

Chapter 1

Setting the Scene

The Big Picture

A lonely planet

When the crew of Apollo 8 brought back pictures showing the Earth floating like a blue marble in the inky black darkness of space, ripples of consternation were felt across the world. The human race was faced with a stark reality: we live on a finite lump of rock spinning through empty space. Two things had become very clear:

- 1 Natural resources are not infinite.
- 2 If we exhaust those resources there is nowhere else to go.

It is important to remember these two basic facts. All too often ‘the environment’ is discussed in an abstract form as if it is an intangible entity like ‘the arts’, ‘heritage’ or ‘tradition’. On the contrary, our environment is very real and we can’t survive without it.

It is no exaggeration to say that our natural world is in crisis. Climate change has dominated the debate in recent years, but there are plenty of other pressing environmental concerns: the hole in the ozone layer, acid rain, accumulation of toxins in the food chain, loss of biodiversity, loss of topsoil, pollution of seas, lakes and rivers and the unsustainable exploitation of renewable, but depletable, resources such as forests, fish stocks and fresh water.

The facts are staggering. If the population of the whole world were to live like citizens of the UK, we would need three planets to support that lifestyle. If we all lived like the average US citizen, we’d need five.¹ We only have one. It is only the poverty in which the majority of humankind lives that stops the planet giving up the ghost right now. But with the economies of India and China booming, it is imperative that something is done to make human life on Earth sustainable.

What is an environmental impact?

This is quite a difficult question from a philosophical point of view. Many of our most dramatic landscapes around the world have been shaped by human activity. Identifying what constitutes a negative effect on the natural world is a subjective choice.

From a technical point of view, the following model is generally accepted as the standard definition of an environmental impact. There must be a source of a problem (often the release of a pollutant), a receptor (something to be damaged) and a pathway to connect the two (see Figure 1.1).

This is very simple and it gives us the range of techniques to stop the impact happening – you simply have to remove one of the three components:

- Removing the receptor is the most difficult of the three options and is often impossible. A common example is moving a colony of rare amphibians in the path of a new road. Obviously you can't do this for global environmental problems.
- Removing the pathway means preventing the problem reaching the receptor by a physical barrier (e.g. a filter or an impermeable material) or by transforming the pollutant en route (e.g. by chemical, physical or biological treatment).
- Removing the source removes the problem. In practice this strategy most often works best and costs least. It is the one that will be pursued almost exclusively in this book.

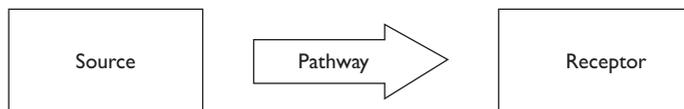


Figure 1.1 The technical definition of an environmental impact

A Sustainable Future

Sustainability and all that

So what end are we trying to achieve? The easy answer is that our existence on this planet should be sustainable – we should arrange our lifestyles so that future generations can continue to flourish. Unfortunately the terms ‘sustainability’ and ‘sustainable development’ are often used interchangeably, but there is a clear difference between the two.

Sustainability is the *endpoint* where civilization can thrive within the limits posed by only having one planet. As Jonathon Porritt, the chair of the UK’s Sustainable Development Commission, says, ‘sustainability is non-negotiable as the opposite of sustainability is extinction’.²

Sustainable development is the *process* of getting from here to sustainability (see Figure 1.2). There are many hundreds of definitions of sustainable development, but the most widely accepted, and quoted, definition of sustainable development is that of the Brundtland Commission in 1987:³

Development that meets the needs of the present without compromising the abilities of future generations to meet their own needs.

This, like most definitions of sustainable development, is deliberately vague and is very weak because of that. A more robust definition would be:

Saving the planet and solving world poverty.

And that’s a bit scary.

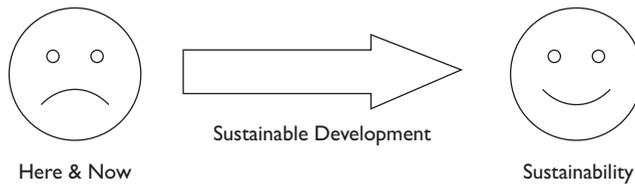


Figure 1.2 Sustainable development and sustainability for dummies

Models of sustainability

The most popular way of visualizing sustainability is three interlocking circles representing economy, society and environment. The nexus at the middle is regarded as sustainability (see Figure 1.3).

