inclusive approach to the achievement of sustainability.

With the world's communities needing to be engaged as soon as possible, an international organising structure or Race Committee is being established to develop the sustainability criteria and modelling capabilities. Green Innovations and the

Sustainable Living Foundation have initiated a computerised model building process and are investigating an agent-based approach to accommodate the highly diverse and pervasive change strategies needing to be examined. A trial race will be run during 2004–2005 in Victoria and NSW to test practical details. Other localities elsewhere in the world may be involved in the trial as well.

The Australia New Zealand Society for Ecological Economics is supporting the first step in the trial of the race concept, an examination of the 'judgement system'. The definitions are still being decided ahead of the international race being formally launched, hopefully in 2006.

Larger- and smaller-scale communities are being sought to participate in the race trial. Already, just by word of mouth, there have been expressions of interest at the larger scale for Victoria and NSW, and at the smaller scale for the township of Anglesea (Victoria), the Sydney suburb of Manly, Osnabrueck in Germany, Paonia in Colorado, and from individuals in New Zealand, Sweden and the United Kingdom.

● Philip Sutton

More information:

The Race to Sustainability: www.green-innovations.asn.au/Race-to-Sustainability.htm

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Tokyo's emerging roof gardens follow the Japanese penchant for clean, clever designs in tight spaces. istockphoto

city decreed that all new medium-sized buildings on lots over one-quarter acre must dedicate at least 20 per cent of the roof to a garden. Additionally, the city is planning to offer various tax breaks to encourage roof gardens.

Traditionally, the construction industry has resisted roof gardens for fear of weight, seeping water, and destructive roots. New technologies and materials, however, are offering solutions to those issues, and many developers are reporting saving in cooling equipment and valuable

protection from sun damage.

Obviously, rooftop gardens are becoming a good investment for many reasons, but perhaps the biggest surprise is the aesthetic appeal. This past spring, the famed Imperial Hotel, opened a 5700-square-foot area of grasses on top of its main building. This summer, the Tokyo Metropolitan Assembly Hall added a \$500 000, quarter-acre roof garden that will open this fall.

Global warming might mean palm trees and wild parakeets are becoming increasingly common in Tokyo, but so to is one nature-mimicking way to slow global warming – the simple, aesthetic, valuable rooftop garden.

● Cameron M. Burns

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