

A Policy Trilemma

Creating an Affordable, Secure and Sustainable Energy Market

A report prepared for the Consumer Action Law Centre by
Allan Asher, Foundation for Effective Markets & Governance

November 2012



Foundation for
Effective Markets
and Governance



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law centre

A policy *trilemma*:

“creating an affordable, secure and sustainable energy market”

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This report has been prepared for the
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Preface¹

Over a number of years, energy market reform in Australia has adopted principles of competition and deregulation in an effort to drive efficiencies and improved outcomes for consumers. In more recent times, the impact of year on year energy price rises, particularly on residential households including those living on low and fixed incomes, has refocused politicians, policy makers and regulators on the question of whether these energy market reform initiatives are really delivering for consumers.

It is clear that there is no silver bullet and that there are a range of drivers for increased energy prices. These include:

- the need for new investment to replace ageing infrastructure;
- the need to provide sufficient generation capacity to meet growing demand, particularly peak demand;
- the installation of new 'smarter' technologies, designed to better manage energy systems;
- the regulation of monopoly infrastructure, and the limited ability of the regulatory framework to limit ongoing price rises; and
- policies to help the Australian community respond and adapt to climate change.

Given that consumers pay for the delivery of energy services, there is a need for the system to deliver reliable and sustainable energy services at least cost. In the main, Australia relies on the rubric of the market to deliver energy services. While a market-based approach can facilitate efficient and low-cost outcomes for consumers, the growing concerns about energy price rises indicate that the limitations of markets and existing regulatory frameworks have not been well understood.

Consumer Action Law Centre commissioned this report to consider in detail whether the existing energy market—its structure, the regulatory framework that applies to it and the ability for consumers to meaningfully participate—operates in a way that best serves the long-term interests of consumers. The report provides a comprehensive overview of policy and regulatory developments with a specific focus on wholesale and retail markets, demand side interaction, market structure and sustainability. The report argues that in Australia at present, consumer welfare is given insufficient attention by Australian politicians, policy makers and regulators.

The title of the report—"A policy *trilemma*" identifies the central challenge facing the energy market—the need for it to deliver affordable, secure and sustainable energy services. The report draws on international developments, particularly from Europe and the United Kingdom, where there has been acknowledgment that, in energy

¹ The preface has been authored by Consumer Action Law Centre to provide a context for the commissioning of this report.

markets, the goals of efficiency and competition have not necessarily 'trickled down' to satisfy the needs of consumers in these three key areas.

Throughout, the report makes a number of recommendations to inform a policy and regulatory framework that has a more rigorous focus on the interests of consumers. Following publication of this report, Consumer Action will engage politicians, policy makers, regulators, and representatives of industry and consumers on reform measures that will best serve the long-term interests of consumers.

Summary of recommendations

International markets

- Australia should advocate for open and effective markets overseas, given that these are likely to affect prices in Australia.
- Australia's competition policy and enforcement agencies should work closely with international counterparts, while engagement with the International Energy Agency (IEA) should be strengthened.

The Energy White Paper

- The Final Energy White Paper should focus more on delivering better regulatory processes, and should deal with market failure in the retail market, as well as recognition and control of market power.
- The Final Energy White Paper needs more evidence and detailed analysis to support its claim that Australian markets deliver competitively priced energy to end-users.
- The Final Energy White Paper should acknowledge and explain how social, economic and environmental considerations would be taken into account in the regulatory framework.
- Legislators, policymakers and regulators must give greater consideration to the energy market's "policy trilemma": the need for the market to deliver affordability, security and sustainability.

The role of energy service companies in delivering policy

- The role of for-profit energy service companies, which are the organisations that deliver policy outcomes, should be more clearly articulated and understood.

- Energy companies need to build consumer trust, i.e. move from being a source of bills to becoming energy service providers. This will require quality services, together with accurate, timely and comprehensible bills, as well as swift dispute resolution schemes and accessible administrative systems.

Economic regulation

- The rule change on economic regulation of networks should be finalised with a clear statement of operational independence for regulators and full powers to make determinations that best serve the long-term interests of consumers, without distorting constraints on the use of regulatory discretion.
- There should be better consumer engagement in the development of energy policy and market rules. Policy makers and regulators should acknowledge that consumer interests in the energy market are disparate and that more resources are needed to ensure that consumers are able to participate in system planning and pricing.
- Legislators and policy makers need to regularly review the powers and role of regulatory institutions. An immediate review should consider whether regulatory institutions have the power to align their decisions with the policy goals of affordability, security and sustainability.

Competitive markets—compliance and enforcement

- Regulators must take an active approach to enforcement, in particular setting high industry expectations regarding compliance.
- Retailers, regulators and policymakers should agree to implement the compliance management framework included at Appendix 1.

Competitive markets—consumer participation and outcomes

- Regulators need to periodically review the operation of retail markets to ensure they are providing affordable, secure and sustainable services to consumers
- Australia should consider the implications of UK-style price simplification for consumers rather than the current shift towards confusing 'dynamic pricing'.

- Legislators, policymakers and regulators should consider the implications of collective switching, such as the One Big Switch, in Australia. A facilitated approach to collective switching would ensure that it was a positive addition to the market, rather than one that may be detrimental to consumers (as occurred with some commercial switching websites).

Equity and hardship management

- Australia should implement measures to assess and report on energy affordability and the incidence of fuel poverty, to prevent adverse consequences.
- The costs and benefits of implementing social tariffs in Australia should be explored.

Vertical integration

- The Final White Paper needs to take a more analytical approach to the implications of vertical integration, particularly its contribution to rising prices and poorer levels of consumer service.

Smart networks

- Targeted approaches should be taken to the introduction of flexible pricing based on smart meters. These should be underpinned by strong consumer protection frameworks, clear and accessible information and safe default tariff options.
- Government and regulatory bodies must closely monitor the roll-out of metering programs and fund or create incentives to test smarter technologies.
- Measures to reduce energy demand must identify and acknowledge unmovable demand, and not penalise it. (e.g. due to personal circumstance, ill health etc).
- Non-price approaches to demand management, including direct-load control and community education initiatives, should be implemented urgently.

Adaptation to climate change

- 'Green schemes' should be coherent, open, sustained and accountable to promote legitimacy and public support for schemes designed to reduce carbon emissions.
- Stringent and robust monitoring programs should be introduced after climate-change policies are implemented, to identify the effect on distribution and cost.
- Urgent measures on demand-side responses are required to reduce the need for investment in infrastructure. These should include programs to reduce aggregate demand in peak times, updated building regulations, and education campaigns.

1. Introduction

1.1 Context

After several years of double-digit retail price rises, electricity costs are now a centre-stage national political issue. Prices are set to rise even higher and consumers are in for further pain. The composition of retail price rises is well known to those with the time and skills to comb through the labyrinthine reports of the regulators who must approve them. However the blame game being played by Commonwealth and State Ministers has obscured the real issues. New investment is clearly needed to reform ageing systems now under strain. But at a time of rising energy prices (electricity prices rose 40 per cent in the past three years) the challenge for the Australian energy market is to meet growing demand and respond and adapt to climate change policies, while also ensuring this is not done at the expense of consumers, particularly those on low incomes.

This raises serious questions in the following areas:

- Current market design: Does current market design unduly favour large coal or gas- fired power stations over smaller distributed forms of generation?
- Regulatory settings: Do the rules for regulatory settings favour the owners of transmission and distribution assets at the expense of end- users?
- Renewable energy: There is mounting evidence that renewable energy will become cheaper but are current policies and revisions making it harder rather than easier to deploy these technologies?
- Peak shaving: Why is there so little progress on demand-side measures to flatten and reduce consumption, given that peak-use contributes disproportionately to prices?

As most transmission and distribution assets are owned by public enterprises, state governments have an interest in maximising returns from them. However, as protectors of the public interest, they must also ensure that prices are no higher than necessary. Market design geared to the long-term interests of end-users and clear, unambiguous rules for regulation will play a critical role in preventing unnecessary investment, excessive performance standards or over-recovery of investment.

This report provides a comprehensive overview of policy and regulatory developments, focusing on wholesale and retail markets, demand-side interaction, market structure and efforts to cut carbon emission. The report argues that Australian policy makers and regulators do not give consumer welfare enough attention and recommends a policy and regulatory framework with a more rigorous focus on the interests of consumers.

1.2 Analysis from UK and Europe experience

The United Kingdom is commonly regarded as the cradle of energy market liberalisation. Market features such as a gross-pool market system,² vertical and horizontal disaggregation of the industry, incentive regulation and mass-market liberalisation all had their origins in the UK. However, over the years, as the UK departed from the pool system in favour of a bilateral market policy, the regulatory settings between Australia and the UK have diverged. However, many common features remain. The major energy markets review and the changes to consumer information and empowerment now underway in the UK are a particularly valuable field of research for Australian policy makers and consumer groups alike.

This report includes a detailed description of the current structure and reforms being implemented in the UK, and an evaluation of carbon-abatement strategies and actions to reduce the impact of high-cost energy on those regarded as fuel poor. The report also includes material from meetings at the International Energy Agency (IEA) in Paris and meetings with the European Commission directorate on energy and various EU regulators and consumer bodies. While Australia does not share the clear and unequivocal focus of Europe to address climate change, events are likely to drive Australian policy in this direction. Therefore, and as a matter of practicality, Australian policy makers and influencers should understand what is happening in Europe.

Renewables are a case in point. The UK Government is now reviewing its commitment to renewable energy, which is bound to lead to many changes particularly to the trajectory of investments in renewables and the regional incentives. In Australia, following the recent report of the Council of Australian Governments (COAG) Renewables Sub-Committee and the reference provided to the Climate Change Authority to review certain aspects of the Renewable Energy Target (RET) scheme, changes are predicted which may affect investment choices and shape the direction of Demand-Side Participation (DSP) in energy markets. The UK debate and data offers an early indication of the possible changes that may also occur in Australia, which is why much of this report is dedicated to the UK analysis.

1.2 Report overview

This report has six chapters:

- Chapter One provides the context for the report;
- Chapter Two examines the policy drivers and framework for the delivery of energy services, and introduces the concept of the "policy trilemma";
- Chapter Three examines regulatory frameworks for energy, including the effectiveness of monopoly regulation and regulatory institutions;

² A gross pool involves the sale of all wholesale electricity through a spot market. In contrast, energy trading in net markets primarily occurs through bilateral contracts negotiated entirely outside the pool.

- Chapter Four considers a range of issues in retail markets, including retail competition, compliance and enforcement with consumer protection frameworks, equity and hardship, as well as vertical integration;
- Chapter Five looks at the development of smart metering and networks, as well as other approaches to demand management; and
- Chapter Six examines the impact of policies aimed at climate change adaptation for energy markets and consumers.

2. Recognising and responding to a policy trilemma

2.1 The emerging Australian energy market

2.1.1 Energy resources and use

Australia is the world's ninth largest energy producer and has abundant renewable and non-renewable energy resources. The country is the world's largest coal exporter, the third- largest uranium producer and is expected to become the world's second- largest liquefied natural gas (LNG) exporter. This trend seems likely to continue as technological advances and strong international gas prices are set to unlock major new coal seam gas reserves on Australia's east coast and new offshore gas developments in Western Australia.³

These developments have broadened energy supply possibilities in Australia and are expected to seriously alter the gas and electricity markets, especially on the eastern seaboard. Notwithstanding these possibilities, large investments need to be made to expand and replace an ageing energy infrastructure. In particular, the electricity network needs investment to ensure it can meet new operating challenges with the integration of new intermittent technologies and that it can support a growing peak demand. De-carbonisation of the energy system is also becoming a political imperative, and carbon pricing will increasingly affect investment and technology choices.

This need for new investment comes at a time of rising energy prices. Electricity prices alone have risen by the 40 per cent in the past three years, and this trend is expected to continue to 2020 and beyond. The challenge for the Australian energy market is to generate enough capacity to meet growing demand and to respond and adapt to climate change policies, while ensuring this is not done at the expense of consumers in general and low-income consumers in particular. As most transmission and distribution assets are owned by public enterprises, the state governments have an interest in maximising returns. However, as protectors of the public interest, they must ensure prices are no higher than necessary. Market design geared to the long-term interests of end-users and clear, unambiguous rules for regulation will play a critical role in preventing unnecessary investment, excessive performance standards or over-recovery of investment.

It is by no means clear that historical (or even projected) growth rates in the production of energy will be realised. A recent report by the Australian Energy Market Operator (AEMO) notes that demand for 2011/12 was 5.7 per cent below forecasts made just a year ago.⁴ Forecasts for 2012/13 suggest outcomes 8.8 per cent below

³ The extraction of coal-seam gas is a controversial issue, beyond the scope of this report.

⁴ Australian Energy Market Operator, National Electricity Forecasting report for the National Electricity Market 2012, available at:

last year's estimate. A significant proportion of demand-reduction forecasts can be attributed to a decline in large industrial demand. However, the report suggests that 3 per cent consumer response to substantial price increases and other demand-side reactions, such as energy efficiency measures and solar panels, are important and ongoing factors, comprising up to 2 per cent of the demand reduction. Though it is too early to predict, the era of sharp demand growth and investments in supply might be moderating. The AEMO report also notes a high penetration of solar PV installation in South Australia, with a concomitant drop in peak demand. The combination of energy efficiency measures plus such demand-side responses are a positive signal for future aggregate demand reduction.

2.1.2 Energy market structure and reform

In the past two decades there have been a number of measures made to encourage deregulation and privatisation in the Australian energy markets. Before this, the energy sector was dominated by government-owned, vertically integrated energy companies accompanied by state-based regulation and policy. There was no physical interconnection between the state systems and little private ownership. But pressures for change brought the first phase of market reforms, rolled out throughout the 1990s. Deregulation involved the structural separation of businesses into transmission, distribution, generation and retail entities. It also encouraged the integration of state networks and formal trading market arrangements alongside state-based regulation. In some states energy entities were also privatised.

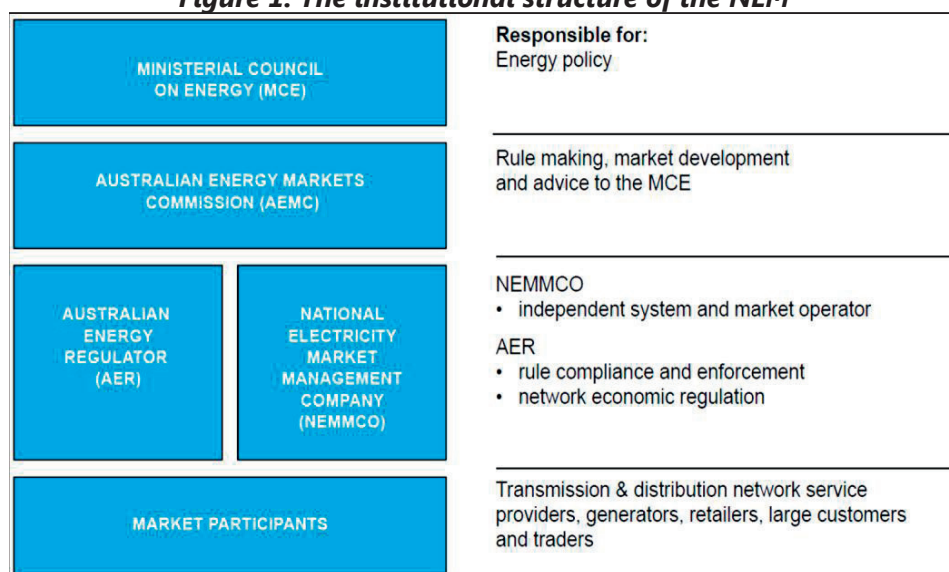
The second phase of reforms, from 2000 onwards, continued the broad themes of privatisation and deregulation and led to a national policy framework and a national regulator and rule administrator. The reforms brought important institutional changes, and established the Australian Energy Market Commission (AEMC), the Australian Energy Regulator (AER) and the AEMO, and the partial implementation of the National Energy Customer Framework legislation. The new framework began in the Australian Capital Territory and Tasmania (for residential and small business electricity customers) on 1 July 2012. New South Wales, Victoria and South Australia will begin the NECF as soon as practicable. Queensland is yet to decide whether it will follow.

