

# Carbon tax increase: Impact on SMEs

## About Carbon Tax

A policy-based approach, carbon tax aims to reduce GHG emissions by taxing carbon-intensive activities. By giving a dollar value to these harmful gases, the otherwise hidden social and environmental costs of GHG emissions are now directly linked to a company's bottom line.

Carbon tax was introduced in 2019 in Singapore at a rate of 5 per tonne of CO<sub>2</sub><sup>e</sup> emissions, and is scheduled to increase to S\$25 in 2024, and S\$50-S\$80 by 2030. While it is an effective way to tackle climate change, it can adversely impact SMEs with tight budgets. The analysis below details how carbon tax can affect SMEs through the energy channel.

## Impacts of a Carbon Tax Increase

### SMEs in Singapore

The increase in carbon taxes will almost certainly result in higher energy costs for businesses, thereby impacting their bottom line. With comparatively limited resources as opposed to larger firms, SMEs may struggle to absorb these additional costs. Seeking aid from government grants and schemes can help SMEs transition to a low-carbon economy. However, these measures may still be insufficient to offset the impact of carbon taxes on SMEs.

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## Electricity prices

While carbon tax is hailed as an effective policy tool to reduce GHG emissions quickly, policymakers need to weigh its pros and cons. One significant downside of carbon pricing is the impact on electricity prices.

Our data scientists consolidated historical data on carbon tax rates and electricity prices from 1985 to 2022 across 31 countries (including Singapore). A multivariate regression analysis predicts that electricity prices will increase by \$0.282/MWh if the carbon tax rate increases by a dollar. This suggests that a carbon tax raise from the current level of S\$5/tCO<sub>2e</sub> to S\$25/tCO<sub>2e</sub> in 2024 and S\$80/tCO<sub>2e</sub> by 2030 will likely result in an increase in electricity prices to S\$5.64/MWh and S\$21.15/MWh respectively.

To put these figures in perspective, a household using 1000 kWh per month will incur a substantial monthly electricity bill increase by S\$5.64 in 2025, and S\$21.15 in 2030.

Higher electricity prices disproportionately affect low-income households more, leading to an increased energy poverty. Moreover, it can weaken the competitiveness of energy-intensive industries through higher production costs.

Despite the negative repercussions, carbon tax incentivises industries and individuals to actively minimise their carbon footprint by lowering GHG emissions. It is imperative for policymakers to consider mitigating measures, such as revenue-neutral taxes, to ensure that low-income households and specific industries can ease gradually into a low-carbon economy.

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## The Energy Channel and SMEs

The energy channel refers to the relationship amongst energy consumption, energy prices, and business outcomes. Our research team analysed that a higher electricity price leads to higher production and corporate revenue. Likewise, a higher electricity consumption is also associated with higher production. However, higher electricity prices and consumption together result in lower productivity, higher corporate revenue, and higher expenses.

In this study, SMEs can choose to:

1

**Increase product prices to pass on the indirect cost as a result of higher carbon tax to their customers.**

However, this strategy may not be viable for all SMEs, especially those operating in highly competitive markets.

2

**Reduce electricity consumption to mitigate the impact of higher carbon tax on their bottom line.**

However, this approach can lower productivity and reduce business outcomes.

3

**Mitigate the impact of the carbon tax increase and higher electricity prices.**

This can be achieved through energy efficiency improvements via various means, such as installing an energy efficiency monitoring system at facilities, or implementing cultural changes in their operations by switching off machinery and lights when not in use.

The study found that a 1% increase in electricity prices resulted in a 0.026% decrease in electricity consumption, leading to a 1.21% decrease in gross revenue. By developing efficiency in electricity consumption, SMEs may be able to offset carbon tax costs while improving their bottom line through lower energy expenses.



## Conclusion

The planned increase in carbon tax in Singapore will impact SMEs significantly, especially through the energy channel. This stems from increased energy costs that affect profits. However, SMEs can mitigate the impact of higher carbon tax on their operations through several means. For instance, carbon tax costs can be passed on to customers through higher product prices, and electricity consumption can be reduced to offset increased energy costs.

SMEs are urged to urgently reduce energy consumption through energy-efficient practices in their operations. This can include installing energy efficiency monitoring systems, instilling a consume-only-when-in-use energy culture amongst employees, investing in renewable energy sources such as solar panels, and upgrading less efficient equipment.

SMEs can actively explore various government assistance in their transition towards a low-carbon economy. These financial grants and subsidies help SMEs invest in energy-efficient infrastructure, education and training on sustainable practices, as well as partnerships with industry experts to develop and implement sustainable solutions. By doing so, the government can propel SMEs to remain competitive and contribute to Singapore's efforts in reducing carbon emissions to combat climate change.

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