

# Agenda

Advancing economics in business

## A Caribbean twist: utility regulation in small-island jurisdictions

The Turks and Caicos Islands government asked Oxera for advice on developing a new framework for electricity regulation. The Oxera study found that regulation should be tailored to the specific geography, population, skill sets and fuel distribution channels faced by small jurisdictions. Moreover, given resource constraints, it needs to focus on the most important issues. The findings are highly relevant for regulators in other small-island jurisdictions

In 2009, the UK suspended the self-government of the Turks and Caicos Islands (TCI), situated to the south-east of the Bahamas island chain, owing to allegations of ministerial corruption. In addition, Grand Turk, the administrative capital, had been badly affected in 2008 by Hurricane Ike. Providenciales, the most populated of the islands, had also seen its tourist income heavily affected by the 2008 financial crisis. To add to these problems, with rising diesel prices in the wholesale markets, electricity bills had also been increasing over time.

Against this backdrop, the TCI government commissioned Oxera to undertake an independent review of the regulatory framework for the electricity sector in the Islands. In particular, Oxera was asked to assist the interim government in assessing options for reforming electricity regulation. Following careful analysis—and having interviewed a wide range of businesses, government members and customers in TCI in 2011—Oxera's findings were published by the TCI government in May 2012. The TCI has since published its own report, taking into account many of Oxera's recommendations.<sup>1</sup>

### The status quo

Oxera's regulatory review was undertaken against a background of widespread concern about the level and volatility of electricity prices in TCI and the lack of development of alternative energy sources, such as renewable generation. The TCI government and the electricity companies both expressed concerns about the effectiveness and efficiency of the existing regulatory framework and how this is implemented.

Electricity services on TCI are provided by two vertically integrated companies: Fortis TCI and TCU, each of which has an exclusive territory within which to generate, transmit/distribute, and sell electricity on the islands. The companies rely entirely on diesel generating units to generate electricity. Fortis TCI is the larger of the two companies, serving around 85% of all customers on TCI.<sup>2</sup>

The system of regulation on TCI centred on the process for rate-setting, as laid down in the Electricity Ordinance of May 15th 1998. While there were provisions for a rate review, these had been infrequent. TCU's base-rate tariffs have remained unchanged in nominal terms since takeover in 1986. The companies were, however, protected from fuel price increases through the fuel cost adjustment—a growing element of end-users' bills. Historically, this adjustment, plus the historical demand growth in TCI, made the fact that base rates had remained largely unchanged somewhat less problematic. More recently, this had become more of a concern for the utilities, given past investment in generating capacity, the impact on demand of the global economic slowdown, and the investments necessary to restore services following Hurricane Ike in 2008.

Many consumers claimed not to understand their bills (especially the fuel cost adjustment), or what the system of regulation allowed for. There was also widespread concern that rising electricity bills were becoming unaffordable, and a lack of understanding of why renewable energy sources remained underdeveloped. At the same time, stakeholders praised the companies for their reliability and prompt response in times of emergency, especially following Hurricane Ike.

This article is based on Oxera (2012), 'Review of the Regulatory Framework for the Electricity Sector in the Turks and Caicos Islands', April, prepared for the Turks and Caicos Islands government.

Both Fortis TCI and TCU had invested significantly in their assets prior to 2008, driven by growth in peak demand, which had since abated. Following the impact of Hurricane Ike in 2008, TCU switched priorities to investing heavily in network restoration. Fortis TCI continued to invest in new generation capacity and a new headquarters, which improved the condition of its assets and safety performance. While the investments made by both companies led to highly reliable systems, significant investment was undertaken, and the extent to which this was necessarily efficient is unclear.

An indicative analysis of labour productivity also presented mixed evidence on the operating efficiency of the companies. Taking account of their size, the companies appeared to be 'about average' for the Caribbean on labour productivity. This indicated that they were both likely to have scope to improve.

A further analysis of the companies' operating costs showed that generation costs (including fuel costs) were very significant elements of total costs. Fuel costs were, however, largely beyond the utilities' control. The level of risk associated with fuel costs supported the retention of a mechanism (such as the fuel cost adjustment) to pass this on to customers. Other areas of cost were either partly controllable, or much less significant than fuel costs in terms of cost risk. This implied that, while some categories of non-fuel costs might increase, these increases could be largely or entirely offset by reductions elsewhere. In turn, regulatory incentives could be honed to encourage greater operating efficiencies.

Oxera also undertook an analysis of the profitability of the TCI electricity companies, to explore whether their profitability levels were 'reasonable'. The returns to Fortis TCI and TCU since 2008, of around 7.5–9%, appeared to be consistent with benchmark returns that investors would have been likely to expect, as measured by the weighted average cost of capital (WACC), whereas returns before 2008 seemed to be much higher. The key driver of lower returns after 2008 appeared to be investment in fixed assets, rather than a fall in operating profit.