In the final stage of the planned deregulation regulated energy retail tariffs will be phased out. Under the Amended Australian Energy Market Agreement (2006) the Council of Australian Governments (COAG) agreed to phase-out retail energy price regulation in each market where the AEMC found competition was effective. Apart from Victoria, which removed price regulation on 1 January 2009, no other State or Territory government has agreed to phase out regulated retail prices.

http://www.aemo.com.au/en/Electricity/Forecasting/~media/Files/Other/forecasting/2012_National_Electricity_Forecasting_Report%20pdf.ashx.

Figure 1 details the resulting institutional structure in the NEM.

Figure 1: The institutional structure of the NEM



Source: AEMC, 2012

In short, the reforms have brought a substantial move away from the state owned, vertically integrated energy model towards a more competitive national market structure that has drawn significant private-sector participation and investment. In more recent years, there has been a re-aggregation of generation and retail operators, significantly increasing vertical integration in critical parts of the supply chain.

2.1.3 Supply conditions: trends

While conventional coal-fired and gas electricity accounts for 75 per cent and 15 per cent of the current generation fuel mix respectively, this trend is expected to change dramatically. By 2050 gas could account for up to 44 per cent of the generation fuel mix, nearly triple the 15 per cent it accounted for in 2009-10. Likewise, most of Australia's conventional coal-fired power generation is likely to be replaced by cleaner technologies.⁵ In particular, carbon capture and storage and other base-load technologies such as geothermal and large-scale solar, are expected to play a major role in the long-term energy mix.

Efforts are being made to expand and diversify the energy mix through greater clean energy technology development and deployment. In this context, gas (as a lower emissions alternative to coal) is likely to be increasingly important in complementing inflexible and intermittent electricity generation by acting as peaking plant. Australia

⁵ Treasury, *Strong growth, low pollution: modelling a carbon price*, Treasury, Canberra, 2011; ABARES, *Australian energy statistics*, ABARES, Canberra, 2011.

has significant unconventional⁶ gas reserves to achieve this. Encouraging the development of these resources will have major implications for Australia's gas market.

Exploiting gas reserves and particularly the development of LNG export facilities will increasingly expose the Australian gas market to the international gas market. While this brings opportunities, experience from markets in the USA and the UK has shown that prices tend to become more volatile in response to supply and demand shocks.

An increased exposure to global gas markets is likely to mean frequent fluctuations in consumer bills, which will extend to electricity bills as power generation becomes increasingly gas-fired. Consumer advocates, government institutions and regulatory authorities will need to remain alert to ensure that Australian markets are open and transparent. They should campaign internationally for open and effective markets overseas. For many years, consumers in Europe have been subjected to severe price hikes due to the practice of indexing of gas prices to oil prices. This issue has been investigated by the competition authorities, however no enduring solutions have been found. Australia needs to be vigilant to ensure the local export LNG industry does not fall into a global supply cartel. Australia's competition policy and enforcement agency needs to work closely with international counterparts while strengthening its engagement with the International Energy Agency (IEA). There has been a concerted effort in Britain to open up European gas markets to prevent gas hoarding during times of high demand to ensure British consumers are not exposed to unnecessarily high bills.

Recommendations

- Australia should advocate for open and effective markets overseas, given that overseas markets are likely to affect prices in Australia.
- Australia's competition policy and enforcement agencies need to work closely with international counterparts and to strengthen engagement with the International Energy Agency (IEA).

⁶ Unconventional gas refers to gas in several types of reservoirs that have only recently become commercially viable. Coal seam gas (CSG) is found in coal deposits and Australia is now a major producer. In addition to CSG, shale gas and other sources of gas found in relatively impermeable geological formations make up an important new source of gas.

2.2 The Australian policy framework: critique of draft Energy White Paper

2.2.1 Overview

The December 2011 *Strengthening the Foundations for Australia's Energy Future* draft Energy White Paper⁷ is a landmark. It offers a review of Australia's energy requirements to 2030, sets out core objectives (*see below*), and defines the policy framework to underpin the continued development of the sector.

White Paper Core Objectives

To build a secure, resilient and efficient energy system that:

- provides accessible, reliable and competitively priced energy for all Australians;
- enhances Australia's domestic and export growth potential; and
- delivers clean and sustainable energy.

The draft White Paper recognises that market conditions and policy drivers have changed since the previous White Paper⁸ was issued in 2004. The most notable changes have been the near trebling of annual energy exports, the on-going program to open markets electricity retail price increases of more than 40 per cent, and legislation for a carbon pricing.

Looking forward to 2030, the draft White Paper emphasises the need for effective and competitive markets to “ensure efficiency so that we achieve our investment and transformation requirements at minimal cost to consumers”. It highlights four priority areas:

- **strengthening** the resilience of Australia's energy policy framework;
- **reinvigorating** the energy market reform agenda (markets and energy productivity);
- **developing** Australia's critical energy resources—particularly Australia's gas resources; and
- **accelerating** clean energy outcomes.

2.2.2 Consumer interests in draft White Paper

While it recognises the need for clean energy transformation, the draft White Paper falls well short of the legitimate expectations of consumers. It is largely silent on the need to improve regulatory processes; to identify and address retail market failures; the potential consumer detriment arising from the control of market power; and how

⁷ Australian Government, *Draft Energy White Paper*, March 2012, available at: <http://www.ret.gov.au/energy/Documents/ewp/draft-ewp-2011/Draft-EWP.pdf>

⁸ Australian Government, *White Paper: Securing Australia's Energy Future*, 2004, available at: <http://www.efa.com.au/Library/CthEnergyWhitePaper.pdf>

policy intent may be turned into market outcomes—i.e. the calibre, competence and coherence of regulatory institutions.

At this critical stage of market development it is essential that the final version of the White Paper properly considers the effect of the current market design on consumers, particularly the potential impact of vertical integration on wholesale traded markets and its affect on the viability of current mass-market strategies. The White Paper will be released later this year and is likely to set directions for national policy for some time to come.

The overarching tone of the draft White Paper is essentially directed to investment and industry development. It focuses on energy trends, energy security and resource development, together with productivity and sectoral market development. The proposed framework assumes that the market design principles are appropriate for now and into the future and that the market is robust and operating well for all stakeholders.

This assumption should be challenged. Evidence has shown that other more mature markets within the OECD that developed long-term policy objectives based on similar assumptions were forced to reassess these as evidence and experience proved otherwise.

Where the draft White Paper does address the role of markets to deliver policy outcomes it makes a number of important assertions; not least that “Australia’s energy markets have generally performed well in delivering safe, reliable and competitively priced energy.” It also states that “the Australian government believes that the fundamental design about electricity and gas markets remains sound and there is no justification for another review”.

However, no evidence or detailed analysis is provided to demonstrate the assertion that Australian markets currently deliver competitively priced energy to end-users. Nor does the report adequately define metrics for assessing consumer welfare. Given that an effective market is central to policy ambitions, supporting evidence must be provided before locking-in a framework designed to encourage investment in assets for decades to come and for which consumers will pay.

Furthermore the claim that markets are sound is contradicted elsewhere in the draft White Paper, where it identifies a set of critical reform issues that must be addressed. (*see below*). Such contradictions demonstrate an incomplete analysis of the market which the policy framework covers.

White Paper—Critical reform issues

- **privatising government-owned energy assets**—continued government ownership of energy businesses is impeding greater competition and efficiency;
- **fully deregulating retail energy prices where effective competition exists**—this is needed to further stimulate business innovation and improve customer outcomes and empowerment, recognising that social policy frameworks are the best way to support vulnerable consumers;
- **implementing a better demand-side framework** to efficiently reduce peak-demand growth and give consumers options to better manage their energy use and costs;
- **completing the transition to truly national energy markets**—more work can be done to extend the national energy market governance arrangements and principles to cover all Australian electricity and gas markets;
- further **gas market monitoring** to better inform government decision-making—particularly as a result of the increasing use of gas for electricity generation.
- **reviewing the current set of non-complementary policy interventions** from all levels of government that were made in the absence of a carbon price which are adding unnecessary costs to energy bills, and further agreeing not to introduce new measures that are non-complementary.

2.2.3 Economic, environmental and social considerations of policy

A statement of “core principles” is presented within the draft White Paper. These principles are designed to guide energy objectives and support all aspects of policy.

The sixth of these core principle states: “energy policy development and application should have regard to the full range of economic, social and environmental considerations”.

When considering this point, the draft White Paper references the Australian Energy Market Agreement (AEMA), made between Australian, state and territory governments in June 2004. This became the cornerstone of market design, and defined objectives and principles for regulation through a statement of policy intent focused on the long-term interests of consumers by ensuring safe, reliable and secure supplies of energy.

Specifically, the agreement was reached on the basis that “effective operation of an open and competitive national energy market [would] contribute to improved economic and environmental performance and deliver benefits to households, small

business and industry”. Institutions are described and a detailed seven-point plan for further energy market reforms is provided.

The draft White Paper goes on to note that there has been some debate about whether the AEMA objectives should be amended. However it rejects incorporating environmental or social goals within policy objectives on the grounds that this would introduce “unnecessary confusion for market participants”. It also queries how such aims could be reflected in a single set of market rules. Thus, the authors of the draft White Paper recognise the broad community conversation about the economic and social dimensions of energy policy, and yet rule out any specific amendments to the overall mandate for reform. The key risk in failing to incorporate a more broadly sustainability friendly agenda is that there will be too much concentration on market liberalisation, ignoring the concerns of the environment and marginalised consumers.

Recommendations

- The Final Energy White Paper needs to focus more on delivering better regulatory processes, dealing with market failure in the retail market, as well as recognising and controlling of market power.
- The Final Energy White Paper needs more evidence and detailed analysis to support its claim that Australian markets deliver competitively priced energy to end-users.
- The Final Energy White Paper should acknowledge and explain how social, economic and environmental considerations will all be taken into account in the regulatory framework.

2.3 The European and UK experience: recognition of the policy trilemma

2.3.1 European policy developments

There have been long-standing efforts to create an internal European Union (EU) market in electricity and gas that have resulted in three sector-specific directives since the 1990s. The final of these, the so-called Third Package, was activated in September 2009, and aimed to further liberalise and enhance European electricity and gas markets. In reality, each of these further initiatives has been designed to address specific problems and bottlenecks that arose from its predecessor.

The EU plans to create a competitive and transparent internal energy market by 2014, driven through the Third Package, although many consider this timetable too

ambitious. It seeks to build significantly on the limited successes of the first two rounds of EU energy legislation and is another attempt to break down barriers to cross-border trades and establish the institutional framework for the internal energy market.

The core provisions of the Third Package include: consumer protections to reinforce market competition across the continent; separation of network interests from generation, production and supply; establishing European Network Codes to set common arrangements for cross-border electricity and gas flows; and for independent National Regulatory Authorities (NRA) to be designated by member states.

A cross-border regulatory body (ACER) will oversee these developments while also being mindful of consumer protection issues, which will remain a central factor in the decision-making process.

2.3.2 European low-carbon agenda

One of the primary policy mechanisms for reducing carbon emissions across Europe is the European Union Emissions Trading Scheme (EU ETS). The EU ETS began in early 2005, and is the biggest carbon-trading mechanism in the world. It is a market-based cap-and-trade scheme that aims to put a price on carbon by placing an absolute limit on the amount of carbon that can be emitted. This absolute limit will be decreased over time so that emissions will be reduced by at least 20 per cent in 2020 compared with 2005 levels.

Since the EU ETS inception in 2005, a number of problems have hindered its operating efficacy, although it is fair to acknowledge that the infrastructure for a new carbon market was established in a relatively short time across significantly different economies within Europe.

The EU ETS has so far failed to deliver a suitable and stable carbon price to encourage significant investment in low-carbon energy infrastructure. The first (2005-07) and second phases (2008-12) of the scheme were characterised by volatile prices and undemanding caps that combined to undermine the carbon market. Free allocation of permits and the reflection of the marginal carbon price in power prices brought significant windfall gains, adding to billions of Euros being made by generators. At the same time, the investment levels needed to significantly reduce carbon emissions have remained elusive and in its current form the EU ETS is unlikely to deliver the necessary incentives alone that are needed to meet the targets for 2020 and 2050.

In December 2008 the European “climate and energy package” was published and became law in June 2009. The package consists of four pieces of complementary legislation:

- Revising and strengthening the EU ETS by reducing the number of allowances available to businesses to 21 per cent below the 2005 level in 2020 and phasing out free allowances;
- An “effort-sharing decision” governing emissions from sectors such as transport, housing, agriculture and waste, which are not covered by the EU ETS. Each Member State has agreed to a binding national emissions target for 2020 that reflects its relative wealth. The targets range from an emissions reduction of 20 per cent by the richest nations to an increase in emissions of 20 per cent by the poorest;
- Binding national renewable energy targets that will increase the average renewable share across the EU to 20 per cent by 2020; and
- A legal framework to promote the development and safe use of carbon capture and storage (CCS), including plans for a network of CCS demonstration plants by 2015, with the aim of commercial deployment of CCS by 2020.

The package did not address energy efficiency directly, but a draft *Energy Efficiency Directive* was issued in June 2011 to help the EU meet its target to save 20 per cent of primary energy consumption by 2020. The directive sets out a number of binding measures that would be implemented by Member States, including:

- Setting national energy savings targets;
- A 3 per cent annual renovation of public buildings to meet energy performance requirements; and
- Encouraging small and medium businesses and households to undergo energy audits.

At the most recent Energy Council meeting on 14 February 2012⁹ the EU Presidency said it was working with member states to resolve issues so that the draft directive could be enacted by June 2012.

2.3.3 British policy developments

The British energy market is relatively mature, having begun the liberalisation in the late 1980s. The electricity market was opened gradually after publicly owned regional electricity companies were transferred to the private sector in 1990. By 1999 all customers could choose their electricity and gas suppliers. Privatisation brought a

⁹ Council of the European Union—Transport, Telecommunications and Energy, Energy Council, Press conference, 14 February: <http://video.consilium.europa.eu/webcast.aspx?ticket=775-979-10774>

significant change in the primary energy mix as the private sector began a “dash for gas” that displaced much coal-fired power.