While it may sound sensible at first, it is almost entirely useless, if not dangerous, as it suggests that sustainability is some kind of balance between the three and implies that not hitting the target is an option. It is very easy to find a social benefit, an economic benefit and an environmental benefit to any enterprise, but this

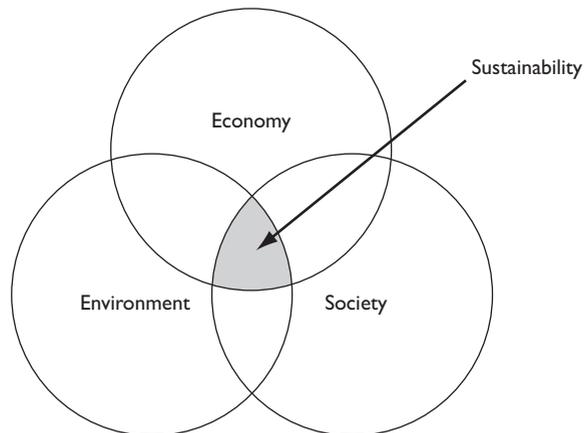


Figure 1.3 Traditional model of sustainability

doesn't mean it is sustainable. To get to true sustainability requires a paradigm shift and that's what we're after in this book.

A slightly more robust version of the interlocking circles is the 'three legged stool' where one leg represents economy, the second is society and the third the environment. The analogy is that if one is removed then the whole thing falls over. While this image gets across the essential services provided by the environment, it is almost impossible to derive any practical policies as a result.

A less well-known but more meaningful model is the 'fried egg' model (see Figure 1.4). In this, sustainability is defined as the situation where the economy operates within the limits set on it by society (which should reflect values such as fairness, justice and liberty), and where society flourishes within the hard ecological limits placed on it by the natural world.

While obviously still high level, this model gives us a more robust objective to aim at. Therefore this is the model I adopt in this book.

This book is predominantly concerned with attaining *environmental* sustainability in industry. Integrating complex social issues into your business, such as human rights and decent working conditions in the supply chain, would require another book to give them the serious consideration they require.

We will consider a number of models of environmental sustainability and how they fit into this high level model in Chapter 2.

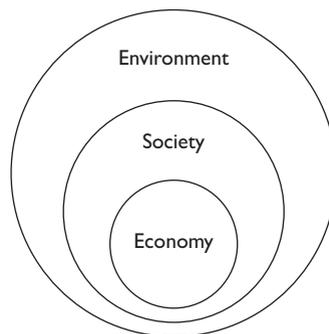


Figure 1.4 'Fried egg' model of sustainability

The Precautionary Principle

Another key plank of sustainable development is the Precautionary Principle. The Precautionary Principle has existed in various forms for several decades and was explicitly included in the Rio Declaration resulting from the first Earth Summit in 1992.

In simple terms the principle states that, given the exceedingly high levels of uncertainty in predicting environmental damage, the prudent approach is to avoid risk and abandon or reject policies or practices that may have unsustainable outcomes or substantial negative environmental impacts.

The Precautionary Principle can be split into six basic concepts:⁴

- 1 preventative anticipation: protective action should be taken in advance of scientific proof when delay will lead to further environmental damage;
- 2 safeguarding ecological space: providing suitable margins of error to decrease the probability of unsustainable damage;
- 3 proportionality of response: these margins of error should be appropriate to the risk involved;
- 4 duty of care: those who propose change must take responsibility for their actions;
- 5 promoting natural rights: puts the protection of the environment on a moral as well as practical basis;
- 6 paying for past ecological debt: puts retrospective liability on polluters and decision-makers.

Environmental legislation is starting to reflect these principles, for example, in the UK:

- Duty of care is embedded into the waste management regulations. You are responsible for the safe disposal of your waste, no matter who you have contracted to provide this service.
- Ecological debt: owners of sites with contaminated land can get the people or organization who contaminated that land to pay to clean it up (if they can find them).

Business and the Environment

The environment IS your business

So why should you take the environment seriously when you have a business to run?

The most basic driver is survival. Without the clean air we breathe, the clean water we drink and the materials we require for clothing and shelter, there will be no business, no economy, no nothing.

The next level is the need for business to subsist on a sustainable source of raw materials and energy. Some industries, such as agriculture, horticulture, fisheries and forestry, depend on a sustainable supply of material directly, but all companies require energy and raw materials, even in the service sector.

