

AESIEAP

CEO Conference 2007

Macau, 10-12 October 2007

Electricity Reform in APEC Economies – The Way Ahead

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Abstract

The reform of the electricity sector in APEC economies is nowhere near finished. Before we can plot a reliable way ahead in further reform, we should look back to see the enormous changes that have taken place and ask why they have occurred.

Electricity reform has been pursued by governments in order to improve economic efficiency. Much has been achieved but many unanticipated problems have been encountered, such as the stop-start nature of the reform process, mistakes in market design, legal impediments and inadequate management of the reform process itself.

Some guidelines for pursuing the reform process are put forward.

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The "Big Picture" Issues That Have Affected the Electricity Industry

We should start any discussion of the way ahead by identifying the "big picture" issues that have had an impact, and are likely to have a future impact, on the electricity industry.

- ***Vertical Monopolies and State Ownership***

Traditionally, most electricity utilities were state-owned vertical monopolies that controlled the integrated functions of generation, transmission, distribution and supply. This is no longer the case.

- ***Globalisation and Economic Liberalisation***

After the oil price peaked in 1982, state intervention declined right across the energy and markets began to have their way.

The increasing trend toward globalisation of markets began to be accompanied by a wave of domestic economic liberalisation and of economic reform and privatisation of state-owned enterprises, both upstream and downstream.

By the early 1990s, electricity reform, including privatisation, was well under way in many economies.

Most economies have now made far-reaching reforms of their electricity sectors by legislating to facilitate greater levels of competition in markets.

- ***Regional Energy Market Integration***

Globalisation and economic liberalisation has been followed by concerted moves to regional energy market integration.

Examples are the EU Single Market, the North American Single Market, the ASEAN Power Grid and the establishment in 2007 of the East Asia Summit Energy Cooperation Task Force.

- ***The Internet Revolution***

A little over a decade ago, the age of the Internet and the Information Superhighway commenced.¹ We now live in a much more fast-moving, hot-wired world, the implications of which we do not yet fully understand.

- ***Social Activism***

Another significant issue has been heightened activism on issues of social concern. There is a much higher level of awareness of corporate social responsibility and business ethics.

The intensity of activities of social and environmental activists, consumer activists, human rights activists and of NGO groups is not slackening off, which emphasises the importance of agreeing on international standards and codes by which business conduct is assessed.

¹ A "Superhighway Summit" was held at UCLA in 1994. This was the first public conference that brought together all of the major industry, government and academic leaders in the field.

- ***Energy Security***

Especially after September 11, 2001 energy security became a dominant policy concern for all energy importing economies. Rising demand, especially in China and India, has ensured it remains a dominant concern.

- ***Sustainable Development – the Global Catchcry***

Undoubtedly, however, the most significant issue affecting the energy industry in recent years has been the increased level of public concern for the environment. Issues of sustainable development, climate change, greenhouse gas (GHG) emissions and other environmental issues have finally succeeded in making a deep and lasting impact on the collective consciousness.²

Sustainable development is now the global catchcry around which almost all other issues are subservient.

The real value of clean air and clean water is acknowledged by political and business leaders everywhere. We are reminded of this each time we purchase a bottle of fresh water and have to pay more than we do for an equivalent amount of oil.

- ***Carbon Markets and Carbon Prices***

Before very much longer, we will live in a world where the right to emit carbon will attract a hefty price in carbon markets. This will escalate the cost of fossil fuels for electricity generation and for many utilities this will cause a progressive switch of fuels from coal to natural gas, nuclear and renewables.

Implications for Reform

What do all of these "big picture" issues mean for electricity reform?

Electricity reform has been successfully implemented by many governments with the overall aim of improving economic efficiency. A great deal has been achieved. However, many unanticipated problems have been encountered, such as the stop-start nature of the reform process, mistakes in market design, legal impediments and inadequate management of the ongoing reform process itself.

The main lesson is that there is no single model that is best for all countries. There is also a need for flexibility. Because political, economic and industry conditions differ markedly between countries, we should always be cautious about following another country's precedents. This applies especially to developing countries.