Since the turn of the century, the focus of energy policy in Britain has shifted from privatisation to creating a low-carbon sector. The emergence of the policy “trilemma” poses a new challenge for the sector—primarily to deliver security of supply while decarbonising the sector and ensuring energy remains affordable for businesses and households. During the 2000s a range of policy interventions was developed to stimulate renewables investment and to force large utilities to promote emissions abatement through improved energy efficiency. These programmes are dealt with in more detail later in this report.

The policy “trilemma”, now firmly embedded in British energy policy, describes the tension created by the competing targets the sector must meet. During the early years of liberalisation, sustainability and purely environmental initiatives were a smaller feature of the policy framework and usually consisted of stand-alone programs introduced to bring specific (and by current standards) incremental changes in generation mix or energy efficiency.

For a decade or so there has been political cross-party support for energy policy to be framed so that competition (or, where this is not possible, monopoly regulation) is the most effective driver to deliver widely different ambitions. The main political parties may disagree on policy detail, but they are able to reach high-level consensus because a) they agree that energy affordability, security¹⁰, and sustainability (meaning emissions harmful to the climate) must be addressed for the wider public good and b) they agree that a stable policy framework will provide investor certainty, given significant investment is required and assets are financed over decades.

The definitions of the three competing policy elements have evolved in response to European developments, experience and scientific recommendations—but the principles of the “trilemma” remain. Policy has also been framed so that the three elements are tackled concurrently with none (explicitly) given precedence over the others. This is partly due to political reality but also because programs are designed to be capable of meeting the three aims. For example, energy efficiency programs can reduce consumer bills, lower emissions and increase system security by reducing consumption.

In reality though, affordability, security or sustainability will receive different levels of political, media, lobbyist and customer attention in response to events such as price shocks, outages or geo-political instability. There is also the natural tension between the need for a stable policy framework to bring investment in assets that may operate

¹⁰ Security has a number of meanings, although it is generally taken to mean (in combination) ensuring fuel supplies are secure now and in the future and that energy can be delivered safely, effectively and efficiently now and into the future.

for 40 or more years, compared to the life of a Parliament, which is typically four to five years. Policy durability in Australia is even less stable with a three-year term in the national Parliament and around one state election a year.

Despite these tensions, the all-inclusive approach to energy policy has created an open and vigorous platform where different points of view can be presented, debated and assessed against the three policy elements

2.3.4 British electricity market reform

The British Government has recently decided a new approach is needed, and it is now developing legislation for more significant electricity market reform (EMR). This is being described as the single biggest upheaval in the energy sector since the restructuring in the 1990s.

The Coalition government published *Planning our Electric Future: A White Paper for Secure, Affordable and Low-Carbon Electricity*¹¹ in July 2011. At its simplest level, this represents a fundamental shift in policy-introducing programs that will bring significant volumes of generation receiving subsidy (via feed-in tariff or capacity availability payments).

Despite its name, the EMR does not actually propose much in the way of reform to the electricity market. In developing the work stream (initiated by the previous administration in 2009) for the first time since market opening, the government openly questioned the validity of competitive market principles. In a statement, the UK Energy Minister Edward Davey said significant reforms to the market were necessary to “ensure security of supply for the long-term, reduce the volatility of energy bills by reducing our reliance on imported gas and oil, and meet our climate change goals by largely decarbonising the power sector during the 2030s”. Davey went on to say, “Leaving the electricity market as it is would not be in the national interest. If we don’t secure investment in our energy infrastructure, we could see the lights going out, consumers hit by spiralling energy prices and dangerous climate change.”¹²

¹¹ UK Government, *Electricity Market Reform White Paper*, 2011, available at:

http://www.decc.gov.uk/en/content/cms/legislation/white_papers/emr_wp_2011/emr_wp_2011.aspx

¹² Minister Edward Davey, Press Note: Electricity Market reforms will Keep the Lights on, Bills Down and Air Clean, available at: http://www.decc.gov.uk/en/content/cms/news/pn12_062/pn12_062.aspx

Key elements of the EMR reform package

- a **Carbon Price Floor** (announced in Budget 2011) to reduce investor uncertainty, putting a fair price on carbon and providing a stronger incentive to invest in low-carbon generation now;
- the introduction of **new long-term contracts** (Feed-in Tariff with Contracts for Difference) to provide stable financial incentives to invest in all forms of low-carbon electricity generation. A contract for difference approach has been chosen over a less cost-effective premium feed-in tariff;
- an **Emissions Performance Standard** (EPS) set at 450g CO₂/kWh to reinforce the requirement that no new coal-fired power stations are built without CCS, but also to ensure necessary short-term investment in gas can take place; and
- a **Capacity Mechanism**, including demand response as well as generation, which is needed to ensure future security of electricity supply. “Availability payments” would be received by capacity (demand or generation) that was contracted to be available to meet supply shortfalls.

Early versions of the EMR package set out a series of options to deliver the low-carbon electricity system needed to help Britain meet its climate change goals. These presented a more centralised approach to markets—such as a central purchasing agency or a separate market for renewable technologies. Although these options were designed to illustrate the breadth of thinking by officials, they represented significant change from government rhetoric just a few years earlier. Previously (2009), the official line was that competitive markets were maturing and although still in need of some reform they were the sole mechanism for delivering policy outcomes. The most recent announcement on this area of policy development, issued 22 May 2012, included draft legislation to give effect to the EMR proposals and further policy statements. The British Government still thinks that the measures will deliver sustainable and secure electricity supplies in future and although there is a cost attached to the program this will be lower than maintaining current support programs and relying on fossil fuels for most power generation.

Critics of the EMR proposals have argued that:

- it represents another missed opportunity to tackle the demand-side of the market through effective energy efficiency initiatives and demand-side participation programs;
- the cost-benefit assessment is predicated on continually rising fossil fuel prices, which may not occur as more unconventional sources of gas are exploited;

- there are not enough checks and balances to ensure that consumer subsidies will be spent wisely;
- tax revenues raised from the Carbon Price Floor mechanism will not reduce carbon emissions, as any savings made in Britain simply offset those needed to be made by other European countries participating in the EU emissions trading scheme, therefore pushing up costs for British customers; and
- programs to tackle rising fuel poverty¹³ are stalling, so carbon tax revenues should be recycled to address this.

Recommendations

- Legislators, policymakers and regulators must give greater consideration to the energy market's "policy trilemma": the need for the market to deliver affordability, security and sustainability.

2.4 Evolving role of the energy supplier

Since market liberalisation began in the UK in the 1990s the role of energy suppliers has evolved beyond simple competitive market dynamics and now incorporates a growing number of social and environmental elements. This is a reflection of the fundamental importance of affordable and environmentally sustainable energy to people, particularly in relation to carbon emissions. To address these growing concerns many governments have been increasingly calling on energy suppliers to include more and more social and environmental policy goals in their operations.

This has significantly changed the role of an energy supplier. Whereas it was once a business primarily interested in selling a commodity (gas or electricity), it is now becoming a service-provider of heat and light. This has forced energy suppliers to develop core capabilities beyond the mere supply of energy to end-users.

A number of mechanisms have been introduced via statute within the competitive market framework. These are designed to increase the deployment of renewables, reduce carbon emissions, and help low-income consumers. In the first 12 years since retail markets were opened the following initiatives have been layered over the competitive market:

¹³ The definition of fuel poverty is: A household is considered to be in fuel poverty if it needs to spend more than 10 per cent of its income on fuel for adequate heating (usually 21 degrees for the main living area, and 18 degrees for other occupied rooms). A recent review has recommended that a new indicator of the extent of fuel poverty under which households are considered fuel poor should be if: they have fuel costs above the median level; and spending that amount would leave them with an income below the official poverty line.

- **The Renewables Obligation (RO).** Each year electricity suppliers must redeem certificates obtained from eligible generators to demonstrate that they have supplied an amount (the obligation) of renewable electricity to their customers;
- **The Climate Change Levy (CCL).** A tax on business use of fossil fuel-based energy;
- **The Energy Efficiency Commitment (EEC) and Carbon Emissions Reduction Target (CERT).** Suppliers to households must demonstrate annual carbon emission savings from properties through approved insulation and fuel switching measures. Much of this must be directed to “priority group” consumers;
- **The Carbon Reduction Commitment (CRC) Energy Efficiency Scheme.** A program originally designed as a cap-and-trade scheme for large businesses outside of the EU ETS, but now simplified as effectively a carbon reporting and tax regime;
- **The Warm Homes Discount (WHD).** Householders who receive certain social security support payments can access a “social tariff” that ensures they are on the lowest prices energy offering; and
- **Small-scale feed-in tariffs (SSFT).** These are available to installations of less than 5MW. Customers who install approved small-scale low-carbon generation technologies receive payments from their electricity supplier for all power generated and exported.

The common feature shared by these programs is that energy retailers are seen as the key intermediary to either deliver the programs or provide service to customers to ensure they are compliant. The rationale for this approach is that suppliers are ideally placed because of their relationship with consumers and that competitive pressure should deliver least cost outcomes. This rationale has never been seriously questioned by the government. In Australia mandatory obligation schemes require energy retailers to meet certain targets in relation to energy efficiency for renewable energy use. Some of these schemes allow the trading of certificates, which may be bought by retailers to help them reach their targets. These schemes provide a financial incentive for energy users to invest in clean energy initiatives, as well as benefiting the business through energy savings or emissions reductions generated by the project. There are a wide variety of state schemes, while the large-scale renewable energy target scheme seeks to ensure that 20 per cent of Australia's electricity supply will come from renewable sources by 2020. As with UK schemes, there is a clear cost benefit in handing responsibility to energy suppliers in the hope that this will generate a virtuous cycle of implementation measures.¹⁴

¹⁴ Further information on mandatory obligation schemes can be found at <http://eex.gov.au/>

As the role of the energy supplier has become more specialised it has tended to favour suppliers that have the customer base and resource to provide specialist functions. Some programs provide carve-outs for new entrants, but the thresholds for these and the impact of crossing them is still a major barrier to growth for independent companies.

The UK Government's latest initiative to improve energy efficiency is the Green Deal and its accompanying Energy Company Obligation (ECO). Policymakers are finalising the measures to be included within this package but in essence it is a bid to address the "urgent need for a step-change" in its approach to energy efficiency in existing domestic and non-domestic buildings.

The policy is split into two parts. The first is a commercially designed framework in which a number of different parties, some from within the energy sector and others from the wider economy, can compete to improve energy efficiency in the UK housing stock. The second obliges energy suppliers to funnel resources towards vulnerable households and buildings with the most potential for carbon abatement. This two-part strategy recognises that the free market alone will not deliver the government's energy policy goals economically.

The Green Deal allows private companies to offer upfront energy efficiency investments at a designated property, which are then recouped over time via electricity bills. The program has been designed so that more expensive energy efficiency measures (such as solid-wall insulation) can be deployed in greater quantities, at no up-front cost to the customer. However, not all measures in the household sector will pay for themselves. This could prevent low-income and vulnerable households from taking advantage of the Green Deal. To make these measures affordable extra financial support will be needed, which is where the ECO comes in. Large suppliers (those above 250,000 accounts) will be legally obliged to provide extra support to ensure that homes that are hard to treat, and households that are vulnerable and on the lowest incomes (those whose health is at risk from living in cold homes), can benefit from the new arrangements.

The different parties the policy is targeting, coupled with the novel funding arrangements, makes the Green Deal Framework relatively complex. But at its heart the initiative is an attempt to encourage energy stakeholders to embrace the energy service model and to consider whether they are able to deliver policy initiatives.

The Licence Lite Supplier approach is another UK initiative that has opened the energy supply business to smaller niche providers. This is the result of recent industry-wide changes designed to encourage decentralised energy (DE) production. It is expected to be fully established in the next two to three years. This scheme was advocated by industry stakeholders rather than the less than enthusiastic regulator.

The model allows a LLS to circumvent previously unavoidable and significant industry costs associated with the energy supply business by splitting certain core functions that could be administered by a small LLS. The approach is based on the notion that the parties involved should shoulder the aspects of the energy supply business they are most suited to bear. To ensure the LLS was able to fulfil all the regulatory obligations required of an energy supply company it would need to enter into a Supplier Services Agreement (SSA) with an established counter party in the energy supply business. The counter-party or third-party licence supplier (TPLS) would then contract with LLS to develop the complex code compliance requirements on its behalf.

This new framework gives small entities the chance to become ESCOs (Energy Service Companies) and provide specialist services in some areas of the market place. However, this has not yet been proven in practice as the interactions between different parties have yet to be fully ironed out.

Publically funded schemes have also been present in Britain. The Warm Front scheme, which provides grants for insulation and/ or more efficient heating systems, is an example of this. But these have been reduced or closed down altogether in the past few years.

Recommendations

- The implications of for-profit energy service companies being responsible for delivering policy outcomes needs to be more clearly articulated and understood.
- Energy companies need to build consumer trust, i.e. go from being a source of bills to becoming an energy service provider. This will require quality services, together with accurate, timely and comprehensible bills, as well as swift dispute resolution schemes and accessible administrative systems.

2.5 Conclusions

In the UK, the drive to decarbonise the energy sector has inevitably put pressure on consumer bills. It has also created a dilemma for policy makers, as left to its own devices the competitive market would not invest in more expensive and difficult-to-manage low-carbon generation sources. As a result, the ambition to retain the benefits of a liberalised market is being questioned, although there is no serious drive to systematically unpick the competitive market framework.

The Australian energy market comprises a different mix of energy resources but is faced with many of the same challenges posed by the energy policy “trilemma” identified in many markets globally. These are decarbonisation, energy security and affordability. As an energy exporter, it has an interest in maximising the economic potential from its natural resources. At the same time, it needs to invest in its energy infrastructure in order to secure a reliable supply of energy to consumers at competitive prices.

Australia’s different energy context means that the issues it faces, and how they might be addressed, are different from those encountered elsewhere. They will require carefully crafted policies that can address the need for investment in generation and networks while also dealing with a changing demand profile. Providing significant new generation investment is the critical challenge for the energy-only market, especially considering climate-change policies will change the generation mix and promote more intermittent generation.

3. The regulatory framework

3.1 Regulatory methods: networks

3.1.1 Background

In the 2011 *State of the Energy Market* the AER concludes starkly that the regulatory framework (as codified in the national energy rules) has led to some price increases that it deemed “difficult to justify”.

The framework, introduced in 2006, aims to stimulate network investment by codifying the regulatory decision-making process. Although these have successfully increased network investment, the AER has complained that they restrict it from being able to make holistic assessments of whether investments are efficient or necessary.

Since 2009 the AER has made a total of 20 network price determinations, resulting in operating expenditure increases over the previous five-year determinations of 10-54 per cent. In making decisions, the AER must accept a network business's forecasts of its spending requirements if those forecasts reasonably reflect the efficient costs of a prudent operator. It is up to the regulator to prove that a forecast is inefficient or imprudent. This has encouraged operators to submit forecasts at the top end of a “reasonable” range.

