

A close-up photograph of two bees on a cluster of purple flowers. The bees are positioned on the left and right sides of the frame, facing each other. The flowers have long, thin stamens and are in various stages of bloom. The background is a soft, out-of-focus green and blue, suggesting an outdoor setting.

Full cost

\$4.7 trillion – cost of top 100 environmental impacts to the global economy

\$15 – the true cost of 1 litre of water in areas of extreme scarcity

Full cost

Increasing transparency of society's reliance on nature, intensify requirements for business to pay the true cost of the resources provided by 'natural capital' and so compensate for their negative impact on society.

In many of today's commercial activities with historical accounting practices, decisions are often taken on the basis of measurement of a narrow view of profitability and performance. Transparency provided by technology and a growing understanding of supply chain impacts and dependencies are leading to a re-evaluation of value and accounting practices that aim to include 'whole value chain' costs and benefits – taking into account costs and benefits to people, planet and profit.

Businesses have benefitted from reflecting only a partial view of the impact of their actions, and need to move towards a system that measures business success by their broadest contribution to society and their creation of 'shared value'. Instead of simply providing value for shareholders, and ignoring any negative impacts on stakeholders such as exploitation of workers, and degradation of societal wellbeing or the environment, shared value will be created for and shared by customers, employees, shareholders and wider society.

This move towards a 'Net Positive' position will necessitate business understanding and accounting for the full costs of negative impacts, as well as the positive benefits, often termed 'externalities', brought to those (in addition to the traditional customers and shareholders) such as staff and supply chain communities and wider society.

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A positive externality may arise from such things as inventions that are then widely used or investments in infrastructure such as a road that creates opportunities for housing, shops, tourism. Negative externalities occurs in communities when a factory is closed down but are more often associated with the environment in relation to free goods, produced or provided by nature and available to everybody, such as air, rivers, lakes and ecosystems. This can be thought of as a 'liquidation of natural capital' where nature is degraded to be turned into goods and services for human benefit – man-made capital.

In an attempt to account for these hidden costs of business on the environment and wider society, Trucost have estimated that the world's top 100 environmental impacts cost the global economy around \$4.7 trillion per year. Of these 100 externalities, the majority of un-priced natural capital costs are related to free usage of ecosystem services and natural resources such as the greenhouse gas emissions to the atmosphere (38%), water use (25%), land use (24%), and air land and water pollution (12%). In some industries, the damage actually outstrips the value of products created.

We will see the rise of accounting methods and practices that aim to recognise these externalities and bring transparency to business operations. The Natural Capital Protocol, being developed by the Natural Capital Coalition, and the Sustainable Development Goals agreed by the UN at the end of 2015 are being adopted by businesses as a framework for what 'good' looks like. Triple Bottom Line accounting, including financial, environmental and social, is being developed into Integrated

Changing business



Reporting by the IIRC (a global coalition of business, investors, and regulators); global businesses such as Puma have calculated their environmentally extended P&L accounts to support their decision-making.

As accounting methods shed light on these hidden costs it becomes more apparent that they are paid for by wider society while the profit from the use of these free services is largely enjoyed by private individuals or companies. The issue of balancing private and public good and who pays the cost has been with us for a long time and the debate will escalate in the next decade.

Similarly energy producers and users benefit considerably from the 'free' carbon sink services provided by the atmosphere, while the cost of disruption from the build-up of carbon in the atmosphere is borne by global society. Several efforts have been made by governments to assess the 'social cost of carbon' to illustrate the true costs of producing and using fossil energy. Some argue that this higher price of carbon (estimates range from \$37 to \$220 per tonne) should be taken into account in any carbon trading schemes although as yet there are no mandated schemes which use these alternative figures.

The use of water is also subject to externalities - direct users benefitting at the expense of wider society or the environment - while rigid pricing structures often exacerbate the problem. Variability in water availability is highly localized and it would be expected that pricing would reflect its availability. Variability might be geographical (water stressed areas versus water abundant areas) or seasonal (between dry times of years and wet). This is often not the case however and price may be more influenced by cultural and political issues rather than availability.

For example, contrast Singapore and the UAE. Although not lacking in rainfall, Singapore has been dependent on importing water from its neighbour Malaysia - who fixes the price. With water harvesting, low-cost desalination and grey water reuse, water in Singapore costs around \$1 per cubic meter. By contrast, in the UAE - where most water comes from desalination plants - for some customers water costs nearly \$3 per cubic meter while for Emirati nationals, just like energy, it is free. Dubai gives quite different messages to its populations.

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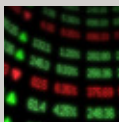
Trucost sees that “Based on current production locations, if water were to be priced according to its availability, 27% of profits would be at risk across the world’s largest companies” and that environmental and social costs of global business water use now add up to around \$1.9 trillion per year. It estimates the true cost of one cubic meter of water ranges between \$0.10 where it is plentiful and \$15 in areas of extreme scarcity.

In addition, wider social costs of depleting a water source through over use are often not included in pricing of water. The development of tourism infrastructure such as hotels and golf courses in water stressed areas mean that local communities have reduced access to water for their everyday activities – another case of privatizing profits while socializing losses. There is an inevitable link between this and the inequality issue exacerbating the situation where 1% of the global population owns nearly 50% of the wealth and the least well-off 80% only own 5.5%, with the potential for the poor to be priced out of access to those public goods intrinsic to progress.

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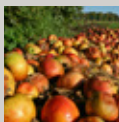
Related insights

Dynamic pricing



The algorithms of Amazon and Uber cross over to affect more businesses, from energy use to parking. Real-time transparency allows better purchasing at the same time as margins and yields are automatically enhanced.

Food Waste



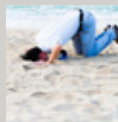
30-50% of our food is wasted either in the supply chain or in consumption and could feed another 3 billion. Optimising distribution and storage in developing countries and enabling better consumer information in others could solve this.

Plastic oceans



There are increasing high levels of man-made pollution in many of the world’s seas and little actually disappears. By 2050 there will be more plastic than fish in the oceans.

Still being stupid



Despite a better understanding of the long-term challenges we face, we individually and collectively continue to make decisions that may make sense in the short-term - but do not lead to better longer-term consequences.