## Options to move forward?

### Policy context—renewables, social issues and tourism

Oxera recommended that the TCI government should clarify its policy on renewable energy, and publish a plan to implement this policy. The regulatory framework would then be able to take this into account. Oxera identified shorter- and longer-term measures:

- **shorter-term measures** that are implementable without major changes to the industry set-up (eg, changes to the tariff structure to incentivise energy efficiency by customers);

- **longer-term measures** that comprise a menu of options that need to be explored and their feasibility assessed before implementation is pursued (eg, the introduction of a grid code and feed-in-tariffs for new suppliers and self-generators).

It still needed to be recognised, however, that diesel would play a large part in the energy mix on TCI. Moreover, escaping this legacy was more about diversity in generation than about carbon emissions. In addition, given an announcement by the TCI government in 2011 to potentially introduce a carbon tax, any carbon tax might be passed on to consumers in prices.

It was also recommended that the TCI government should clarify its policy on social and rebalancing issues in tariff-setting. This is relevant in the case of both incremental changes to the existing rate base approach and more fundamental reforms (see below). In general, for tariff differentials to be scrutinised effectively by the regulator, a clear articulation of the cost differentials (if any) that are relevant and that justify the tariff differentials was needed from the companies, and the same was needed for any government policy (eg, the promotion of tourism, social issues) that was being pursued through tariff differentials. Only if the rationale for the differentials were set out could the regulator evaluate their fairness or efficiency.

### Core regulation—incremental versus fundamental reform

It was noted that the existing regime had some benefits in terms of TCI securing high reliability. Information was provided on an annual basis on key financial and operational issues for monitoring purposes. Radical change would also bring about costs, in terms of revisions to the Ordinance, and regulatory restructuring, hiring and training. The companies themselves would also need to adapt to any new regime.

For these reasons, some measures that could be undertaken under the *current* system of regulation, and under existing legislation, were considered. Discussions with stakeholders revealed that consumers do not understand the fuel cost adjustment, and that the regime is too prescriptive and process-oriented. Changes that could be introduced were as follows.

- **Base rates and fuel costs**—these could be updated to include a best estimate of fuel costs at the start of each financial year.
- **Fuel cost adjustment and efficiency**—the fuel cost adjustment could factor in a more realistic and up-to-date assumption on fuel-burn efficiency, and could be communicated more effectively to

customers. The companies could also publish, in advance, what bills are likely to be in the coming months, to help consumers budget better.

- **Investment assessment**—a voluntary arrangement could be introduced whereby the Electricity Commissioner could review (and advise on the prudence of) the investment plans of an electricity company before large investment is committed.
- **Operating and performance efficiency**—the companies could volunteer to share with the Commissioner evidence of their initiatives to improve efficiency.
- **Customer engagement**—the companies could sign up to a voluntary arrangement to undertake engagement with their customers on investment plans before pursuing these.
- **Service performance**—the companies could also sign up to developing customer-facing service measures, and to publish their performance on these on a regular basis.

However, these potential changes were unlikely to radically alter the incentives present, for example, with respect to efficient levels of capital expenditure (CAPEX) or operating expenditure (OPEX). Many of these changes would rely on voluntary initiatives, which the companies may or may not sign up to.

A potential alternative was price cap (or 'RPI – X') regulation, accompanied by legislative changes to support it. This has fundamentally different incentive properties to the rate-base approach. Typically forward-looking, price cap regulation could incentivise the companies to become more efficient, while revealing information on efficient costs through observed company behaviour over time. It would, however, still need to be accompanied by an adequate pass-through mechanism to deal with variations in fuel costs. Implementing price cap regulation would require changes to the existing legislation. The initial control period over which prices could be fixed could be three to five years, in order to bed down the system.

If then a price cap regime were to be implemented, the regulator would need to assess the revenue that a utility would be able to recover, through customer bills, over the years of the cap. One way of doing this is to use a 'building-block' approach. This would include assessing future (efficient) OPEX and CAPEX, the appropriate asset base, and the cost of capital. Price cap regulation would not have to involve a building-block approach, but using it would smooth the impact of CAPEX between current and future customers, while providing some certainty to investors that (efficient) future CAPEX would be recovered in prices.

However—and this was a crucial point—the way in which price cap regulation might realistically be applied in TCI could not mirror the full host of detail and information requirements often observed in larger jurisdictions implementing this regime (such as the UK, and certain US states). Rather, the approach would need to be proportionate to the situation faced in TCI, in terms of the scope of regulation, the information requirements, and who does what. In practice, this would mean addressing what is typically involved in setting up a price cap regime, but always bearing in mind the TCI-specific context.

### Institutions—regulatory style and powers

If price cap regulation were adopted, this would require changes to the Ordinance, regulations, licences, and final legal clarity on issues in the takeover agreements. It would be important to ensure that the regulator was sufficiently independent from the government, which would also require changes to the Ordinance. However, full independence may be difficult to achieve in a small-island setting.