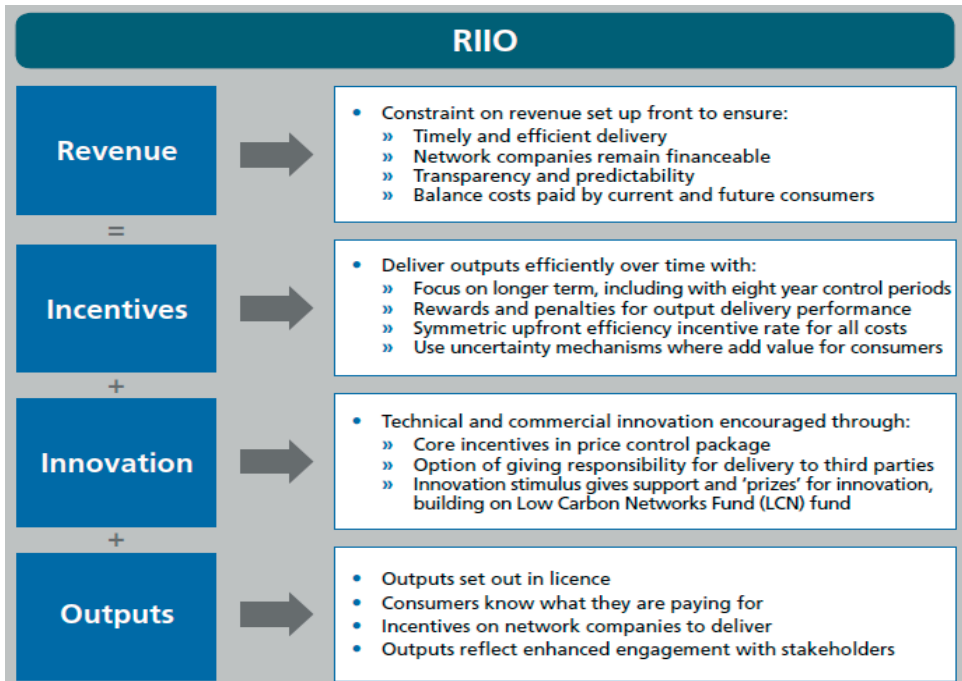
Moreover it has become common practice for network companies to request a review by the Australian Competition Tribunal (ACT), which forms part of the review provisions in the national energy legislation. Since January 2008, network companies have requested merits reviews of 19 determinations. The outcome of these has increased allowable network revenues by \$2.9 billion, with substantial knock-on effect on consumer charges (where electricity network charges represent 40-50 per cent of the final bill).

3.1.2 UK Network regulation—RPI-X to RIIO

Regulation of British networks is entering a new phase. The RPI-X regulatory framework has been in place for 20 years and has generally been considered successful, as shown by reductions in charges and improved reliability. It has delivered about £35 billion of network investment.

However as policy drivers for the sector have changed, the emphasis on network regulation has moved from operational efficiency (which can encourage operators to sweat assets) to a process that takes more account of sustainability and the views and needs of network users.

Figure 2: Ofgem's RIIO price control process



Source: Ofgem

The new RIIO price control is designed to encourage network companies to continually assess their operational plans and activities so that they can recover their allowed revenue.

A key element of the RIIO process is more emphasis on an operator's engagement with network users. The plans submitted by companies to Ofgem must demonstrate that network companies are actively engaging with customers and that there are processes to maintain this engagement—not just as part of the price control review.

Meaningful consumer engagement in the regulation of networks remains a challenge. During its assessment of network regulation Ofgem commissioned a number of papers¹⁵ that described the approaches used in other markets that consumer advocates should adopt to understand where consumer engagement (and potential for consumer challenges to price settlement determinations) has succeeded. In a subsequent paper Ofgem rejected a move to ex-post regulation and the negotiation of price controls between energy network companies and network users/consumers (i.e., 'constructive engagement'). Instead, Ofgem says the existing ex-ante framework should be enhanced. This would include:

¹⁵ Ofgem papers on energy regulatory frameworks, available at: <http://www.ofgem.gov.uk/Networks/rpix20/ConsultReports/Pages/ConsultReports.aspx>

- more elaborate business plans;
- more explicit identification of outputs that energy networks are required to deliver, and
- more financial incentives to deliver those outputs;
- equalisation of incentives between CAPEX and OPEX solutions;
- a specific innovation stimulus to replace the Innovation Funding Initiative (IFI) and to build on the Low Carbon Networks (LCN) Fund
- the potential for at least partial longer-term price controls.

3.2 Economic regulation in Australia: current rule change

In September 2011, the AER proposed a rule change to the AEMC to protect consumers from paying more than necessary for a safe and reliable energy supply.

In submitting the request, the AER described the material deficiencies in the current regulatory framework. The National Electricity Law (Law) lays the foundation for the regulatory framework governing electricity networks. In particular, the Law sets out the National Electricity Objective, which is to promote the efficient investment in and operation of electrical services in the long-term interest of consumers. The Law says that electricity network service providers should be given a reasonable opportunity to recover at least efficient costs.

While developing the rules for electricity transmission networks in 2006, the AEMC considered that the Law and the administrative law for regulatory decision-making did not guard sufficiently against the risk of the regulator restricting allowances to levels below efficient cost. Despite submissions challenging this assumption, rules were drafted to lock down the regulatory decision-making process to address this.

This detailed codification of the methodology of economic regulation has prevented the AER from appropriately regulating natural monopoly electricity networks. It has restricted the AER's ability to ensure that the regulated electricity networks invest efficiently and earn appropriate commercial returns. It has also reduced the AER's capacity to respond to changing circumstances. As a result, consumers are paying more than necessary to maintain a reliable and secure power system.

In August 2012, the AEMC released a draft rule-change in response to the AER, as well as a proposal from the Energy Users Rule Change Committee (EURCC). The AEMC plans to change the rules in the following areas:

- Rate of return: a new rate-of-return framework common to electricity distribution, transmission and gas is proposed, requiring the regulator to make the best possible estimate of the rate of return when a regulatory determination is made. The AER will be required to undertake an open and consultative process at least every three years to develop its approach to setting the rate of return.
- Capital expenditure incentives: the draft rule-change provides new tools, such as capital-expenditure sharing schemes and efficiency reviews, so the regulator can encourage network service providers to invest in capital efficiency.
- Capital expenditure and operating expenditure allowances: the draft rule-change proposes to clarify that the AER can interrogate, review and amend capital and operating expenditure proposals submitted by regulated businesses. Under the changes, the AER will be required to publish annual benchmarking reports, which will assess the relative efficiencies of network businesses.
- Regulatory processes: the regulatory process will be lengthened by six months in order to encourage stakeholder involvement, particularly by community representatives.

While these proposals should make the AER more independent and reduce distorting constraints on the use of regulatory discretion, the draft rule-change did not support the EURCC's proposal to change the way return-on-debt is calculated to more closely reflect the actual cost of debt. The EURCC proposal would require the return-on-debt for government-owned network businesses to be determined differently from privately-owned network businesses. This is because the debt of government-owned businesses, which is provided by jurisdictional governments, is materially lower than privately-owned businesses. The AEMC's decision appears to have ignored the tension between the policy philosophy embodied in the NER and NGR (derived from the supervision of privately owned enterprises), and the philosophy embodied in ownership arrangements in large parts of the Australian energy sector. This tension, in turn affects the effectiveness of the review regime.

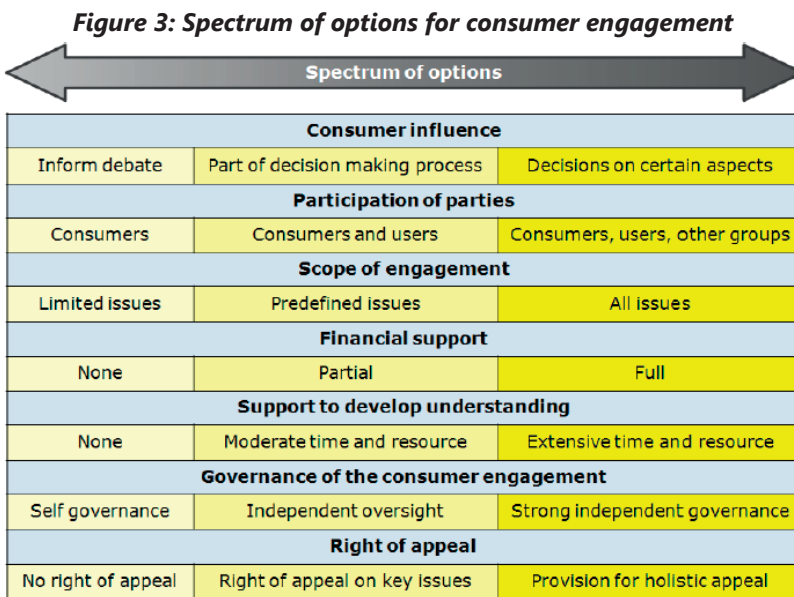
Recommendations

- The rule change on economic regulation of networks should be finalised with a clear statement of operational independence for regulators and full powers to make determinations that best serve the long-term interests of consumers, without distorting constraints regulatory discretion.

3.3 Consumer engagement

Network regulation, particularly price-control settlement negotiation, generally requires specialised knowledge and expertise to understand and challenge complex business forecasts and plans. Network operator’s revenues (and the costs passed onto consumers) are a function of the agreed cost of capital, operating costs and rate of return. Deriving appropriate outcomes is more of an art than a science.

Even when consumers’ views are sought through surveys, willingness-to-pay and cost-benefit analysis, they are rarely directly engaged in the process themselves. The regulatory emphasis on the consistent application of price-control settlement processes reduces the incentive for companies to actively engage with users and discourages opportunities to consider local circumstances and requirements.



Source: *Delivering outcomes—Consumer engagement in the regulatory process*, Ofgem. March 2009.

This stifles the potential for innovative approaches to network settlements (and outcomes). Professor Stephen Littlechild is a long-time champion of the need for dialogue and even non-regulatory settlements to be entered between consumers and providers, with just a refereeing role for the regulator. He argues that where the precise needs of the customer can be accommodated, and there is a settling of points of trade-off with the supplier, more effective, timely and cheaper outcomes are available.

A move to more incentive-based network regulation is arguably the key to delivering more active involvement of consumers. It also allows regulators to expand their role to facilitate negotiations rather than make all decisions themselves. The consumer’s

ability (or their representatives) to say what service levels they want and how much they are willing to pay helps regulators with market discovery processes in the absence of competition.

The Office of the Public Counsel¹⁶ (OPC) in Florida was created in 1974 to give consumers legal representation in utility matters, including price control settlements. The OPC undertakes independent analyses, presents testimony of expert witnesses, cross-examines utility witnesses, and files recommendations and briefs in these cases. Together with customer advocacy groups it has negotiated many settlements. The OPC website includes full transcripts of all cases argued in the last 18 months, showing a high rate of success in reducing utility rates from telecommunications, water and energy.¹⁷

In the wake of dissatisfaction with earlier price-settlement outcomes, the British Civil Aviation Authority (CAA) established “constructive engagement” processes, bringing airports and airlines together for work usually done by the regulator. The CCA was still responsible for assessing operating expenditure, cost of capital and the final price control, but it ensured that the interests of passengers and future airlines were considered. Its preference was for agreements that had been reached between parties. While there is some sense in these arrangements they pose a dilemma, as when a large consumer or class of consumers with market power comes to a settlement with the supplier, this may adversely affect all other customer groups, particularly individual consumers or households vis-a-vis large business. Moreover, where consumer interest and engagement in system planning and pricing is understandably very low (this is unlikely to change), this approach, while desirable, is unlikely to be possible or successful.

During its development of the RIIO price settlement process Ofgem looked at how effective consumer engagement could be delivered. It acknowledged that consumer representative resource was limited and that this hindered their engagement in the regulatory process. There was limited support for creating an advocacy panel fund, as it was not clear how such a body would be funded. Consumer advocates claimed that limited resources would be better directed towards other areas. But the British regulator did create the Consumer Challenge Group¹⁸, made up of paid consultants to advise on the 2005-2010 electricity distribution price-control settlement. Experts were appointed to challenge the regulator’s assumptions about consumers would benefit from its approach to price settlement. Specific issues included the weighting and calibration of incentives and how Ofgem should apply Return on Required Equity analysis to determine the cost of capital for operators.

¹⁶ See: <http://www.floridaopc.gov/index.cfm>.

¹⁷ See, for example: <http://www.psc.state.fl.us/dockets/cms/docketdetails2.aspx?docket=110264>.

¹⁸ See, Ofgem, Consumer Challenge Groups, available at: <http://www.ofgem.gov.uk/Networks/PriceControls/CCG/Pages/CCG.aspx>

Recommendations

- Consumer engagement in the development of energy policy and implementation of market rules should be improved. Policy makers and regulators should acknowledge that consumer interests in the energy market are disparate and that consumer interest and ability to participate in system planning and pricing requires more resources.

3.4 Regulatory institutions: UK experience

The Gas and Electricity Market Authority (GEMA) has been the principle body responsible for regulating the British gas and electricity markets since 2000. Previously, separate regulators oversaw the gas and electricity markets. The Office of the Gas and Electricity Markets (Ofgem) was established as the executive arm of GEMA and is responsible for the day-to-day regulatory function.

The regulator's powers and responsibilities are established in statute (primarily the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and a number of Energy Acts). Under these Acts, its primary duty is to "protect the interests of consumers in relation to gas conveyed through pipes and electricity conveyed by distribution or transmission systems, where possible by promoting competition".

Since its creation, Ofgem's duties have been refined to reflect the changing policy agenda. The Energy Act 2004 placed a duty on the regulator to contribute to sustainable development. The Energy Act 2008 promoted the duty and reclassified Ofgem's principle objective as to ensure that the interests of existing and future consumers were protected. The Energy Act 2010 went a step further and clarified the regulator's role in protecting consumer interests as a whole, including their interests in the reduction of greenhouse gases and in the security of the supply of gas and electricity. Successive changes to Ofgem's mandate were the result of frustration by the Parliament (and indeed many consumer and civil society organisations) at the regulator's repeated failure to adequately consider societal and environmental factors. A critical distinction between the UK (and indeed Europe more widely) and Australia is that Australian policymakers and the Australian Parliament are not prepared to give a regulatory body a wider set of powers. There is some justification for this as objectives that are too broad may lead to confusion in decision making. On the other hand, objectives which are too narrow lead to outcomes which are not in the broader interests of society.

The regulator is also obliged to "have regard" to government-issued guidance on social and environmental policies. This guidance was designed to address concerns

that the regulatory framework did not fully account for the increasing role of the energy sector in achieving wider policy objectives.

After the change of government in 2010, the Coalition Program for Government included a commitment to review the role of Ofgem. This sought to deliver:

- clarity on the strategic policy framework within which independent regulatory decisions are made;
- confidence that the regulator's decisions would be aligned with the government's strategic policy framework; and
- regulatory certainty, providing clarity over the respective roles of government and the regulator.

The latter point was included because many commentators believed that Ofgem had embarked on programs that strayed into the policy development arena, perhaps in response to its increasingly muddled guidance from government.

The review concluded that the fundamentals of the regulatory system remained sound but as the regulator's role became more complex, responsibilities between government and Ofgem had blurred, "causing some erosion of the regulatory certainty that independent regulation was designed to provide".

