

More with Less

The climate has been changing much faster over recent decades than in preceding centuries and millennia. These long-term changes have been observed at continental, regional and ocean basin scale. We know the energy balance of the climate system is altered by changes in atmospheric abundance of greenhouse gases and aerosols, solar radiation and land surface properties.

I'm hoping this new decade will usher in an era of true climate change solutions. Zooming in on the global increases in carbon dioxide concentration, we see this is primarily due to use of fossil fuels and land-use change, and so it seems to me there is no better way of dealing with the situation than by first reducing energy needs. Secondly, we should adapt to global warming by making landscapes climate-change-proof, for example by creating natural buffer zones in coastal areas to protect cities. In this way we will reduce the vulnerability of both natural and human systems to the actual and expected effects of changes in climate.

Energy reduction can be effected by everyone, and can start today. But how does the homeowner concerned with reducing their carbon footprint know that their home, and not the energy-saving devices within it, is energy efficient? The authors of the article on page 13 propose a free-of-charge method for residents to automatically assess the thermal heat waste of their homes by the simple expedient of clicking on it in Google Maps!

It is a matter of debate, of course, how far energy efficiency is a 'renewable energy' and how it ranks with other renewable energies in accessibility to millions of people. But the fact is that every little helps. Looking at the message of the recycle logo, 'reduce, reuse, recycle', I guess one could see energy efficiency as the practice of reducing consumption, or reusing and even recycling energy. And taking this one step further, we could add 'renew' for renewable energy as the fourth component of the cycle.

The article on page 17 focuses on pure renewable energy: solar power. The authors have developed a method of identifying roofs suitable for solar panel fitment using airborne Lidar to measure parameters such as roof area and slope, taking into account shadowing from vertical objects such as chimneys and masts. And again the resulting map is freely accessible to home and business owners! Wonderful developments, if you ask me.

This is the decade in which we are doing more with less.