

How can Companies Achieve Sustainability through Carbon Tax, Green Manufacturing and Corporate Social Responsibility

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Abstract

According to NASA (2021), since 1850, human activities have raised CO₂ concentrations in the atmosphere by about 49% above pre-industrial levels, which is more than what had occurred naturally during a 20,000-year span. As society develops and a variety of alarming environmental and social issues arise, the world is attaching more importance to sustainable development. Sustainable development is defined as development that meets the needs of the present without infringing on future generations' right to exist (Brundtland, 1987). It has three components: ecological sustainability, economic sustainability and social sustainability, which all have a significant impact on humanity. Companies, as the main force of social production, play an essential role in supporting sustainable development in all aspects. First, focusing on ecological and economic sustainability, this essay will analyze carbon tax and green manufacturing in enterprises. Then, corporate social responsibility will be analyzed in terms of social sustainability.

Keywords

Sustainable development, carbon tax, green manufacturing, corporate social responsibility.

1. Introduction

Short-term goals may help companies achieve immediate benefits, but they are not conducive to long-term sustainability. Combining ecological sustainability with economic sustainability, it is suggested to achieve long-term economic development without damaging the environment and depleting natural resources. A carbon tax is a prominent contributor to sustainable development, whose main target would appear to be manufacturing firms, since production requires large amounts of energy and emissions which seem to exist in the whole process of production. As reported by FAO (2013), the livestock sector alone emitted 7.1 gigatonnes of CO₂ a year, accounting for 14.5 percent of all anthropogenic emissions. Yet Murray and Rivers (2015) state that because of the carbon tax, greenhouse gas emissions have been reduced by 5–15%. A carbon tax on business is therefore vital. The benefits of introducing a carbon tax are twofold. In order to reduce the costs brought by the tax, companies will probably strive to reduce the use of energy generated by fossil fuels through developing more cost-effective ways to produce their goods or provide their services (Tsai, 2020). A case in point is Lenovo. To reduce energy consumption in the cooling process within typical data center infrastructure limits, Lenovo developed the ThinkSystem SD650 direct water-cooled server, which helps save up to 40% on energy costs (Watts, 2021). Additionally, carbon tax promotes the use of clean energy for businesses instead of non-renewable energy. This transition plays an important role in controlling carbon emissions and leading to the decline of energy intensity (Fang et al., 2013). However, there are drawbacks to carbon tax as well as merits. The tax may result in higher electricity bills for households and industry, leading to business closures and other economic woes such as a cooldown in investment and small-sized enterprises' annexation by large

enterprises. These shortcomings make the tax seem not very compatible with the idea of economic sustainability. Taking Australia as an example, the Treasury estimated that the carbon tax has caused the Consumer Price Index to climb by 0.7 percent. Carbon pricing and other green schemes were responsible for up to 30% of small and medium-sized enterprises' electrical expenditures (Centre for Public Impact, 2017). Ultimately, the tax was repealed in Australia in 2014. Therefore, seeing the benefits of a carbon tax, its shortcomings on the market should also not be underestimated. In fact, introduction of new manufacturing technology and the use of renewable energy resources are also part of the practices of green manufacturing. To put it another way, a carbon tax promotes green manufacturing in business to a certain extent. Currently, problems such as packaging waste and white pollution arise. Green manufacturing is a worldwide advocated solution, which is about establishing environmentally-friendly operations in the industry, with the objective of reducing the cost of the product and creating less pollution. Paul et al. (2014) argue that, during manufacturing, materials and energy are inputs, while wastes and emissions are outputs, which in turn are used as inputs in other industrial and natural systems. Considering this circulation, companies are encouraged to optimize product design, packaging, and material used. It is encouraging that biodegradable materials are being used by an increasing number of manufacturers, because they can aid in the creation of regenerative, healthy cycles in our ecosystems. Take a candle manufacturer, Keap, as an example. Wheat straw packaging of its candles can be thrown straight into the compost bin. It has also designed candle holders unconventionally. Beeswax is used instead of glue for the wicks, and the labels are easily removable. These designs enable the candle holders to be repurposed readily as drinking glasses, so that consumers can retain them or send them back to the company and the glass can be utilized again in production (Keap, 2021).

Green manufacturing plays a prominent part in contributing to environmental sustainability. Nonetheless, as shown by Mao and Wang (2018) through analyzing the performance of 1470 manufacturing firms in China from 2008 to 2015, green manufacturing increases operating cost of manufacturers. This argument may enlighten future generations to invest more to carry on clean production. Governments may be expected to give more financial support to enterprises. Actually green manufacturing is not only a requirement of relevant policies, but also a reflection of corporate social responsibility (CSR).

As a theory that will guide humanity into the 21st century, sustainable development goes beyond mere environmental protection. In fact, social sustainability is the objective while ecological sustainability is the foundation. Corporations' voluntary consideration of the environment, economy and society is admired in terms of CSR (Aguinis, 2011). However, the United Nations Global Compact (2021) shows that within companies participating in the compact, only 46% of them are integrating SDGs into their core operations. Advocacy of CSR is beneficial to achieving social sustainability and creating a world with equality, human rights and education, free from poverty, hunger, and violence. The specific approaches are as follows. In addition to green manufacturing, companies can exploit the resources of poor areas, expanding their own production while at the same time making up for the lack of capital in poor areas. In terms of philanthropic responsibility, charitable actions such as helping to develop education and provide food in backward areas are also good practices, which also have an advertising effect for the company and enhances its corporate image. For instance, by honouring its ethical obligations, IndiGo, India's largest passenger airline, has helped empower over 56,500 women, educate over 44,400 children and plant over 10,000 trees (IndiGo, 2021). Besides, companies should not exploit labor or discriminate against women in the workplace. Homburg et al. (2013) suggest that if consumers view the values reflected in a supplier's CSR operations to be similar to their own, they will be more likely to identify with the company and make a purchase.

2. Conclusion

Overall, focusing on companies, this essay critically analyzes carbon tax, green manufacturing and corporate social responsibility from the perspective of three aspects of sustainable development: ecology, economy and society. From an ecological and economic point of view, this essay has shown that carbon tax and green manufacturing can contribute to reducing carbon emissions and protecting the environment, and they both have some economic disadvantages. Then this paper discusses corporate social responsibility in terms of social sustainability. Companies, as an important part of society, should be actively involved in the process of sustainable development. It is clear that the purpose is to enable all humanity, including our future generations, to fulfil their potential and live with dignity and equality in a healthy environment.

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