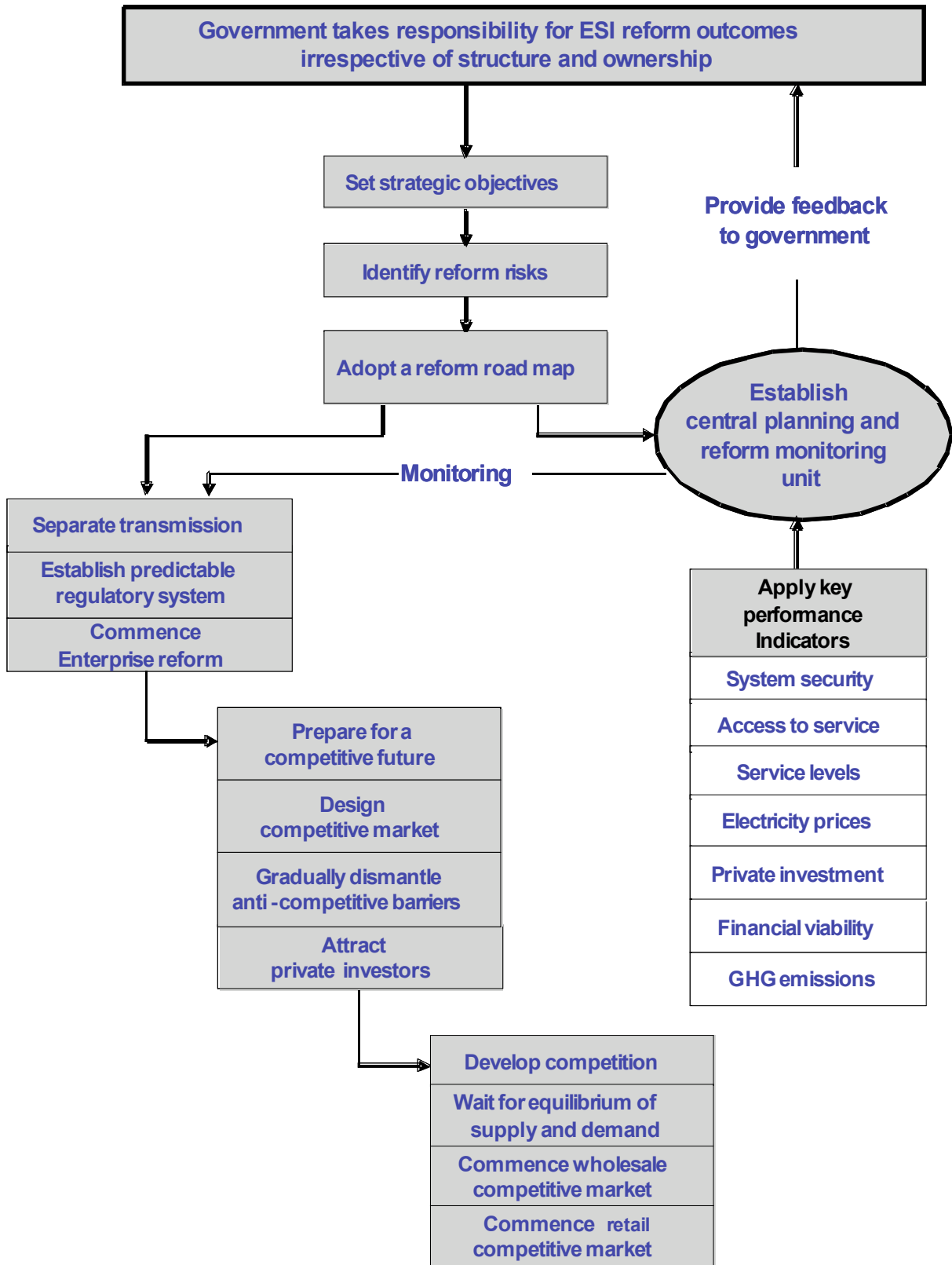
Another lesson is that the reform process itself needs proper management; it does not just happen by itself.

