1

What does a sustainability manager do?

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Responsible Business: How to Manage a CSR Strategy Successfully
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In this chapter, the role, aims and activities of a sustainability manager are described, based on the personal experience of the author, who is a sustainability manager for a large chemical company – he offers a step-by-step outline of the goals that are important, how they can be achieved and the challenges that will be faced.

Company background

I wrote this chapter to provide a personal perspective of what a sustainability manager actually does – in my case, for the INEOS ChlorVinyls chemical company. INEOS is the third largest chemical company in the world, with an extensive chemical portfolio. My responsibilities relate specifically to sustainability within chlorine chemistry and, in particular, to the plastic PVC and other chlorinated products. We are the largest European manufacturer of PVC, with plants in Norway, Sweden, Germany and the UK. In February 2008 my former company, Hydro Polymers (also a PVC producer), was acquired by INEOS. Much of what I have learnt on this personal journey, to which I will refer in this chapter, relates back to my experience with Hydro Polymers, although the opportunities and challenges under new ownership provide renewed vigour and excitement in the pursuit of sustainability.

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The role of a sustainability manager

The overall aim is to provide the reader with a clear insight into the practicalities involved in being a sustainability manager. In particular, precisely what does a sustainability manager do? To merely write some kind of job description is important, but this is too prescriptive. It is rather like reading the rules of chess, which is often dull and boring – it is only when you play the game that things become exciting. That said, we do need rules and principles to help guide us in the right direction and to make smart business decisions along the way, i.e. towards sustainability, or, as in the game of chess, to achieve checkmate. I also want to firmly differ-

entiate, as I do in my mind, between two distinct roles in any organisation, namely those of the corporate social responsibility (CSR) manager and the sustainability manager. They may be one and the same person and, if that is the case, please note that there is a wealth of difference between these roles. A CSR manager's responsibility has to do with how companies engage in societal issues on a voluntary basis, usually in collaboration with stakeholders, with an emphasis on public relations. Conversely, the sustainability manager should be addressing the longer-term strategy of the organisation regarding its core business and commitment to innovation in moving the business towards sustainability. Of course, the two roles are complementary and there is a necessary degree of overlap. However, to address these issues as one individual is a tall order, both from a practicality perspective and in differentiating the roles in your mind.

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Down to business

To be effective as a sustainability manager, a series of essential yet basic criteria must first be met:

- commitment from top management
- an understanding of the core business activities of the organisation
- an understanding of what is meant by sustainable development and sustainability
- an appreciation of where the company is today and where it should be heading
- the skills to influence and motivate the organisation to move in the right direction and thereby execute the right actions.

Commitment from top management

There is nothing more frustrating for sustainability managers than recycling their paper clips. The job has to be taken seriously by top

management and there needs to be a mechanism whereby the sustainability strategy relates directly to short- and longer-term business plans, i.e. these must be aligned to maximise efficiency and ensure that all elements of the company are rowing in the right direction. The sustainability manager should be playing a key role in any organisation to ensure the long-term sustainability of that business. The commitment needs to go beyond just fine words. Talk is easy – it is the getting down to work that counts.

Core business and activities of the organisation

Sustainability managers need to get under the skin of their organisation. There needs to be a systemic appreciation of what the organisation does or provides. We should not underestimate the sustainability footprint of any organisation – whether social, economic or environmental – and that of its products or the processes used in their manufacture. To make improvements, there is an obvious need to know the basics – this might be related to operational processes as well as the manufactured products or to those services provided by the organisation.

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What is meant by sustainable development and sustainability?

No doubt you will have heard these terms mentioned many times, but what do they really mean to you? One of the simplest explanations came from Jonathon Porritt, one of the founding directors of the sustainable development charity Forum for the Future, in the UK. Put simply, sustainability could be described as a defined *state*, i.e. the point at which you could continue indefinitely without serious erosion to mankind or the environment. Conversely, sustainable development is the *process* that drives us towards sustainability. That said, if you type sustainability into Google, you will get literally hundreds of definitions. What is important is what sustainability really means to you and the organisation you represent.

An appreciation of where the company is today and where it should be heading

An effective sustainability manager should ask three questions that logically follow on from the question in the previous section:

1. Do we have a definition of sustainability?
2. Considering this definition, what is the gap between where we are today and where we are heading?
3. What can we do to bridge this gap?