Were price cap regulation and an independent regulator to be introduced in TCI, the emphasis would need to be on *getting right the aspects that really matter*. Yarrow and Decker (2010) refer to this, in a small-island context, as being about 'doing a limited number of bigish things well', rather than seeking to cover many issues in detail.<sup>3</sup>

The system would need to be transparent and not overly adversarial. The regulator would have a range of duties to take into account in setting charges, and would have powers to demand information from the companies. In undertaking a price review, important issues would include which areas the regulator would mainly work on (eg, the required return), and which areas the companies would be expected (and incentivised) to work on (eg, business planning, including the assessment of efficiency and investment).

### Institutions—resourcing strategies

Regulation is more challenging on small-island economies because of the fixed costs involved relative to the size of population served, and the potential lack of human resources. In setting up an independent regulatory body, various strategies were available, including:

- introducing a stand-alone independent regulator for electricity services;
- introducing a multi-sector regulator across various TCI services;
- engendering closer cooperation with other Caribbean jurisdictions;
- accessing available funds from The World Bank and other institutions;

- using external experts for key phases of work (via outsourcing).

Introducing a stand-alone electricity regulator, including a full complement of full-time regulatory resources, may not be viable in TCI. One approach to mitigate this problem could be to adopt a multi-sector regulator. However, because TCI is among the smallest of the Caribbean jurisdictions, even this may be difficult to justify. Alternatively, a multi-utility approach may be viable in TCI, even if in 'skeletal' form, using outside help from whatever skills sets are required. Indeed, using external experts for key phases of work would seem to be a more viable strategy, under whatever regulatory body is created.

### Institutions—strategies for dealing with hurricane events

There was no explicit mechanism in TCI to deal with restoration of the electricity network after a hurricane. If price cap regulation (coupled with a building-block approach) were introduced, based on a forward-looking assessment of likely costs (including efficiencies), a more explicit mechanism than exists at present would most likely be required for dealing with hurricane events. Two alternatives were: an explicit contingency within allowed revenues for potential hurricane events (at present, this is implicit); and the provision to re-open the price review process in the event of a hurricane (if, for example, this were material, *and* would not be financeable if dealt with at the next review).

Both options had their respective advantages and disadvantages. The advantage of the explicit contingency option is that it would smooth the impact of any potential bill increases, but consumers would pay upfront for a contingent event. Effective transparency and governance of any fund would be critical.

### Picking and choosing

Taking into account the above possibilities, Oxera outlined two broad models that the TCI government might choose. These picked out certain elements from the above.

**Model A** would be broadly in line with the more fundamental reform options discussed above: introducing a price cap regime for undertaking rate reviews, coupled with a building-block approach; establishing an independent economic regulator, with a particular regulatory style and powers; and potentially establishing this body as a multi-sector regulator. This model would involve *several* changes to the existing Ordinance and regulations.

**Model B** would not (necessarily) involve establishing a multi-sector regulator, but would still involve creating an independent electricity regulator. In turn, this body would rely on external experts by outsourcing certain activities and tasks required at the time of tariff reviews. Under this model, the regulatory regime would also be largely based on the existing rate-base approach, but with the following modifications:

- implementing a rate-base review every three (to five) years;
- adopting a more robust approach to the treatment of fuel costs in the rate base and fuel cost pass-through mechanism;
- determining with more robustness and clarity the appropriate return on capital and asset base;
- undertaking more robust CAPEX assessment;
- facilitating the integration of renewable generation by independent power producers.

Oxera considered the advantages and disadvantages of models A and B. In particular, the implications for resourcing, degree of regulatory discretion required, potential opportunities for efficiency improvements in the TCI electricity sector, and measurement issues in the TCI context were assessed.

While there could be incremental benefits of the fuller price cap mechanism associated with model A, it was not clear that it would result in future efficiencies over and above those capable of being achieved in model B. It was noted that the latter might therefore be preferable, as the incremental benefits of model A were likely to be low, and the costs higher (in terms of time and human resources). However, this all depended on the details. No programme of regulatory reform is ever an entirely 'costless' exercise.

<sup>1</sup> Turks and Caicos Islands government (2012), 'Proposal for the Revision of the Regulatory Framework of the TCI Electricity Service Sector: For Consideration and Feedback', May.

<sup>2</sup> See CARILEC (2010), 'Benchmark Study of Caribbean Utilities: Sixth Update – Year 2009', draft report, September.

<sup>3</sup> Yarrow, G. and Decker, C. (2010), 'Review of Guernsey's Utility Regulatory Regime', Regulatory Policy Institute, A report for Commerce and Employment.

If you have any questions regarding the issues raised in this article, please contact the editor, Dr Leonardo Mautino: tel +44 (0) 1865 253 000 or email [l\\_mautino@oxera.com](mailto:l_mautino@oxera.com)

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