The highest level is the societal value that human beings put on a clean healthy environment. People pay more for houses with beautiful views, travel around the world to view natural wonders or to lie on clean beaches, and join environmental groups in their millions. Whether they accept it or not, almost everyone is an environmentalist. These people are your customers.

Governments are slowly creaking into action. Hundreds of pieces of legislation are being formulated to drive industry towards sustainability. If industry doesn't move, those inflexible regulations will intensify in number and scope. Many companies are also feeling the heat from the general public as pressure groups launch campaigns on environmental and related issues.

Costs relating to resource use and disposal will rise; both through deliberate introduction of escalating green taxation and through the increasing scarcity of resources. These costs come straight off your bottom line. If you have a 25 per cent profit margin, then for every £1 you spend on environmental costs, you would have to make £4 of sales just to break even. It is almost always easier to cut the cost than increase sales.

On the other hand, a number of trailblazing companies are finding huge commercial advantages to improving environmental performance. Like any

Table 1.1 *Environmental business drivers*

<i>Opportunities</i>	<i>Threats</i>
Reduced costs	Green taxation
More profit	Risk of prosecution
New markets	Customer requirements
Product differentiation	Supply chain pressure
Positive public relations	Negative public relations
Staff morale	NGO campaigns
Future proofing	

situation of change it is better to grasp the nettle and drive forward proactively, seizing the opportunities and leaving the threats far behind. This book sets out a strategy for such a course of action.

Table 1.1 above summarizes environmental business drivers in terms of opportunities and threats.

Industry and the environment

Figure 1.5 shows a simple model of one company. All the arrows in and out represent a cost and an environmental impact. The product or service is the source of income. Obviously the more product you can produce while minimizing the other inputs and outputs, the more profitable the business will be.

Figure 1.6 shows how a large number of companies add up to form a model for the complete product value chain.

Primary industries, which extract resources from the Earth, tend to be the most environmentally destructive. For example, extracting copper ore usually requires the removal of several times as much ‘overburden’ of soil and rock. Then getting 1kg of pure copper from that ore results in 50–200kg of waste and requires 50–100MJ of energy,⁵ enough to light a 100W light bulb for more than ten days. This is the main reason why recycling is important – it cuts out the dirtiest stage of the life cycle.

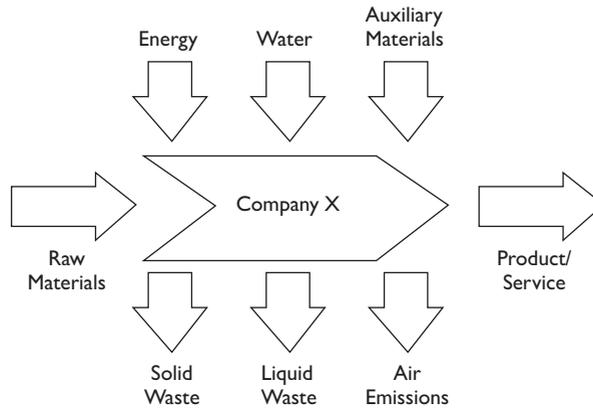


Figure 1.5 One business's impact on the environment

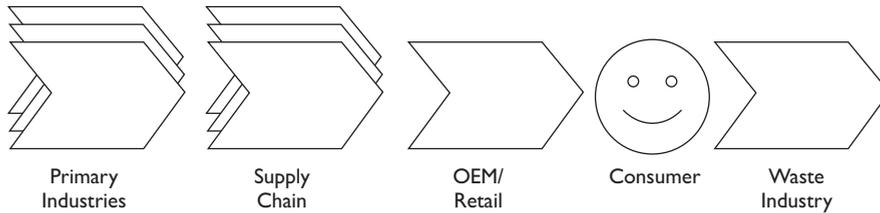


Figure 1.6 The product value chain

The secondary (manufacturing) sector tends to be cleaner and the tertiary sector (retail, services) cleaner still. This provides a problem for companies in the higher levels – if your consumer or client is demanding a more eco-friendly product or service, the main environmental impacts are very likely to be outside your direct control. Conversely, benefits, both economic and environmental, accumulate up the supply chain. If your supply chain is clean and green, then you have to do very little to proclaim yourself clean and green.

Where do we start?

This part of the book has set out the problems that society faces, the endpoint that we must aim for and why this is an issue for your business. But before we get into the practicalities of creating a green business, there are three basic principles that we must understand. Rather grandly, I call these the Three Secrets of Green Business Success.