The skills to influence and motivate the organisation to move in the right direction and thereby execute the right actions

Such skills are essential to ensure that a sustainability manager is fully equipped to take on this demanding task. Being a good manager merits a whole section in its own right. There are numerous management books that articulate the essential skills of an effective manager. For me, sustainability managers must demonstrate a belief and passion that they are making a difference to the company. Often they may be working with few, if any, subordinates. Consequently, the business case for sustainability must be compelling, and also pragmatic and sufficient to win the hearts and minds of peers. The sustainability manager must also be prepared to challenge senior management constructively, with good information and clear arguments about the benefits to the business in the long term of taking a more sustainable path. This may, at times, challenge fixed assumptions and 'sacred cows', so good relationships and sound arguments are essential.

So how do we get started?

There are many theories about organisational culture that lead to logical engagement in sustainability – either through the transitional stage of

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companies moving from regulatory compliance to addressing eco-efficiency and then sustainability, or by benchmarking themselves against their competitors. In our case, we were pushed into it courtesy of Greenpeace. Back in the late 1990s, the PVC manufacturing industry was singled out principally because of our use of chlorine chemistry. In Greenpeace's eyes, God created all the elements but one – chlorine, which was created by the Devil. And since PVC consumed around one-third of total chlorine output, it was seen as a good single-issue target. Towards the end of the 1990s, our industry had to act to prevent potential legislation and to stem the major threat that was being created by the Greenpeace campaign. Ironically, it was environmentalists themselves who questioned Greenpeace's thinking that merely by phasing out PVC, the planet would be saved. Important questions needed to be asked, from a sustainability perspective, about what would replace PVC if its use in pipes, cables and a whole range of other applications was to be phased out (see Leadbitter (2002) for further reading on this process).

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Across the industry, a major 'European voluntary commitment' was begun, known as Vinyl 2010 (see www.vinyl2010.org for details), whilst a separate, independent process initiated by an international sustainable development charity, The Natural Step, tasked the industry with answering the three questions outlined above. Firstly, did we have a definition of sustainability? This was a simple question to answer at the time: no we did not. Consequently, an investigation was completed using a sustainability model, The Natural Step Framework (see www.naturalstep.org/en/applying-framework for details), the principal outcome of which was the identification of five key sustainability challenges facing the industry if it was to become fully sustainable:

- the industry should move towards becoming carbon-neutral
- the industry should commit towards controlled-loop recycling
- the industry should phase out persistent organic compounds

- the industry should use sustainable additives in PVC
- the industry should engage the whole supply chain in order to address sustainability.

So, in a matter of a few months, not only had we been provided with a definition of sustainability, but we were also provided with details regarding the 'gap' between where we were and full sustainability. All that was now needed were the actions required to bridge this gap. This sounds simple, but first of all, let us review the basic criteria highlighted above.

Commitment from top management

The threat posed by Greenpeace ensured that top management of all European PVC producers were fully supportive of the actions required to address sustainability, although some serious concerns were being expressed about the cost of achieving this. Speaking of which, to become truly sustainable, the economic element of sustainability is hugely important – no company can aspire to being 'clean and green' if it means going out of business! Therefore, a profitable pathway to sustainability is a basic requirement. As we begin to bridge the gap towards sustainability, we must therefore ask ourselves a further set of questions:

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- Is the investment that we will be making in a process or product a step towards sustainability, i.e. are we headed in the right direction?
- Are we creating 'flexible platforms' with such investment? (We want each step to enable another that leads to our goal, and thus avoid blind alleys.)
- Will the investments that we intend to make bring good enough returns? The returns here include both economic savings and environmental benefits.

An understanding of the core business and activities of the organisation the sustainability manager is representing

Having, as I do, a strong background in industry is an extremely useful qualification when it comes to taking on the role of a sustainability manager. A distinct advantage for me personally was having a professional scientific background, although, beyond any doubt, the greatest driving force is a passion and appetite for such a challenge. There are many experts in most businesses and it is a question of tapping in to this knowledge base and learning the knack of how, where and when to apply it. Clearly, the better prepared you are with a good understanding of the business, the more likely it is that you will be taken seriously by your work colleagues and the more valuable will be the support they provide you with. For example, 'green' university graduates must be savvy enough to respect the sensitivities of their more experienced work colleagues. Gaining trust and respect is a mutual process and one not to be underestimated.

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Heading towards sustainability

Let us assume that we now have a definition of sustainability and we at least have some understanding of where we are today and where we need to go, no matter how daunting that gap may be. What follows needs to be a sensible, logical series of practical actions that will begin to bridge this gap. To illustrate this point, let us evaluate the first of our five key sustainability challenges – the industry should move towards becoming carbon-neutral.

