

# THE FUTURE IN PRACTICE

## THE STATE OF SUSTAINABILITY LEADERSHIP



# Business as part of the solution

**Carlos Fadigas**

*Leafcutter Ants: artist Daro Montag explores how an unexpected oily line compels ants to adapt, incorporating the knowledge of a new carbon threat into their worldview.*



# Business as part of the solution

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There are many roles for business in developing sustainability, but the most important is to integrate sustainability principles into business strategy. Sustainability means much more than just worrying about the environmental impacts of business operations – this only represents ‘business as usual’. I prefer the idea of looking for the business opportunities that could arise from the huge challenge of trying to raise living standards for a likely population of 9 billion in 2050, yet remaining within the limits of our planet.

That challenge is tied to the 2°C limit for the rise in average global temperature negotiated at the UNFCCC conference. Seeking business opportunities within these constraints is much more attractive and strategic.

On the other hand, efforts to address the impacts of business operations should not be underestimated. This should be viewed as the basis for all sustainability strategies. Companies should start here; this is what we did at Braskem, and we are proud of the results we have achieved. Since 2002, when Braskem was established, our accident rates have fallen

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by more than 80 per cent and are now at levels similar to those of the best-performing companies around the world. The intensity of our solid and liquid waste outputs has fallen by more than 60 per cent; effluents (waste water) by more than 35 per cent. Greenhouse gas emissions have fallen more by than 11 per cent between 2008, the year that we arrived at a consistent methodology for testing, and 2011. These figures provide only a few examples.

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But this is not enough to meet the sustainability challenge. Since the Rio United Nations conference in 1992, there have been many important achievements. But global and local research reveals the multiple challenges we face in aiming to reach standards of living for everyone that could be considered decent. There are more than 1.6 billion people in the world who lack access to clean water, and 900 million starving or undernourished people.<sup>1</sup> There are also clear signals that the planet’s environmental capacity is overburdened. Natural resources, such as minerals or sources of energy, the environmental sinks where we deposit our waste, or our atmosphere, are becoming scarce. Greenhouse gases continue to accumulate, and global temperatures continue to increase. At the local level, the situation is not so different. In Brazil, Braskem’s home country, in 2009 we had more than 60 million people living on less than US\$2 per day, and about 10 per cent of our population over the age of 15 was illiterate. In 2008, more than 40 per cent of homes lacked access to a sewerage system.<sup>2</sup> Of course it is necessary to do much more; and this also brings opportunities.

Each business and each industry can analyse itself and ask what concrete contribution towards sustainability it could make, or how its contributions could be more significant. Or, what revolutionary solutions could be developed by its team and deployed to the market? The answers will come, and with a few innovations each organisation could differentiate its business position.

At Braskem, we found a local opportunity that could differentiate us from the rest of the world. The use of renewable raw materials for

chemical production has enormous potential in Brazil. There are two aspects of this: the large-scale production of ethanol from sugar cane (Brazil is the second-largest ethanol producer in the world), and the greater efficiency and productivity of this process compared to competitors like corn from USA and beet from Europe. To offer just one example, for each unit of energy used to produce ethanol, 9.3 units of energy are produced when sugar cane is used, 1.4 units when corn is used and 2.0 units when beet is used. Taking this into account, at Braskem we decided to invest in technology development and took the risk of investing in

the biggest industrial facility in the world to produce our biopolymer ‘green polyethylene’.

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We have invested about R\$500 million (more than US\$250 million) in this facility.