To support a more predictable regulatory regime, the government concluded that a solution was needed that ensured that it took responsibility for setting and communicating strategic direction and that Ofgem's regulatory decisions remained within this broader strategic policy framework, avoiding ad hoc interventions. To achieve this, the government committed to a new statutory Strategy and Policy Statement. This sets out the government's policy goals for the gas and electricity markets, describes the roles and responsibilities of government, Ofgem, and other relevant bodies and defines policy outcomes that the government wants the regulator to deliver.

A further dimension to the regulatory framework is to develop the program to harmonise European markets. The EU Third Package, adopted in 2009, permits governments to impose direct requirements on energy companies through a Public Service Obligation (PSO). These can only be used in particular circumstances, such as on issues of security or environmental protection, including energy efficiency, climate protection and promoting energy from renewable sources. PSOs also have to meet certain criteria, such as being transparent and non-discriminatory. Transmission access is a recent example of a PSO. The Government used this mechanism to embed its proposals for giving new generators access to the electricity network. This was done on the basis that the proposals would help the UK meet its renewable

energy targets and enhance security of supply. Given the existing regulatory framework, any future PSO may need domestic legislation to be effective.

Recommendations

- Legislators and policy makers should regularly review the powers and role of regulatory institutions. An immediate review should consider whether regulatory institutions are empowered and capable of aligning regulatory decisions with the policy goals of affordability, security and sustainability.

4. Issues in competitive markets

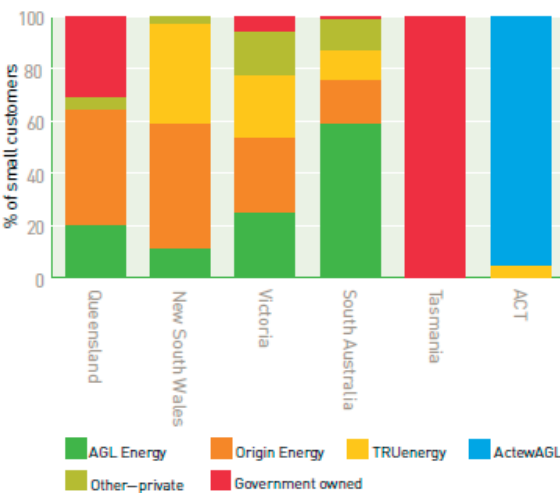
4.1 The opening of retail markets

Victoria led the way in retail competition after unbundling and privatising its electricity industry in stages from 1994, introducing full competition in January 2001. New South Wales followed, introducing full retail competition in January 2002. South Australia followed Victoria in vertically fragmenting and privatising its industry, introducing full retail contestability in January 2003.

The other states have now implemented retail competition for all customers. The regulator is now reviewing the effectiveness of competition in each state. Its findings so far suggest that Victoria and South Australia have succeeded in creating effective competition but this success has not been replicated elsewhere. Most notably, electricity in the Australian Capital Territory (ACT) electricity retail market for small customers has not yet proved effective.

Regulation for standard contract prices varies between states, resulting in differences in the degree of competition in each state and the opportunity for new entrants in each market. Where competition is effective, the regulator intends to remove the residual regulated tariffs initially introduced to safeguard consumers. This will help to remove the regulatory risks posed by continuing retail price regulation that affects retailers and generation investment incentives.

Figure 4: Electricity retail market share (small customers), by jurisdiction, 2011



Source: AER estimates, 2011

As a very broad generalisation, the Australian retail energy market behaved in line with early experience in the UK, although each state market is affected by the retail price regulation arrangements in that state. Figure 5 shows how reforms to open up the energy market have affected the electricity retail market for small customers.

While state and territory governments regulate retail energy markets, the Australian Energy Regulator (AER) will adopt significant functions when national reforms take

effect. State and territory governments are now implementing these reforms under the

National Energy Retail Law. The reforms aim to streamline national regulation to support an efficient retail market with appropriate consumer protection. The South Australian parliament passed the Retail Law in the 2011 autumn sitting. The legislation is expected to take effect in Queensland, New South Wales, Victoria, South Australia, Tasmania and the ACT. Western Australia and the Northern Territory are not planning to implement the reforms.

4.2 State Systems¹⁹

4.2.1 Queensland

By June 2011, Queensland had 27 licensed electricity retailers and nine licensed gas retailers. Eleven of these were actively retailing electricity to small customers, and three were actively retailing gas. Origin Energy and AGL Energy are the leading retailers of electricity and gas. The Queensland Government owns Ergon Energy's retail business, which supplies electricity at regulated prices to customers in rural and regional areas. Ergon Energy is not permitted to compete for new customers.

4.2.2 New South Wales

In June 2011, New South Wales had 27 licensed electricity retailers. Twelve of these supplied residential and small business customers. After privatisation in 2011, Origin Energy and TRUenergy supplied more than 85 per cent of small electricity customers. Six of the 11 active electricity retailers were also active in gas. AGL Energy (the host gas retailer) and TRUenergy supplied the majority of customers.

4.2.3 Victoria

In June 2011 Victoria had 22 licensed electricity retailers. Fourteen of these were active in the residential and small business market. The active retailers include three host retailers—AGL Energy, Origin Energy and TRUenergy—and 11 new entrants. According to the most recently published data, the three host retailers supplied about 70 per cent of small electricity customers at June 2010, and each had acquired market share beyond its local area. New entrant penetration increased from around 7 per cent of small customers at June 2005 to almost 30 per cent at June 2010. Victoria had 15 licensed gas retailers, of which eight actively supplied small customers. The three host retailers, which are also the host retailers in electricity, collectively supplied around 80 per cent of the gas demand of small customers at June 2010.

¹⁹ Australian Energy Regulator, *State of the Market 2011*, available at: <http://www.aer.gov.au/sites/www.aer.gov.au/files/State%20of%20the%20energy%20market%202011%20-%20complete%20report.pdf> Published December 2011, market shares may have changed considerably by mid-2012.

4.2.4 South Australia

In June 2011 South Australia had 21 licensed electricity retailers. Twelve of these were active in the small customer market. The four largest retailers account for around 90 per cent of the market. The host retailer, AGL Energy, supplied around 54 per cent of small customers in 2010, down from 79 per cent in 2005 (figure 4.3). Origin Energy (18 per cent) has built significant market share over the past six years. South Australia had 11 licensed gas retailers at June 2011. Four of these actively supplied to small customers. At June 2010 Origin Energy supplied around 54 per cent of small customers, but the other active retailers have each built market share over the past six years.

4.2.5 Tasmania

Aurora Energy, the government-owned host retailer, supplies small electricity customers in Tasmania. Legislative restrictions prevent new entrants from supplying small customers. In June 2011 Tasmania had two gas retailers active in the small customer market: the state owned Aurora Energy and Tas Gas Retail (owned by Brookfield Infrastructure).

4.2.6 Australian Capital Territory

In June 2011 the ACT had 18 licensed electricity retailers and eight licensed gas retailers. Two retailers—ActewAGL and TRUenergy—actively sold to small customers. ActewAGL remains the dominant retailer, supplying more than 90 per cent of small customers.

4.3 Retail competition

All NEM jurisdictions except Tasmania have introduced full retail contestability (FRC) in electricity, allowing all customers to enter a contract with their retailer of choice. At 1 July 2011 Tasmania extended contestability to customers using at least 50MWh/ yr. All jurisdictions have introduced FRC in gas retail markets.

Retail price regulation continues to apply in many jurisdictions as a transition to effective competition. All jurisdictions except Victoria apply some form of retail price regulation for electricity services. Only New South Wales and South Australia regulate gas prices for small customers.

Australian governments agreed to review the continued use of retail price regulation and to remove it if effective competition could be demonstrated. The Australian Energy Market Commission (AEMC) is assessing the effectiveness of retail competition in each jurisdiction, and will advise on ways to remove price regulation. State and territory governments make the final decisions on this matter.

In March 2011 the AEMC released its final report on the ACT retail electricity market. It found competition in the small customer market was ineffective, partly because customers did not know they could switch retailers. The AEMC recommended removing retail price controls from 1 July 2012, in conjunction with running a consumer education campaign to raise awareness of the benefits of competition. However, in 2011 the ACT Government decided to retain price controls for another two years. It noted that the AEMC found removing price controls would increase the average cost of electricity so would not benefit customers.

The Standing Council on Energy and Resources (SCER, formerly the Ministerial Council on Energy) and the Council of Australian Governments agreed to further review energy retail markets in New South Wales (in 2012), Queensland (2013), South Australia (2015), the ACT (2016) and Tasmania (within 18 months of FRC being introduced in the electricity retail market).

4.4 Compliance and enforcement

Effective enforcement is essential to ensure that markets operate effectively for customers and that companies can compete fairly.

4.4.1 The British approach to enforcement

The British regulator, Ofgem, may investigate companies that it considers may be in breach of this legislation and has a range of enforcement powers. Investigations can be initiated by Ofgem or through complaints or referrals from other regulatory bodies.

This allows the regulator to ensure that licensed entities comply with their licence conditions and relevant requirements of the Acts. If the regulator has enough reason to believe that a licensee may be contravening, or may have contravened, any licence condition or relevant requirement of the Acts, including any failure to achieve any prescribed standard of performance, it may investigate and may serve a notice on any person. The party under investigation must then produce any documents specified in the notice, or provide the regulator with any such information as may be specified, subject to certain conditions.

In 90 per cent of cases, within four weeks of receiving a complaint Ofgem will acknowledge receipt and either tell the complainant whether it intends to investigate the matter or otherwise request further information to decide whether to investigate.

Within nine months of launching an investigation, Ofgem must either:

- issue a detailed statement of the case against the party being investigated; or
- close the case because it found no breach or infringement or for reasons of administrative priorities; or

- update the parties being investigated about the timescale for one of the above.

Australia has a less prescriptive system and while regulators are generally committed to efficient processes, there are no clear timelines, nor is information on investigations made public before litigation where breach is pursued.

In Europe, the regulator may impose a financial penalty, with a maximum of no more than 10 per cent of the licensee's turnover, if it is satisfied that a licensee has contravened, or is contravening, any relevant condition or requirement.

By comparison, Australia must pursue civil enforcement actions through the courts, where the regulator must persuade the court of the contravention. Penalties are determined by the court, not the regulator.

Ofgem's appetite for enforcement has been sporadic. In the early years of full retail competition it conducted several investigations into marketing practices and customer switching. These resulted in fines of up to £2 million for licence breaches. More recently, the British regulator has been more willing to investigate companies. It is currently investigating five of the Big Six for potential breaches of complaint-handling provisions.

But during the middle of the last decade, consumer advocates criticised Ofgem for not actively monitoring and investigating company behaviour when presented with customer complaint data.

Some new entrant suppliers have agreed and have suggested that Ofgem should be more active in enforcing current rules, rather than introducing new regulations.

4.4.2 The Australian approach to enforcement

The AER is responsible for monitoring, investigating and enforcing compliance with obligations under the Retail Law and Rules in each participating jurisdiction. These functions aim to ensure that consumers receive the full benefit of the protections provided by the Retail Law and Rules.

The AER has developed a compliance and enforcement guideline which describes how it can help regulated entities:

- understand their obligations under the Retail Law and Rules; and
- develop appropriate programs to manage their compliance.

The AER argues that preventing contraventions of obligations under the Retail Law and Rules is preferable to enforcement after a breach has occurred.

4.4.3 Compliance management framework

It is worth repeating why the AER was given this extended regulatory mandate. In its own words “*The purpose of these functions is to ensure that consumers receive the full benefit of the protections provided by the Retail Law and Rules.*”

This is most welcome and has the potential to provide early intervention where there is market misconduct and will help Australia avoid the wide-ranging problems that occurred in the United Kingdom.

What’s missing, however, is an ex-ante statement of expectation about how market operators will implement the National Energy Retail Rules. As part of this report, the author commissioned a specialist compliance consultancy, Compliance and Complaints Advisory Services, to prepare a compliance management framework for implementing energy marketing rules. This detailed framework appears at **Appendix 1** of this report.

Too often, new legal regimes or regulations are poorly or half-heartedly implemented and require substantial reviews and remedies years afterward. A much better approach for consumer welfare would be to get it right from the start. A clear baseline at the start will mean considerable cost and compliance savings. A further advantage of the wide dissemination of the checklist is that it shows that consumer groups are willing to be actively engaged in steps to make markets work.

Recommendations

- Regulators must take an active approach to enforcement, particularly to set high industry expectations regarding compliance.
- Retailers, regulators and policymakers should agree to implement the compliance management framework included at Appendix 1.

4.5 Consumer engagement in retail markets

4.5.1 UK reviews of the effectiveness of retail markets

Retail markets were fully opened in 1999, although price controls for the incumbents were retained until 2002. In April 2004, Ofgem published its first comprehensive review of the state of competition in the retail supply markets, concluding that consumers had benefited substantially from supply competition and that the markets were competitive, but immature.

Between its 2004 review and its next significant retail market assessment, unprecedented increases in commodity prices resulted in substantial rises in wholesale and retail gas and electricity prices. The regulator repeatedly pointed to the level of switching activity (just under 20 per cent per annum) as a sign of good market health, and resisted calls to further investigate the quality of switching and regional switching activity. As late as January 2008, the regulator assured the government that the “market is sound²⁰” and that it had no evidence of industry collusion. But by February 2008 the regulator announced²¹ that it would investigate retail markets “in response to public concern about whether the market is working effectively”.

The terms of reference for the so-called Energy Supply Probe covered:

- the customer’s perspective and experience of the market, including access to information and barriers to switching supplier;
- suppliers’ market shares, switching rates for different groups of customers (such as online, dual fuel, single fuel and pre-payment);
- the competitiveness of suppliers’ pricing in the different market segments and customer movement between payment types, as well as suppliers;
- the relationship between retail and wholesale energy prices; and
- the economics of new entry and the experience of companies trying to enter the energy market.

The Probe’s initial findings, published²² in October 2008, found that levels of consumer switching were higher than in almost all other markets (at 18 per cent), but the national gas market and each of the former regional electricity markets were still highly concentrated. More than 70 per cent of customers remained with one or other of their former monopoly suppliers.

The report identified a subset of “active” consumers that frequently engaged with the market. Until then, these repeat switchers had masked the fact that the most customers had never switched supplier or had switched only once. This contradicted claims that retail competition was robust. Ofgem concluded that consumers were finding it difficult to assess competing offers or were sceptical about the benefits of switching.

²⁰ Ofgem, *Press Release: Market is Sound, Ofgem assures Chancellor*, January 2008, available at: <http://www.ofgem.gov.uk/Media/PressRel/Documents1/Ofgem%202.pdf>

²¹ Ofgem, *Press Release: Ofgem launches probe into energy supply markets*, February 2008, available at: <http://www.ofgem.gov.uk/Media/PressRel/Documents1/ProbeFINAL.pdf>

²² Ofgem, *Energy Supply Probe: Summary of Initial Findings and Remedies*, 6 October 2008, available at: <http://www.ofgem.gov.uk/Markets/RetMkts/ensuppro/Documents1/Probe%20summary.pdf>

The regulator also concluded that as many as one-third of switchers may not have achieved a price reduction, although it recognised that some may have chosen to switch for service or environmental reasons.

It said the existence of the Big Six compared favourably with many other markets but it was concerned at the lack of material threat to the incumbents because of barriers to entry and expansion. It is particularly difficult for new entrants to access wholesale products.