Back in 2000, few companies had a good understanding of their carbon footprint. Today, it is all the rage with the debate surrounding climate change to the fore. In order to make improvements, it is essential first to accurately measure current performance. So, in 2000, we set about measuring the carbon footprint of our activities across the whole supply chain entailed in manufacturing PVC. Clearly, this required some expertise in

defining the system boundary, i.e. what is within the process and what lies outside it. Only until you can reasonably estimate carbon emissions will it then be possible to measure incremental improvements in reducing such emissions.

In the case of Hydro Polymers, we identified the key personnel responsible for energy management across our major manufacturing plants in Norway, Sweden and the UK. The first task was for each site to provide details of the energy consumed during manufacture. Once this task had been completed, the process of creating ideas to reduce carbon emissions was introduced. To provide some incentive, our president at the time decided that, over and above normal capital expenditure projects, an additional 4 million per annum would be set aside for sustainability projects. This created a competitive environment and allowed out-of-the-box ideas to be generated across these sites. Through a brainstorming process, such as those undertaken in total quality management, all ideas were listed (largely from the energy managers) and brought before an internally created steering committee. This committee had the responsibility of reviewing the ideas brought forward and prioritising those that appeared most attractive. This was undertaken by assessing the likely carbon savings per unit of investment.

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This process was not as easy as it sounds, since the practicalities of each project required detailed assessment of business risk. In addition, the right atmosphere had to be created to allow those energy managers to start thinking outside of the box. Facilitating such processes is the job of the sustainability manager. Consequently various sustainability training sessions were undertaken with these managers to allow their ideas to flow.

One of the most successful projects was the installation of an exhaust pipe on one of the chemical crackers in the Norwegian plant. The process, known as adiabatic volume, allowed the cracking of a chemical gas to continue outside the reaction vessel, which increased the volume of cracked gas without additional energy. I take no credit for the concept,

since it was a chemical engineer who had the bright idea. That said, refining the idea, planting the seeds and gaining capital approval so the concept became a reality is a good illustration of what is possible as a sustainability manager. And to see this project progress from concept to reality was very exhilarating. The icing on the cake was a saving of around 8,000 tonnes of carbon dioxide per annum with a payback period in the investment of less than nine months. But you should always remember that you are part of a team and ensure that due recognition is provided to all contributing members of such teams.

Importantly, the sustainability manager in this example holds the vision and frames the challenges, as well as being a visible symbol of the commitment of senior management to the goal of sustainability, allowing those with specialist knowledge and expertise to innovate within that broader context.

Ultimately, the process of carbon-neutrality is only complete when there are no carbon emissions from manufacture, a tall order in any manufacturing process. Yet, in the four years of working towards this target, our company achieved an 18% reduction combined with significant financial savings. Not all projects were as exciting as this one, but the process had another, more subtle outcome of engendering cultural change and energy awareness at all levels within the organisation.

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Of course, not all projects are going to be as successful. However, without a strategic vision, purpose and a sense of urgency, progress is unlikely to be as rapid. It is a key responsibility of the sustainability manager to drive this agenda.

Seeing the bigger picture

A real challenge for the sustainability manager is to see the bigger picture. Whilst it is very exciting to see carbon emissions being reduced, this must be seen in the context of the product itself. For example, focusing on carbon reductions alone is not enough to achieve full sustainability. There

are other major challenges, such as resource use and waste management, to consider. In the case of PVC, over half of it is derived from salt, an abundant natural resource, whilst the remainder is from natural gas, a non-renewable hydrocarbon. Equally, we must also consider the end-of-life fate of the products manufactured by our customers, such as pipes, window frames, cables and medical devices, even though these are outside our control.

Joined-up thinking gets to the core of the creative mind of the sustainability manager. For example, taking an old PVC window frame and using it to re-manufacture a new one with the same set of sustainability challenges begins to look like a smart sustainability move. The carbon emissions from recycling old PVC are some 80% lower than those arising from the manufacture of virgin PVC, providing a giant leap in carbon reduction – far greater than what could be achieved through incremental energy improvement projects in our plants. Equally, we are solving a waste management issue by diverting the waste stream into a useful resource and, in so doing, saving on non-renewable resources compared with virgin product. Of course, the economic benefits must be attractive for such a process to occur, as well as ensuring all technical hurdles are overcome in the recycling process.

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One of the key sustainability benefits of PVC is, ironically, one of the aspects seen previously as an environmental criticism: it persists in nature (i.e. it is not biodegradable). Where this persistence is observed in small and disperse molecules that can accumulate in cells or other natural systems, it can be problematic, but when the persistent material is largely inert and made of large molecules that cannot enter cells then it is expressed as durability. Products that are durable and require little maintenance during their potentially long service life, and particularly those that can ultimately be recycled, deserve serious attention with regard to their sustainability credentials. They deliver a long service life requiring little maintenance, and therefore represent an efficient delivery of services for a small initial outlay of resources.

