Going Green

Over thirty-five years ago the world was startled byLimits to Growth, a report commissioned to great fanfare by a global think-tank, the Club of Rome. Publication in 1972 plunged some experts into heavy criticism of the methodology used to explore the interaction between an exponentially expanding world population and finite resources; “a piece of irresponsible nonsense,” as one Yale economist labelled it. Today it is generally agreed that the scenarios sketched were too pessimistic: based on oversimplified model assumptions and data originating more in the imagination than firmly founded on real measurements. Just as Malthus’ theory of population had been proved severely flawed, so the Club of Rome was off course in envisaging the consequences of rapid population growth. This, at least, is the present status quo.

Footprint

Al Gore was the most recent bearer of bad tidings, delivering another wake-up call to the world with his ‘Inconvenient Truth’. Not about growing population or finite resources this time, but going beyond them to inquire into the potential damage to the environment from resources as exploited and manipulated by human hand. What are the harmful effects on the three main components of environment – air, water and solid – of, for example, producing and using cars? How should production processes be changed to substantially reduce greenhouse-gas emission? The chemical giant DuPont found an answer to the latter. As the largest producer of adipic acid (mainly used as monomer in nylon production) the company succeeded in eliminating the use of nitrous oxide, a gas contributing substantially to the greenhouse effect, in making the acid.

In their bookGreen to Gold(Yale University Press, New Haven and London, 2006), Daniel Esty and Andrew Winston write, ‘Every company leaves a mark on the world through the products it makes and services it offers. The more resources it uses or pollution it produces, the bigger its footprint’. Meanwhile, the environmental footprint has become a hot topic in many an enterprise boardroom, not least those of car manufacturers and chemical giants. Even firms operating in the field of geomatics are now on the green track. Bentley, for example, at its International User Conference (review, page 46) announced its intention of reducing per-employee carbon footprint by 15% by the end of 2009, using 2007 as baseline.

Picking Metrics

A recently launched marketing campaign for a bank shows red curves accompanied by the text: ‘Life is a curve. Where on the curve are you?’ No horizontal axis, no vertical axis, no metrics, no dimensions; the curve hangs, one might say, in a metric vacuum. Drawing curves without metrics is probably a smart banking strategy in the aftermath of an era of financial opportunism. But such curves are completely meaningless, at best offering a hook for emotional response. And as metrics is indispensable for adding meaning to curves, so it is for quantifying environmental impact. ‘What gets measured gets managed’. Esty and Winston recommend a list of basic metrics for measuring a company’s footprint. With respect to the ‘water’ component, these are total water used, and water pollution. In the ‘air’ they are greenhouse-gas emissions, heavy metal and toxic chemical releases, and emissions of particulates. In the ‘solid’ component they are hazardous waste, solid waste and recycled materials.

Energy and renewable energy used or bought also constitute basic metrics, as do compliance parameters such as notices of violations and fines or penalties paid. ‘It would be nice to distil the outcomes and get to a single metric,’ sigh Esty and Winston, ‘but it’s not possible.’ Coca-Cola, for example, measures the litres of water used to produce one litre of end product, but this would be a weird indicator for a software house. The authors continue, ‘Environmental indicators are like financial metrics […] each company picks specific metrics to focus on, such as net income, debt-to equity level, or free cash flow’. However, the use of these measures depends on circumstances.

Institutionalisation

The European Commission recently pronounced a two-year deadline for at least half of tenders set by European governments to be green. The underlying aim is to reduce energy consumption and waste of resources. The worth of annual purchases of products and services by European governments is 1,400 billion Euros. Although in terms of pollution and resources use the impact made by geomatics firms is not at all comparable to that of car manufacturers or chemical giants, we do need to better prepare ourselves for the imminent government-induced institutionalisation of going green. Identification of green companies will bring with it the need for certification, and thus standards setting. Although the International Organisation for Standardisation (ISO) has developed standards in the environmental arena, the one in place, ISO 14000, provides only a template for setting up an environmental management system.

If the per-employee carbon footprint becomes the metric of choice, a company might dramatically reduce this value by substantially increasing employee numbers just before settlement day. Let us wait and see just how creative firms become in developing metrics to officially prove they are on the green track. It is not beyond the bounds of possibility that a really innovative think-tank might come up with carbon-emission-per-share as indicator. It might also be recommended that committees tasked with setting standards for green metrics keep a close eye on their own footprint, given the tons of carbon they are likely to emit jetting round the world settling disputes.