The Probe marked a turning point in regulatory thinking. For the first time since full liberalisation the regulator not only identified serious problems in the market, it also suggested more intervention as a means to reduce consumer detriment. To “transition to fully effective competition” a number of remedies were developed and licensed. These included:

- differences in payment methods to be cost-reflective;
- prohibition on undue discrimination in terms and conditions (time-limited)
- information on bills and annual statements;
- tighter rules regarding sales and marketing; and
- specific regulatory protection for the smallest of businesses.

As a follow up, the regulator initiated its Retail Market Review (RMR) in November 2010. This found that consumers were even more disengaged than they had been in 2008, mainly because of the proliferation of complex offers that were difficult to compare.

As disengaged consumers do not shop around and put pressure on their suppliers to provide keener prices and better service, Ofgem put forward proposals²³ in December 2011 aimed at boosting engagement. The implication was that if engagement could be increased, more effective competition would follow.

The most significant aspect of the package, which is still being considered, is tariff simplification. Ofgem's research showed that consumers would be far more likely to engage effectively in the market if it was easier to compare tariffs. At its core, is the proposal that suppliers will only be permitted to offer one standard tariff per payment method, and that these will contain standardised elements set by the regulator.

²³ Ofgem, *Retail Market Review: Domestic Proposals*, December 2012, available at: <http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=72&refer=MARKETS/RETMKTS/RMR>

Ofgem has proposed two more information measures to accompany all tariffs to make comparisons easier: a price-comparison guide; and a standardised tariff-information label. These would reinforce proposals to improve bills, annual statements, contract renewal statements and price-increase notifications.

Ofgem's tariff simplification proposals

- suppliers offer only one standard tariff per payment method;
- Ofgem sets a standardised element for all standard tariffs;
- suppliers compete on a single unit rate for each standard tariff;
- all non-standard tariffs are fixed duration with no automatic contract roll-overs;
- all non-standard tariffs would have switching windows with no exit fee, including a time-limited guarantee of the old price until they switch; and
- prices, terms and conditions for non-standard tariffs guaranteed for the duration of the contract.

The information on current switching activity and other market dynamics has been welcomed by most, but most fail to see how the regulator's proposals will ultimately improve consumer welfare. Instead, effective competition needs credible competitors to the Big Six. This is why Ofgem should give priority to dealing with the high costs and the complexity of doing business in the sector and tackle predatory pricing.

The RMR proposals aim to kick-start engagement by prescribing the terms of trade. The package represents a high-level of enforced re-engineering of commercial terms to encourage customers to engage (i.e. switch). Some commentators regard these as controversial and industry groups claim that they could increase and distort costs, replacing one two-tier market with another.

They say this will frustrate innovation, while disproportionately affecting independents and prospective new entrants.

4.5.2 Australian experience with retail markets

Complexity in pricing is by no means new or limited to the UK. The ability of consumers to choose services that best meet their economic interests is a highly complex. In Australia, assessing the comparative cost of services in a range of areas, including home mortgages, hire cars, hotel rooms and mobile phone plans, as well as energy costs, are all fraught with difficulty. Contracts for energy services are now even more incomprehensible than contracts for Internet services. (Regulators have accused utility providers of deliberately making tariffs complex so consumers can't compare prices). Phone companies and energy retailers also charge customers differently for the same services. At issue is the question of consumer choice.

Policymakers and consumer advocates rightly want to give consumers the widest range of competing goods and services to best meet their needs. However, there is now extensive literature from behavioural economics that points to the fallacy of choice. Too much choice communicated by too much information can actually lead to

worse outcomes. Across the globe, consumer or behavioural economists are pushing for simpler prices and tariff structures in complex consumer services. It will be interesting to see whether Australia follows Ofgem and also simplifies prices.

Recommendations

- Regulators need to periodically review retail markets, to ensure they are providing affordable, secure and sustainable services to consumers
- Australia should consider the implications of UK-style price simplification for consumers, compared to current moves to confusing 'dynamic pricing'.

4.5.3 New frontiers in retail markets: collective purchasing

Traditionally, switching has relied on individual consumers continuously figuring out and moving to the best deal for them. The benefits of competition were meant to flow from this. But there is increasing evidence that the quality of competition is uneven, with large integrated firms enjoying considerable market power and dictating commercial terms. It is also becoming accepted that similar behaviours by established suppliers had made many customers cynical about the competitive process. Large segments of retail markets can be characterised by “sticky” customers who cannot or will not switch. Against this background regulators in other jurisdictions are looking at mechanisms to broaden choice and kick-start competition where it might be stalling.

Collective switching in practice

1. An intermediary establishes a collective switching service, which provides the focal point around which consumers can group together. The intermediary then aggregates the individual demand of participating consumers into a co-ordinated block of market share that is committed to switching to a better deal.
2. Once a critical mass is reached, the intermediary leverages the group’s combined buying power by offering the group as a block of market share to suppliers, who then compete for it by offering their best deal. This is achieved through a reverse auction process, which the intermediary sets the terms for and operates.
3. Once the auction’s most competitive offer is confirmed, it is relayed back to participating consumers, in a form that enables them to easily assess the extent to which it would benefit them. The intermediary then manages a synchronised switch, whereby all consumers who accept the offer are migrated en masse to the provider that made the best offer.

Collective switching has the potential to help consumers move to a better deal by transferring the process to a trusted intermediary. The only effort required by the customer is to register with the intermediary and approve the switch that it secures on their behalf.

Switching together promotes the potential for stronger competitive pressures in the market that customers acting in isolation could not otherwise achieve. The prospect of winning a significant block of market share (or losing a proportion of their current customer base) should compel established suppliers to compete for the group's custom.

The British consumer advocate recently issued a report titled *Get it, together – The case for collective switching in the age of connected consumers*²⁴. This report claimed that previous attempts to give consumers more information and advice had not been enough to “cut through the confusion and complexity they face” when trying to switch provider. The new dynamic that has not been fully exploited in the energy sector is the rise in social media technologies, which has made it much simpler to realise savings and discounts without individuals having to do all the leg-work themselves.

Unlike collective purchasing, under the collective-switching model the intermediary would not purchase wholesale products and resell these to customers. Instead, the intermediary would manage the bulk transfer to the winning supplier. The customer's contractual relationship would remain with suppliers and at no point would it pass to the intermediary, though the intermediary would still be paid a commission by the winning supplier for delivering the consumers.

Apart from removing the need for consumers to search out a better deal, Consumer Focus believes collective switching can encourage previously disengaged consumers to engage with the market. Thus, it has the potential to deliver real savings for those unable or unwilling to pursue more traditional routes to find a new supplier—although the report does note that not everybody uses social media.. To overcome this, the intermediary would partner with a trusted social organisation or charity to spread the word and collate willing participants in the auction.

The prospect of winning or losing a significant block of market share should compel suppliers to compete for the group's custom, perhaps drawing in new entrants with quick acquisition of market share.

There are already several successful initiatives in the Netherlands, Belgium and Germany, where collective switching providers work with local government, housing and civil society organisations to register interested constituents, either through their day-to-day contact or by arranging dedicated events. Since its launch in 2008, more

²⁴ Consumer Focus, *Get it Together: the case for collective switching in the age of connected consumers*, 2012 available at: <http://www.consumerfocus.org.uk/files/2012/04/Consumer-Focus-Get-it-together.pdf>

than half a million consumers have registered with programs for gas, electricity and heating-oil switching, with a conversion rate of more than 30 per cent. The intermediary claims that the winning bid has improved existing tariffs for 95 per cent of participants.

But smaller suppliers fear that they would not be able to take part in any collective switch that offered a large number of customers, as they would be unable to take on the customers should they win the auction.

The first collective switch in Britain took place on 9 May 2012. Four of the six incumbents entered the high profile “Big Switch” auction initiated by Which?, along with two new entrant suppliers. Smaller suppliers were allowed to cap the number of customers that it could take at 30,000, to enable them to take part.

This approach is not without its problems. Some retailers in Britain fear that they could fall foul of regulations by preventing suppliers from price discriminating between different customers (unless justified on cost grounds). However, this may be overstated as the regulator has said that any cost difference between winning bids in the auction and suppliers’ existing tariffs could be rationalised by lower marketing, sales and acquisition costs.

The government is also keen to push the collective switching model and recently issued guidance²⁵ for providers and customers.

Properly designed collective switching initiatives clearly have the potential to promote competition and encourage disengaged customers into the market. Even those suppliers that do not take part are likely to offer competing products, which can only be beneficial.

It is clear that there is the potential for an interesting new dynamic in the domestic energy markets. But to fully benefit, wholesale markets must function well, particularly for new entrant suppliers seeking to build customers. Suppliers will need access to wholesale products to meet the needs of a significant number of customers won in a collective switch auction to ensure a reasonable return on the tariff provided.

Recommendations

- Legislators, policymakers and regulators should consider the implications of collective switching, such as the One Big Switch, in Australia. A facilitated approach to collective switching can ensure it is a positive addition to the market, rather than one that may create consumer detriment (as has occurred with some commercial switching websites).

²⁵ Energy Secretary Edward Davey, *Press Note: Next Steps on Collective Purchasing for a Better Deal*, 23 May 2012, available at: http://www.decc.gov.uk/en/content/cms/news/pn12_064/pn12_064.aspx

4.6 Equity and hardship management

4.6.1 Fuel poverty

Commonwealth and state governments help low-income households usually through income support, including the pension supplement, utilities allowance, energy rebates and emergency assistance.

The concept of fuel poverty is increasingly gaining traction in Australia. The term is used in Britain to identify households that spend more than 10 per cent of their income on all household energy fuels to heat their homes. In Britain, the main issue is the impact on health and increased mortality rates during winter, while in the Australian the problem is extreme heat.

A Council on the Ageing (COTA) paper²⁶ noted that during the January 2009 heat wave, Victorian government records showed a 64 per cent increase in mortality rates, with the greatest increase seen in the people over 75.

The cause of fuel poverty includes energy prices, household income and housing quality. Fuel poverty damages people's quality of life and costs the community more. The most direct effects relate to health: particularly for older people, children, the disabled or those who have a long-term illness. In Britain, the Warm Homes and Energy Conservation Act 2000 formally recognised fuel poverty as a major public health issue and required the government "to publish and implement a strategy for reducing fuel poverty and set targets for its implementation". The fuel poverty strategy²⁷, launched in 2001, expressly aimed to introduce policies to eradicate fuel poverty in vulnerable households by 2010 and all English and Welsh households by 2016 (2018 for Scotland). Policies to meet these targets were grouped under three headings:

- energy efficiency measures—a combination of programs delivered by suppliers (see section 7.4), obligations on local government to improve housing stock and advice;
- energy market measures—essentially by ensuring energy affordability through freeing energy markets and promoting competition; and
- social-inclusion measures—supplementing income through the social benefits systems .

²⁶ Council on the Ageing, *Energy Security: Protecting Older People from Energy Hardship*, 2011, available at:http://cotansw.com.au/wp-content/uploads/2012/02/Energy_Security_Case_Studies_-_Protecting_Older_People_from_Energy_Hardship_-_Copy.pdf

²⁷ UK Government, *Fuel Poverty Strategy*, 2001, available at:
<http://www.decc.gov.uk/assets/decc/what%20we%20do/supporting%20consumers/addressing%20fuel%20poverty/strategy/file16495.pdf>

The strategy was introduced shortly after retail markets were opened up and for the first years of the century households bills fell, as did the number of households in fuel poverty.

To track the progress of the strategy against its targets annual reports are issued. These provide updates on programs, as well as describing new developments and the impact of energy prices. The latest publically available update (covering 2010) stated that since 2000 more than £25 billion had been spent on programs to tackle fuel poverty. However, significant price rises since the middle of the last decade have resulted in greater fuel poverty, with more recent unofficial estimates suggesting that five million households (almost a fifth) in Britain are now classified as fuel poor. This increase has shown how price rises can quickly override benefits from energy efficiency or social-inclusion measures. Since 2000, the average household gas bill (in real terms) has doubled and power bills have increased by 50 per cent.

To help develop policies, a Fuel Poverty Advisory Group (FPAG) for England was created. Although the group is sponsored by government, it remains independent and is made up of members representing suppliers, charities, consumers and local government. The role of FPAG is:

- to consider and report on the effectiveness of current policies aiming to reduce fuel poverty;
- to consider and report on the case for greater co-ordination;
- to identify barriers to reducing fuel poverty and to develop effective partnerships, as well as proposing solutions;
- to consider and report on any additional policies needed to reduce fuel poverty;
- to encourage key organisations to tackle fuel poverty; and
- to consider and report on the results of work to monitor fuel poverty.

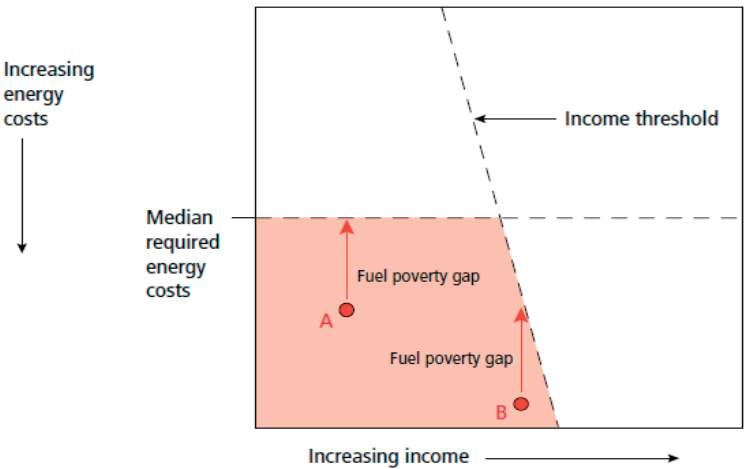
FPAG has consistently stated that efforts to reduce fuel poverty have been hindered by the problems in developing program that accurately identify and target measures to those that need it most. Social benefits are generally used as a proxy for fuel poverty, although analysis has shown that the match can capture relatively affluent consumers and miss those that do not claim the benefits they are eligible for. This has led to greater coordination and data-sharing trials between industry and benefit agencies, and programs to encourage eligible consumers to claim benefits (where receiving benefits is the “passport” to claim from fuel poverty programs). The FPAG has estimated that for every 1 per cent added to consumer’s bills another 45,000 to 60,000 households move into fuel poverty.

To address some of these concerns the British Government commissioned an independent appraisal of fuel poverty targets and definitions. The final report²⁸, published on 15 March 2012, concluded that the current definition of fuel poverty—where 10 per cent of a household’s income is spent on fuel each year—does not focus on the problem, giving a misleading impression about both the trends and the effectiveness of policies aimed at tackling it. The official indicator is based on comparing the ratio between households’ energy spending needs and their income, against a fixed threshold. This definition makes it unduly sensitive to price changes and also unwittingly includes wealthy households with large homes that are expensive to heat.

Size and composition should be considered when determining what is “reasonable” for a household to have to spend on its energy. The report also considered how the threshold for reasonable costs could be set. The report said the government should adopt a new indicator for defining household fuel poverty, and that the median contemporary modelled energy requirement would be the most robust (*see below*). The definition should determine whether households have fuel costs above the median level, and whether this would leave them with a residual income below the official poverty line. The government should also count the number of individuals in this condition as well as the number of households they live in. To assess the depth of fuel poverty, the government should also adopt the average and aggregate fuel poverty-gap indicator.