Reviewing all these options with a wide array of technical, commercial and marketing colleagues provides the sustainability manager with immense challenges and opportunities and clearly demonstrates the need to be able to multi-tasking. Indeed, such brainstorming can often begin to take a company in a strategic direction that may differentiate it from its major competitors, even in a commodity market. Not everyone will agree with some of the extreme green marketing that occurs in the retail industry, yet, paradoxically, such moves drive the sustainability agenda. However, at times we need to take a reality check – and for that I come back to the tools and principles provided by The Natural Step Framework, discussed earlier – and ask ourselves the three key questions: is the investment a step towards sustainability; is it creating flexible platforms; and are we gaining returns for such investment?

During the core period of intensive engagement of sustainability within my former company, we chose not to widely externally communicate our achievements although internally there was a pressing need to communicate. This patience paid off since, when formally requested, we could list our achievements with a high degree of credibility and thereby prevent the 'greenwash' trap (i.e. a superficial application of sustainability that does not stand up to scientific scrutiny). Perhaps more significantly was the realisation that, no matter how well intentioned any individual company may be in addressing sustainability, to work in isolation without engaging the supply chain will not achieve complete success. Hydro Polymers was no exception to this rule.

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Engaging the whole supply chain

Where do you start? For a significant number of companies and organisations, we found ourselves somewhere in the middle of a supply chain, with suppliers on one side and customers on the other. There were two key reasons why we focused on our suppliers first. We believed that we could apply more pressure on them to take action and engage with sustainability and, as a learning process for all; we felt that this carried less

risk compared to our customers if we were unsuccessful with their engagement.

For a period of three years, we organised an annual supplier sustainability event at which we requested each supplier to present their sustainability challenges. This task was now so much easier since we could both set out the rules of engagement (The Natural Step Framework) and provide our suppliers with clear, practical examples of what we had achieved over the last four years, thereby leading from the front and showing examples of sustainability in action that others could follow. And there is nothing more rewarding than seeing the acceleration of progress towards sustainability now being adopted electively by a large number of these suppliers, either through their use of The Natural Step Framework or through their own initiatives.

Having gained significant experience with our suppliers, we then proceeded with the riskier prospect at the other end of the supply chain: engaging with our customers. We held various workshops in Oslo, London and Paris. I can only describe the process as a rollercoaster ride and an incredible journey. We believe that we created higher value for our customers, which appeared to strengthen business relationships, something that was backed up by a series of customer feedback questionnaires.

Unlike many other roles in an organisation, a sustainability manager's task extends well beyond the factory site's boundary. Indirect environmental impacts can sometimes go unnoticed. For example, the supply of innocuous fillers requires mining and, if not managed responsibly, could lead to devastating effects on biodiversity and human health. This may not be obvious at first, and indeed is not meant to sound daunting. Like any new challenge, you need to walk before you can run, and it is essential first to address sustainability within your own company. However, the bigger picture must be appreciated in order to maximise value and address full sustainability. This can only be achieved by understanding the full supply

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chain. Once the low-hanging fruits have been picked internally, there is much for the sustainability manager to do beyond the factory gate. Precisely how this is achieved and balanced with other work commitments is beyond the remit of this chapter.

Lessons learned from the process

- There is no such thing as a sustainable material; it is the management of a material (in a product) across its full life cycle that demonstrates sustainability – blacklists on the procurement side alone make no sense without proper scientific scrutiny.
- Find a sustainability model that stands up to scrutiny on which to base your strategy.
- Tools such as life cycle assessment are valuable to help perform comparisons and determine where to focus resources regarding improvements.
- Full sustainability can only be achieved through engaging the whole supply chain.
- Addressing carbon emissions is but one of a number of sustainability challenges, so don't lose sight of the bigger picture.
- Make sure that creative ideas are captured and don't be dismissive of such ideas, especially during the conceptual stage.
- Much greater success will be achieved through teamwork and ensuring that proper recognition is provided to those contributing to the success of the team.
- Most companies today are operating unsustainably, even though most don't realise it.
- Don't be too impatient – transforming your company towards sustainability is no small task.

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- Pick the low-hanging fruits and promote success internally, but be mindful not to make claims to the outside world until real progress has been made.
- Don't try to swallow elephants to begin with – focus instead on projects which you feel confident you can deliver upon.

Reference

Leadbitter, J. (2002) PVC and sustainability, *Progress in Polymer Science* **27**(10): 2197–2226.

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