A flexible model for reform is set out in the table below.

² The turning point in this collective consciousness was the "Earth Summit" (the United Nations Conference on Environment and Development or UNCED) held in Rio de Janeiro in 1992. UNCED provided the impetus for the signing of the Kyoto Protocol on greenhouse gas emissions in 1997. UNCED led to the creation of the UN Commission on Sustainable Development in 1993. Al Gore's recent movie "An Inconvenient Truth" has carried a large community impact.

A FLEXIBLE MODEL FOR MANAGING ELECTRICITY INDUSTRY REFORM

Setting strategic objectives, adopting and implementing reform, measuring, monitoring and managing progress



Guidelines for Managing the Ongoing Reform Process

Some guidelines for pursuing the ongoing reform process are suggested:

Guideline Number 1: Set clear objectives and lay out a strategic reform road map

Setting clear objectives is essential, irrespective of any other steps in the reform process. This also requires the adoption of agreed performance indicators to measure progress.

Remember that carbon prices are coming and this will cause fuel prices to escalate.

Guideline Number 2: Separate transmission

Don't start with generation – the first structural step should be to separate transmission from generation, distribution and supply. This is the safe, "no regrets", reform option for any country.

Several consequences arise from this key structural step, including the need to define transmission service obligations and the need to provide adequate incentives to invest in transmission.

Guideline Number 3: Establish an independent regulatory system

A well-balanced, independent regulatory system should be established if there is not one already in place.

There is a need for judicial review of the independent regulator and a need for periodical review by government of the regulations themselves.

Guideline Number 4: Pursue enterprise-level reforms

State enterprises should pursue enterprise-level reforms and be required to operate commercially, irrespective of any structural and regulatory reforms.

Guideline Number 5: Install sufficient generating capacity to meet demand

Sufficient generation capacity must be installed to meet demand in a timely fashion. Excess generation capacity should be maintained at between 20-25 per cent and there should be as many competing generators as possible, with easy access to an unconstrained grid.

The environment for investment in the generation sector must be kept sufficiently attractive to ensure that this occurs.

Guideline Number 6: Prepare for a competitive future

There are two main market models which can be used:

- compulsory pool with system marginal price
- bilateral contracts market with dispatch priority and system balancing

The former has fallen from favour. Australia is one of the few countries that has successfully implemented a compulsory pool.

Implications for CEOs

Electricity reform in the APEC region has helped many countries move in the direction of a more honest, open and transparent world. The world is now characterised by lower public tolerance of market distortion and by lower public tolerance of deceptive conduct, whether in government or in business.

How do all of these issues affect the modern utility CEO?

The main point is that the electricity industry is not static. It is continually affected by government policy, by public expectations, by industry practice and by market shifts, on top of the pre-ordained industry structure and regulations.

Electrical industry reform is therefore a field which cannot be learned in universities but one which is experience-led. The management of energy businesses must be continually adapted and refined as government policy, social expectations and energy markets continue to change.

The biggest future challenge for CEOs will be how to factor the price of carbon into fuel selection and investment decisions. I have little doubt that carbon markets will develop rapidly over the next few years and will become every bit as important as electricity markets.

To plot the way ahead in this faster moving, more competitive, hot-wired and climate-conscious world, the modern utility CEO must be a socially, culturally, environmentally and technically alert person.

The more a CEO understands about the interplay of political, social and market forces, the more effectively he or she will be able to manage the investment and trading risks.

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ResourcesLaw International is an Australian-based consultancy which provides specialist advisory services to governments and corporations on:

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Robert Pritchard is the editor of “Economic Development, Foreign Investment and the Law”, published by the International Bar Association and Kluwer Law International, London 1996.

In 2000/2001, Robert chaired the World Energy Council study on “Electricity Market Creation in Asia Pacific”. In 2001/2002, he was a consultant to the APEC Energy Working Group on Cross-Border Power and on Micro-Economic Reform of the Electricity Industry. In 2004, he was a consultant to APEC on Cross-Border Natural Gas Trade and on Energy Security.

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