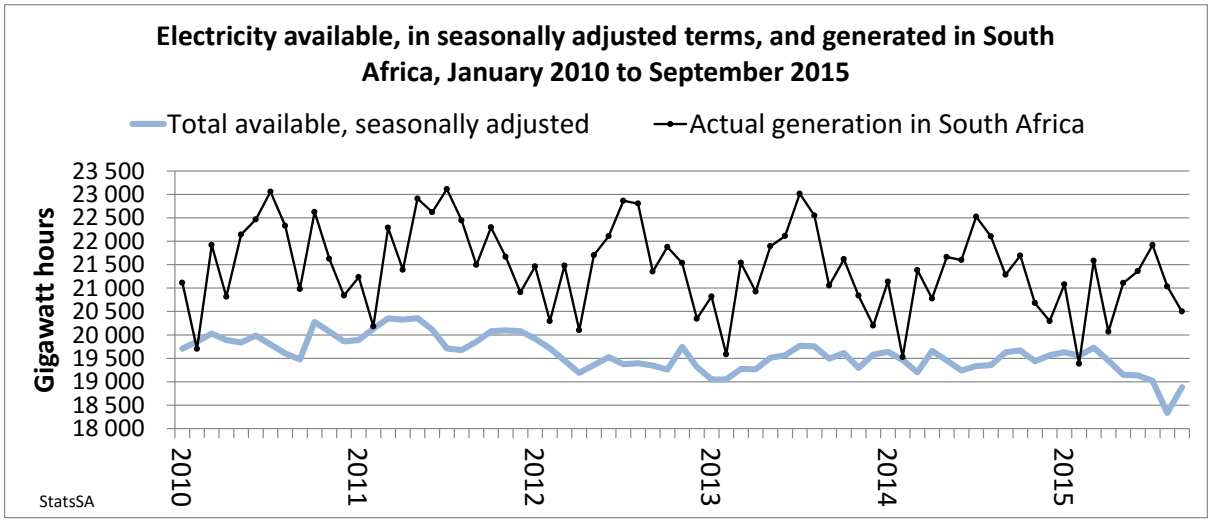
Electricity and the carbon tax

Lower production by the main metals refineries means loadshedding has ended, although breakdowns at municipal level still cause unpredictable blackouts. The National Treasury's proposed carbon tax aims ultimately to make coal and oil more expensive fuels. Although it is being initially introduced at a low rate, to achieve the desired outcome would require a fundamental shift in the structure of manufacturing.

Loadshedding from late November through the second quarter of 2015 cost many manufacturing sectors dearly. Reduced refinery production from early 2015 has, however, provided significant relief. Electricity use dropped by almost 5% from March to September 2015, as the accompanying chart shows. Largely as a result, there has been virtually no loadshedding since the middle of the year.



In most municipalities, however, the failure to maintain substations and distribution systems means that unexpected blackouts still occur periodically as a result of equipment failures. In November, Johannesburg announced it would invest R500 million to upgrade substations, but the backlogs remain substantial across the country.

The National Treasury has published draft legislation to introduce a carbon tax, which would effectively increase the cost of non-renewable energy, both electricity and petroleum. In light of substantial resistance both inside and outside of government, its current proposals seek to minimise the initial impact through:

- An array of discounts and exemptions that would mean the effective increase in cost would be around 3% for electricity and 1% for liquid fuels for most companies, and
- Measures to ensure that the new tax would not lead to an increase in total tax income. For instance, Treasury might end the current electricity levy, which would largely offset the increase in the electricity price although it would not affect liquid fuels. In effect, the aim of this strategy is to change the relative cost of carbon fuels, not to increase total taxes on business.

Within the real economy, the carbon tax would mostly affect energy-intensive producers, notably the refineries (which already face serious difficulties), and transport costs. That said, if the Treasury does in fact eliminate the electricity levy, the cost of electricity will not be affected in the short run.

The longer-term challenge for manufacturing arises from the stated intention of reducing dependence on coal-based electricity, which is the main source of emissions worldwide. The refineries, which use

around 20% of Eskom's (mostly coal-fired) electricity, currently constitute South Africa's second-largest manufacturing sector, after food and beverages. Chemicals, which Sasol dominates, are in third place. Measures to reduce dependence on coal by raising the cost of carbon will fundamentally affect growth prospects in these industries.

The carbon tax comes on top of increases in the electricity tariff from 2008 averaging 110% for the refineries, 150% for the mines, and 135% for municipalities, which in turn supply most of the rest of manufacturing. The higher price has both accommodated growth in renewable electricity and supported Eskom's construction of two new coal-based power plants.

In essence, policy debates around the carbon tax reflect different approaches to regulation. The tax relies essentially on a market mechanism to incentivise reduced dependence on carbon-based fuels. As with all market-based strategies, it is not expected to work efficiently in the presence of major market imperfections and factor immobilities. In the event, a combination of regulatory, technical and financial factors makes it difficult for companies to switch from Eskom to cleaner electricity sources or to move from road to rail. As a result, they cannot adapt efficiently or rapidly to the higher cost of carbon-based energy, which means the tax as a whole could have a more negative impact than anticipated on the real economy.

The Departments of Environmental Affairs and Energy have relied on industrial-policy approaches. That is, they are seeking to promote new sector-specific technologies through a combination of incentives and regulations.

The Davis Tax Commission has recommended that the carbon tax be introduced in 2017 with a zero rating to enable both the Treasury and companies to improve their information on emissions, adapt more efficiently, and improve implementation in ways that achieve the desired outcomes.

A detailed briefing on the carbon tax is attached. It includes the Davis Tax Commission recommendations.