As well as the fact that green polyethylene is based on a renewable raw material, three other characteristics are drawing the attention of many clients. Firstly, green polyethylene is very easy to use because there is no need to adapt our clients’ equipment. Green polyethylene can be recycled using the same processes that are in place for traditional polyethylene. More importantly, it captures and, while solid, sequesters 2.5 tons of CO<sub>2</sub> equivalent per tonne of polyethylene produced over its lifecycle from the cradle to the gate of our facility. Transforming the CO<sub>2</sub> in the atmosphere into plastics is really a very smart way of using it. We are happy that many companies value this solution; Coca-Cola, Procter & Gamble, Danone, Johnson & Johnson, Nestlé, Tetra Pak, Estrela, Natura, Faber-Castell, Chanel, Toyota Tsusho and others are already our clients. This is why we have decided to increase our



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spending on innovation and technology. Last year this reached R\$155 million (about US\$63 million). We have already announced the construction of a new facility to produce another biopolymer: renewable, raw material-based polypropylene. And new products are in our research and development portfolio.

Co-operation is another very important aspect of this strategy, in order to mitigate risk. When we were developing green polyethylene, we counted on the support of one of our clients, Toyota Tsusho, who decided to help us with the first step of investing in technology development. After that, new partnerships were established. Upstream, we

knew that there were many concerns about the production of Brazilian sugar cane, so we decided to put clear environmental and social requirements in place for Braskem ethanol suppliers. A code of conduct was developed with the support of a specialist NGO, ProForest. We also received some incentives from the Rio Grande do Sul, a southern state of Brazil, to build our facility there. This demonstrates how important co-operation was in putting this solution into practice.

Another aspect of our strategy, which I also consider an important role for business in general, is to support the development of an improved, sustainable quality of life for everyone. This means that we should work

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with our value chain and with society to put new solutions in place for our modern way of life. The greatest challenge is how to evaluate different possible solutions in order to decide which is most sustainable. This is why we are conducting Lifecycle Analyses and supporting lifecycle thinking among teenagers in schools. Last year we provided 1,577 Brazilian schools with teaching materials to do this.

In conclusion, I would like to address an often-cited aspect of the debate which I consider a false dilemma: the criticism that sustainability limits competition. I know that I described above how co-operation was one of the most

important aspects of the success of green polyethylene, and one of the core values of sustainability activities. But, at the same time, competition and the appetite for differentiation are what inspires entrepreneurialism. This means that I believe co-operation and competition can co-exist, creating solutions that attract public attention and bring profits to the company. For businesses, there is no way of surviving without profit; therefore the economic dimension is inherent to business sustainability, which is, in my view, central to global sustainability. This is why one of the two themes of the Rio+20 conference which took place in June 2012 was “the green economy in the context of sustainable development and poverty eradication”.

There will be no sustainability without the participation of the economic mainstream and of business and industry. And this will only have been achieved when all companies position themselves as part of the solution, and integrate sustainability principles into the heart of their business strategies.



<sup>1</sup> UNEP, 2011. *Towards a Green Economy*

<sup>2</sup> IBGE, 2010. *Indicadores de Desenvolvimento Sustentável and Síntese de Indicadores Sociais da População Brasileira*

**The State of Sustainability Leadership** is CPSL’s annual thought leadership report, delivering insight and challenge from our world-wide network of business leaders, policymakers and academic experts. This year’s edition, to be published in full in December 2012, is focused on the theme of business and the long-term – what leaders can do to understand and shape the future. CPSL is an institution within the University of Cambridge’s School of Technology. [www.cpsl.cam.ac.uk](http://www.cpsl.cam.ac.uk)



Daro Montag is an artist and Reader in Art & Environment at University College Falmouth. His work explores the inherent creativity of living organisms. The video work *Leafcutter Ants* was inspired by Daro’s trip with Cape Farewell into the so-called ‘Cloud Forests’ of the Peruvian Amazon and Andes. It documents with scientific accuracy how ‘an organism in motion’ will respond when an oily line of carbon disrupts their path: “What happens when they encounter this totally unexpected intrusion into their world?” The work was commissioned for the Cape Farewell exhibition UNFOLD, now touring globally. CPSL is proud to be collaborating with Cape Farewell, which works with artists and scientists on a cultural response to climate change. [www.capefarewell.com](http://www.capefarewell.com)