Using these measures the report estimated that some 8.5 million people in 2.9 million

Figure 5: Recommended indicators of the extent and depth of fuel poverty



Source: *Getting the measure of fuel poverty*, DECC. March 2012

²⁸ Hills Fuel Poverty Review, *Final Report of the Fuel Poverty Review*, March 2012, available at: <http://www.decc.gov.uk/assets/decc/11/funding-support/fuel-poverty/4662-getting-measure-fuel-pov-final-hills-rpt.pdf>

households could suffer fuel poverty by 2016. While there is some concern that this approach underestimates the number of households experiencing fuel poverty, it did show that in 2009 bills would need to be cut by 414 pounds per household for fuel poor households to be able to afford to heat their homes. The report estimated that by 2016 this could be as high as £600.

Recommendations

- Australia should implement measures to assess and report on energy affordability and the incidence of fuel poverty, so as to mitigate adverse consequences

4.6.2 Social tariffs

Social tariffs should also be considered to address the impact of rising bills on vulnerable households in Australia. These have been offered voluntarily in the UK market since 2008 and were made mandatory footing in 2011. Eligible customers (those who receive social benefits) can apply for tariffs that guarantee the lowest price. A reconciliation mechanism allows for the costs of the tariffs to be shared equally among participating suppliers. It will be two or three years before any credible judgements can be made about the value and effectiveness of the government's decision to mandate social tariffs in the UK market. However it is useful to consider the promise and performance of voluntary social tariffs which preceded the statutory moves. Australian policymakers, like their UK counterparts, are conservative and likely to follow a similar incremental path towards designing tariffs for the poor and marginalised. Appendix 2 includes a testimony from the consumer group Energy Watch to a UK Parliamentary committee considering reforms to energy laws.

Recommendations

- The costs and benefits of implementing social tariffs in Australia should be explored.

4.7 Vertical integration

4.7.1 Increasing trend of vertical integration

While governments structurally separated the energy supply industry in the 1990s, there has since been a trend towards vertical reintegration between retailers and

generators (gentailers). The New South Wales energy privatisation process (and the Queensland privatisations in 2007) continued this trend.

Vertical integration is a logical (but competition compromising) commercial response to mitigate risk presented by markets, not least because they allow them to better manage generation portfolios to meet customers' needs, without having to rely on the market to provide required products.

This model can be significant for the wider market and consumers. The draft White Paper recognises that is important for participants to effectively manage their exposures and risks, but that a "properly functioning forward-contract market is essential to the smooth functioning of Australia's electricity sector and helps participants manage risk". It also states: "It is important for all participants that the wholesale and contract markets are deep and liquid, and that new entrants have incentives to enter each of the market sectors".

Despite acknowledging this trend, the draft White Paper concludes that "there is no suggestion that current market structures are uncompetitive or causing economic harm. While this structure may be different from that first envisaged in the establishment of the NEM, it may well be that Australia's optimal market structure for the foreseeable future is one that comprises a healthy balance of integrated energy businesses and merchant operators."

This conclusion must be challenged, as it is arrived at without deep analysis. It merely notes the number of *current* generators and retailers present in the market. As such, it fails to consider the potential impact of further consolidation. The draft White Paper makes no recommendation to assess the impact of vertical integration on policy outcomes, the potential harm to competition or if it results in consumer detriment. In contra-distinction to UK policy in this area (see below), this is a significant and fundamental failing of the policy agenda.

4.7.2 British experience with vertical integration

A trend towards vertical integration has also been a major feature of the British electricity market. This has led to the emergence of the "Big Six", which now supply 99 per cent of customers in the household market.

There are a number of factors and circumstances that have allowed this market structure to appear. The New Electricity Trading Arrangements (NETA) was introduced in 2001 stimulate generation competition. At the core of the NETA market design is bilateral contract model that encourages participants to trade or face charges for all uncontracted positions remedied by the system operator.

As with the NEM, the NETA, market design was based on the belief that the incentives placed on participants would create a vigorous and robust wholesale

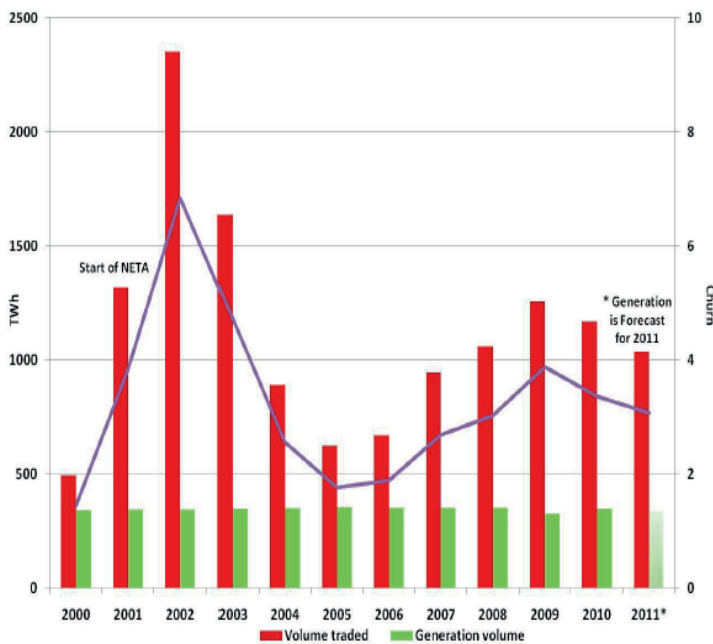
trading market. This, in turn, would create trusted market prices to signal where and when new capacity may be required and when market conditions favoured market entry (or exit).

Shortly after the introduction of NETA, wholesale energy prices fell by almost 40 per cent as the legacy of historical over-capacity became apparent. As a result many merchant generators left the market, which allowed incumbent suppliers to buy generation assets at relatively low prices. The advantages of scale were considerable and many of the new entrants, in both the wholesale and retail markets, were eventually absorbed by the Big Six. This tendency for reintegration and consolidation was completed by 2005 when the companies had bought generation assets.

Regardless of the reasons for the market structure in Britain's electricity market, it has given rise to serious concerns that customers may not be paying a fair price for their energy and that there is less competitive pressure from viable new entrants.

As a result, market structure wholesale trading activity has reduced as most electricity volumes are traded within company structures or under long-term contract. Recent work by Ofgem has concluded that vertical integration is damaging wholesale market liquidity, which can prevent independent parties from finding enough counter-parties to trade with.

Figure 6: Wholesale electricity churn



Source: Ofgem

Vertical integration in the UK electricity market (particularly the small business and domestic market) has become so substantial that Ofgem now proposes radical market interventions to reduce its impact on liquidity in wholesale markets.²⁹ In a major policy statement, the regulator announced it would require all vertically integrated energy companies to sell a significant proportion of their

²⁹ Ofgem, *Retail Market Review: Intervention to Enhance Liquidity in the GB power market*, February 2012: <http://www.ofgem.gov.uk/Markets/RetMkts/rmr/Documents1/Liquidity%20Feb%20Condoc.pdf>:

generation output by auction (Mandatory Auction MA). Several other equally radical measures were proposed and are the subject of a consultation.

There are also concerns that there is not the same range of products that are available on the wholesale market—particularly longer-term products of the right size and shape that new entrants need to be able back-off their contracts and offers. This pushes new entrants into the more volatile near-term markets. Empirical evidence also highlights that non-vertically integrated parties are likely to find themselves in imbalance more often than established players. More generally, prospective new entrants require trusted market reference prices to assess whether entry is viable.

The Big Six incumbents in Britain have generally argued that the vertically integrated structure allows them to avoid or mitigate many of the risks they would face if they were more exposed to the wholesale market, and that they can therefore deliver more stable and cost-effective offers to customers. They also stress that multiples of their generation output are traded, although much of this takes place in the near-term market. They also claim that internal transfer prices between generation and retail arms are based on market reference prices—although proving this is difficult.

As the British government develops policies to encourage investment in desirable low-carbon technologies much of the new build is expected to be delivered from the incumbents. A stable market structure and customer base for the incumbents should allow investments to be brought forward with lower capital costs, which would be put at risk if the vertically-integrated model was broken up.

Ofgem has suggested several proposals to improve wholesale electricity liquidity, but has stopped short of taking steps to break up the vertically integrated model.

Recommendations

- The Final White Paper needs to take a more analytical approach to the implications of vertical integration, particularly its contribution to rising prices and poorer levels of service to consumers.

5. Smart networks

5.1 The development of smart metering programs

5.1.1 Background

Much attention has been given to the potential benefits that smarter metering systems can bring to markets. Advanced meter deployment programs are at various stages of development in almost all liberalised markets and are seen as the bedrock for developing “smart networks”, although the term means different things to different parties.

At its simplest level, technological solutions, starting with more sophisticated meters, should bring significant market efficiencies. The accurate and timely consumption information that can be readily and regularly accessed has the potential to:

- reduce supplier costs to serve;
- increase consumer engagement by providing better information that will drive changes in consumption behaviour;
- introduce more innovative tariff offerings;
- improve the customer switching processes;
- enable remote-load management;
- provide a quicker and more accurate settlement of wholesale market positions; and
- allow flexible payment options.

Unfortunately, much of the discussion of the benefits of smart technology has focused on consumer engagement via improved information provision, without enough analysis about which consumers will be motivated or able to change consumption patterns based on feedback.

5.1.2 Smart metering progress

Plans to introduce smart meters are being implemented at the state and commonwealth level. This was initiated by the Council of Australian Governments (COAG), who committed to the progressive rollout of smart meters in jurisdictions where the benefits outweigh costs.

Victoria began rolling out smart meters in 2009, but quickly encountered problems after the Auditor-General of Victoria³⁰ questioned the cost-effectiveness of the project. The assessment concluded that the advice and recommendations the government had received on the roll-out were inadequate. It also criticised the cost benefit analysis and found it wanting in terms of economic merits, consumer impact and project risks.

There has also been a significant consumer backlash to the rollout, with interest groups claiming that that meters only benefit the electricity companies and that they were being used to push up prices. The debate was heavily influenced by a media frenzy fuelling the discontent.

Following a change of government in Victoria, the implementation plan was reviewed but in December 2011, the new government decided to continue with the roll out and implement the recommendations of the Auditor General.

On 18 April 2012, the state of Victoria announced it had established a Ministerial Advisory Council for the Advanced Metering Infrastructure (Smart Meter)³¹ program. This would focus on providing a collaborative framework for consumer groups and industry representatives to work together during the rollout and monitor consumer information and engagement programs.

5.1.3 Grid-Level Developments

Pursuing cost-effective opportunities to deploy time-of-use and/or smart meters is as an important way of investing wisely in energy infrastructure in the future. In recent years there has been a decline in the use of Australia's energy infrastructure as the growth in peak demand has outpaced the growth in underlying energy consumption. This has meant more is being spent on additional generation and network capacity that is only being used for a fraction of the time. This additional expenditure is reflected in generation and network prices, and ultimately in electricity bills for customers.

In an effort to understand the potential of the smart grid, the Australian government has funded a \$100 million initiative across in Newcastle, Sydney and the Upper Hunter. The demonstration projects will test the effectiveness of a number of approaches, including web portals that allow consumers to actively monitor their energy use and calculate their costs and a number of household-energy monitoring systems. These include systems that allow consumers to remotely turn appliances on or off; measuring devices to improve network reliability and efficiency; distributed

³⁰ Victorian Auditor-General, *Towards a 'Smart Grid': The Role Out of of Advanced Metering Infrastructure*, November 2009: http://download.audit.vic.gov.au/files/111109_AMI_Full_Report.pdf

³¹ Department of Primary Industries, *News: New Council to oversee Smart Meter benefits*, available at: <http://www.dpi.vic.gov.au/smart-meters/home/latest-news/new-advisory-council-to-oversee-smart-meter-benefits>

storage and generation devices, including fuel cells and battery storage; and accommodating electric cars.

5.2 Smarter markets—the British and European experience

The potential for smart meters only really began in earnest during the middle of the last decade in Britain. The then consumer advocate Energy Watch launched a campaign³² calling for smart meters in responses to poor billing practices that resulted in high levels of estimated and inaccurate bills for customers. This coincided with European legislation that called for all consumers to receive accurate and timely information about their energy consumption.

This culminated in the government's decision in 2008 to mandate smart meters, which in turn led to a protracted program of policy and regulation development that is still to conclude.

In order to understand and quantify consumer benefit and reaction, the British regulator Ofgem oversaw an extensive Energy Demand Research Program³³ Trials were designed to test consumer response to different demand-reduction measures, including better bills and smart meters.

Various interventions were introduced (individually or in combination), mainly aimed at reducing domestic energy consumption. More than 60,000 householders were involved in the project, including 18,000 with smart meters. The Government allocated £9.5 million to the trials, which was matched by participating energy suppliers.

The analysis found that when the intervention did not include a smart meter there was no significant reduction in energy consumption. By contrast, the combination of smart meters with real-time displays resulted in consistent energy savings of around 3 per cent depending on fuel, customer type and the point at which the measure was introduced during the trial.

Apart from demand reduction, smart meters brought a second source of change in consumption patterns - a shift of energy demand from peak to off-peak times. This shift is likely to benefit consumers through bill reductions for those taking up time-of-use tariffs. However, bill savings for these customers may be offset by bill increases for other customers as the existing cross-subsidy across time-of-use unwinds. This cross subsidy exists because the pricing of energy paid by the end-consumer does not truly reflect the cost of constraints on the network at different times of the day or season.

³² Energy Watch, *Get Smart: Brining Metering into the 21st century*, available at: <http://www.founter.com/uploads/pdfs/Get%20Smart%20%28UK%29.pdf>

³³ Ofgem, *Energy Demand Research Program*, available at: <http://www.ofgem.gov.uk/Sustainability/EDRP/Pages/EDRP.aspx>.

In reality, the distributional impacts of the costs and benefits associated with smart meters will vary, depending on the individual consumer's ability to save energy and on how suppliers decide to pass through the costs of the program. There are specific factors affecting the actual levels and distribution of energy savings. These include the effectiveness of consumer engagement approaches carried out by energy suppliers, energy services companies (ESCOs) and potentially other parties; the quality of smart meter design solutions and developing energy tariffs and services that encourage or facilitate behaviour change.

So far, there has been little analysis in a UK context on the distributional impacts of smart meters, but anecdotal feedback from suppliers suggests that low-income customers on average tend to have flatter usage profiles. As such, they would benefit from bill reductions by taking up time-of-use tariffs even if they did not change their consumption patterns - depending on the nature of time-of-use tariffs. This view supports analysis in the US which shows that low-income customers tend to benefit more than average from time-of-use tariffs.

In the short term, the installation and stranding costs associated with the rollout will be passed to all consumers. However, only consumers who have received a smart meter will be encouraged to realise the expected energy savings. From 2017 onwards, as most consumers start realising the benefits of smart meters, and transition and stranding costs decrease, more consumers will benefit from lower energy bills. By 2030, the government estimates households could save as much as £42 each from the mandated rollout.

The government's review of the early rollout phases will consider the effect of smart meters on consumers, particularly the quality of the customer experience and changes to energy consumption, and the effectiveness of different approaches to rollout. The effect on different types of consumer, including the vulnerable, will also be considered. This will help the government ensure that the development of smarter networks complements its policy goals on affordability and support for these vulnerable groups. In turn, this will help the government target energy efficiency and financial support measures towards the most vulnerable groups.

The Energy Demand Research Program was one of the few examples of a real-life consumer experience that was used to help understand the impact of policy change. Real data and evidence was collected and valuable lessons learnt regarding customer reaction to information presentation.

Despite this important work stream, many remain critical of the business case on which the government has proceeded to mandate the rollout of smart meters. Even the government's spending watchdog, the National Audit Office (NAO), issued a

report³⁴ in June 2011 that identified a number of major defects that the government needed to address to achieve value-for-money.

In its impact assessment, the government estimated that installing smart meters with in-home displays would cost £11.3 billion and deliver benefits totalling £18.6 billion. Public expenditure would be limited to program management and consumer engagement. The remaining costs (manufacturing, installing and operating smart meters) would be determined by suppliers, which the Government expects, to be passed to customers through their bills, along with savings.

To ensure value-for-money in the future, the NAO recommended that the government develop its plans to address uncertainty over consumer benefits; the risk of cost increases; and the risk that suppliers would not pass on net savings to their customers. It also recommended that the government identify more precisely the critical paths and review points for updating costs, ensuring a secure system and reassessing options before making irreversible decisions.

It is clear that giving all consumers smart meters is more complex and requires more resources than originally envisaged. Much of the government's work has focussed on meter function and establishing a central communications body that will relay information from meters to industry participants. There has also been much (necessary) activity to define consumer protection measures during installations. This concerns rules around installer behaviour (including marketing and sales activity), as well as difficult installations that may expose asbestos or other health and safety considerations.

To ensure the interests of all consumers will be protected (including the vulnerable) the government has developed an Installation Code of Practice that includes rules on sales and marketing activities regarding the installation visit. The code is being developed by suppliers in consultation with interested parties, including consumer groups. Accession to the Code, will be a licence requirement, and the Code itself, and any subsequent changes to it, will have to be approved by Ofgem.

The government is also aware that initiatives to promote engagement and build consumer knowledge and awareness are important to minimise confusion and resistance towards new energy tariffs and increased energy-related information. This is why it is developing a customer engagement strategy that is likely to involve national and local awareness-raising activities.

With all these work streams progressing, it is only recently that the industry has begun to assess how the consumption information could be used in the central wholesale settlement arrangements. This is a key piece of work to ensure that the

³⁴ National Audit Office, *Preparations for the rollout of Smart Meters*, June 2011, available at: http://www.nao.org.uk/publications/1012/smart_meters.aspx

“meter-to-bank” benefits can be realised, such as shortening settlement time frames (now 14 months) and allowing suppliers to offer time-of-use tariffs.

Nonetheless the government is still very much committed to rolling out smart meters (larger users must have advanced meter-reading (AMR) equipment from April 2014) and is finalising the long implementation program. The latest suite of documents³⁵ issued in April 2012 confirmed that suppliers will be mandated to only install smart meters from 2014 and to complete the rollout by the end of 2019, although many are gearing up to begin earlier.

This rollout will need to be monitored and assessed. The low-carbon network (LCN) fund³⁶ was implemented by the British regulator in its network price settlement process that makes funding available to regulated companies (in collaboration with technology providers, academia and suppliers) to appraise “smart” technologies. Projects are appraised by an independent panel that includes consumer representatives.

A recent report from BUEC, the European Consumer Organisation, warned that a targeted and flexible approach to smart metering was needed, based on the motivations and capabilities of households.³⁷ The report found that most households were not interested in feedback on their energy consumption. It also suggested that without a prior motivation to save energy, feedback was useless. Apart from motivation, it said that knowledge, money and skills were important factors in determining whether consumers could use feedback and information to change their energy use.

BUEC rejects an obligatory smart meter rollout. It says that users who are extravagant and motivated, as well as average users who are motivated and capable, are the two groups most likely to benefit from customised toolkits based on feedback.

5.3 Smart metering research—Victoria

In March 2010, the Victorian Government arranged a moratorium by Victorian electricity distribution businesses on the introduction of Time-of-Use (ToU) pricing, as enabled by AMI. The moratorium was introduced in response to community concern about the potential distributional impacts of ToU pricing. This gave government, industry and consumer groups the chance to jointly assess the potential impact of the new pricing, and to ensure that the transition was managed carefully and sensibly.

³⁵ http://www.decc.gov.uk/en/content/cms/consultations/cons_smip/cons_smip.aspx

³⁶ Ofgem, *Low Carbon Networks Fund*, available at: <http://www.ofgem.gov.uk/networks/elecdist/lcnf/pages/lcnf.aspx>

³⁷ BUEC, *Empowering Consumers Through Smart Meters*, December 2011, available at: <http://docshare.beuc.org/docs/2/PENLLFNDPDPACBFBOLLIODICPDWY9DB6EG9DW3571KM/BEUC/docs/DLS/2012-00369-01-E.pdf>

A potential concern was that AMI-enabled ToU pricing might penalise the very households that government customer protections and concessions aimed to support. These are households and small businesses with limited capacity or discretion to respond to new consumption data and ToU price signals and limit their energy consumption. Some of these households can be identified through their eligibility for concessions (such as those receiving disability, aged and veterans pensions and unemployment and sole- parent payments) or those with very low consumption patterns. However more sophisticated data and analysis is required to identify home-based and small businesses and households that are under energy stress, including the working poor, self-funded retirees and other vulnerable consumers ineligible for Commonwealth determined concession entitlements. Households and businesses can also be disadvantaged through more volatile bills, making budgeting difficult, as well as from higher bills.

A preliminary Deloitte study into the potential impacts of new state-pricing arrangements has revealed that many Victorians will benefit from what is known as 'flexible' pricing (or 'time-of-use' pricing). The study shows that with the introduction of flexible rates (expected during 2013), electricity costs for several customer groups, including vulnerable groups and small businesses, will change.

Through Deloitte's modelling it is estimated that on average changes to customer bills will range from a 4 per cent reduction to a 2 per cent increase—assuming no changes in energy consumption. It also found that if customers changed their energy consumption in response to flexible pricing, all customer groups could benefit.

The Deloitte study also found:

- the new pricing structures would give vulnerable groups (single-parent families and the elderly) almost the same potential to benefit as the average electricity customer;
- flexible pricing would benefit regional households, which tend to have relatively heavy overnight consumption;
- people requiring disability assistance would generally benefit through the new pricing arrangements;
- Regional household and health-care cardholders would be better off under most pricing scenarios.

However the study also noted that specific customer impacts would depend on a number of variables, including:

- the structure and level of tariffs that were applied;

- existing tariff levels;
- whether customers had a single or dual element meter;
- the customer's own usage profile; and,
- whether, and how, customers altered their energy consumption in response to price changes.

Given this, the distributional implications of mandatory ToU pricing are still uncertain. It should also be noted that the studies have not adequately considered the significance of the non-financial costs of changing consumption patterns in response to information. Perhaps this is why the Victorian Government has promised that customers can choose to remain on a flat tariff when flexible pricing is introduced.³⁸

5.4 Other approaches to demand management

Non-price based demand-side participation measures have a significant role to play in helping consumers change usage to improve efficiencies in the electricity system. This includes the role of demand-load control (particularly in relation to air conditioning and pool pumps) as well as community education campaigns.

A targeted, simple, social marketing campaign that encouraged consumers to use their dishwasher, washing machine and dryer at nights or on the weekend, would make a big difference to residential energy consumption patterns, especially if it was promoted as both a community and individual benefit.

There have been limited system-wide approaches in demand-load control to demonstrate the effectiveness of this approach. Some tests are underway in South Australia, one of the “peakiest” energy systems in the world, reflecting climatic characteristics and the widespread use of domestic air conditioning.

The Essential Services Commission of South Australia’s (ESCOSA) 2005-2010 Electricity Distribution Price Determination allowed for a \$20.4 million project³⁹ on specific demand-side management-trial initiatives.

Although the final report is pending the trials primarily focussed on programs to lop domestic peak-consumption, as the average household demand profile results in greater peaks than average industrial use (where demand profiles are flatter). When the allowance was not fully used during the price-determination period, the regulator

³⁸ Minister for Energy and Resources, *Media Release—Greater Pricing Choice for Energy Consumers*, 26 September 2012, available at: <http://www.premier.vic.gov.au/media-centre/media-releases/4977-greater-pricing-choice-for-victorian-energy-consumers.html>

³⁹ ETSA Utilities, Demand Management Trials, available at: http://www.etsautilities.com.au/centric/our_network/demand_management.jsp

extended the trial, which is now being evaluated. Results are expected in the third quarter of 2012. Direct-load control for domestic air-conditioning will form a significant part of the trials and evaluation

Recommendations

- Targeted approaches, underpinned by strong consumer protection frameworks, clear and accessible information, as well as safe default tariff options, should be taken to the introduction of flexible pricing based on smart meters.
- Government and regulatory bodies must closely monitor the rollout of metering programs and fund or create incentives to test smarter technologies.
- Measures to reduce energy demand must identify, acknowledge and not penalise unmovable demand (i.e. due to personal circumstance, ill health etc).
- Non-price approaches to demand management, including direct-load control and community education initiatives, should be implemented urgently.

6. Adaptation to climate change

Policies to reduce the environmental impact of the energy sector are now a feature of almost all markets to varying degrees. Policy makers continue to struggle with program design and mechanisms that can operate within competitive market structures, deliver outputs in desired time frames and remain affordable.

As with many other markets, there are many green schemes in Australia that add significantly to consumer bills. Ensuring these costs are fair and proportionate remains a challenge, and will become more acute as these costs rise over the medium-term.

6.1 Regulating for Intermittent Energy

6.1.1 Integrating renewables into transmission networks

Electricity systems face a major challenge accommodating low-carbon intermittent technologies. In its latest National Transmission Network Development Plan⁴⁰ (NTNDP), the AEMO described how it would ensure the integration of new technologies. The plan estimates that between \$35 billion and \$120 billion of new plant will be required in the next two decades. Most of this is expected to be gas-fired stations or the deployment of wind farms to meet the Renewable Energy Target (RET) commitment of 20 per cent electricity from renewable sources by 2020. Modelling by AEMO in 2010 suggests that up to 10 GW of predominantly wind could connect to the NEM by 2030.

In delivering an efficiency transmission network the AEMO has considered several principles, including:

- national planning and consistent regulatory arrangements;
- a consistent platform for new connections, regardless of location; and
- meeting the underlying needs for investment through a focus on delivering services to generators and consumers.

So far, incremental regional investments have delivered transmission networks that provide limited integration of regional networks and markets. The 2010 NTNDP scenario modelling concluded that between \$4 billion and \$9 billion of investment in transmission assets may be required by 2030 to accommodate new generation.

⁴⁰ AEMO, *National Transmission Network Development Plan*, 2011, available at: <http://www.aemo.com.au/en/Electricity/Planning/National-Transmission-Network-Development-Plan/National-Transmission-Network-Development-Plan>.

6.1.2 Transmission access and charge changes in the UK

The UK regulator, Ofgem, has begun a program of work “to ensure the UK has suitable arrangements that facilitate the timely move to a low-carbon energy sector while continuing to provide safe, secure, high-quality network services at value-for-money for existing and future consumers”.

The work stream, dubbed Project Transmit, is being carried out by Ofgem using its recently acquired powers to conduct Significant Code Reviews (where a case exists that normal industry-change processes are deemed insufficient to drive necessary governance changes to meet policy aspirations).

At its heart is a review of whether transmission charging arrangements are fit for the future, as the system accommodates more intermittent and inflexible generation. The current regime was designed to signal to generators about where to locate, to try to minimise the energy lost from transmission and ensure that the network did not become constrained at pinch points. It was also designed to apply a charging system that was cost-reflective; to ensure that the consumer was protected from unnecessary costs; and to ensure that the grid was efficient and economic. But the location charging system was developed against a backdrop of mostly thermal generation in the England and Wales system and was not designed to encourage a more mixed and geographically spread energy supply.

The project assessed a number of charging approaches. These included

- socialised charging—a “postage stamp” approach where all generation users would pay the same uniform tariff (based on capacity), whatever their type or location and
- refining the current Incremental Cost Related Pricing (ICRP) regional marginal model.

After consultation in December 2011, Ofgem issued its preferred option for change. It ruled out socialised charging, claiming it would place a “disproportionate cost” on consumers and could increase power sector costs by £2.8 billion by 2020. In comparison, the regulator claimed that if improved ICRP was adopted consumers would benefit from a small reduction in power sector costs (£120 million in savings by 2020) compared to the status quo. The regulator also said improved ICRP better reflected the costs that variable generators imposed on the need for transmission investment and more accurately reflected the economic trade-off that each transmission owner made between expected constraint costs and the cost of new transmission reinforcements when planning new investment.

The improved ICRP charging option would consist of a dual background approach (peak security and year round) for assessing the incremental transmission network

costs imposed by generators. A generator's charge would therefore include a peak-security wider tariff charged on Transmission Entry Capacity (TEC) (in MW) and levied on generators that are likely to operate at significant volumes during peak-demand periods. The peak-security wider tariff for intermittent generators would be zero. It would also comprise a year-round wider tariff charged on TEC, scaled by a moving average actual load factor specific to each generator. This would mean that the increasing component of generation coming from onshore and offshore wind would not be unduly penalised in relation to transmission costs. At the same time, the regulator has recognised that giving intermittent operators (predominantly wind) postage-stamp transmission charges would transfer too much of the costs to consumers.

Final recommendations are expected in 2012.

6.1.3 Dealing with intermittent generation in a constrained market

In September 2011, National Grid, the British system operator (SO), was asked to act to maintain system integrity at a time of very high wind conditions (the result of the tail end of Hurricane Katia) and extensive outages of parts of the transmission system.

With about 3GW of wind plant generating in Scotland and insufficient capacity to flow power to demand in England or Ireland, the SO struggled to balance the system. The balancing mechanism is used to ensure a national balance between generation and demand, but it is also used to resolve transmission constraints. This facility sits alongside a bilateral constraints management service procured by the SO.

Despite using all options to reduce the level of generation, in Scotland it had to accept high negative bids from wind operators participating in the balancing mechanism. To curtail the wind plant generation, bids of up to -£999/MWh were accepted, resulting in significantly higher balancing costs passed back to all users. Where wind plants did not offer a bid into the balancing mechanism, the SO had to issue emergency instructions as the only means to direct them off the system.

This brought a wide range of issues into practice that had previously only been debated in theory. They are likely to recur and become more significant as renewables become an increasingly significant part of the generation mix. To encourage the SO to choose other more flexible generators, inflexible technologies lodge "sleeper bids" in the balancing mechanism to indicate inflexibility while still making it worth their while if they are instructed off the system.

In response, the SO issued a consultation that suggested that it could change the priority order in which it carries out its actions to ensure that it did not have to be a default purchaser. Accordingly, after accounting for "normal" bids in the balancing mechanism, it would instruct generators outside the mechanism before both

emergency instructions and generators with “prohibitively” priced bids (which can go as high as -£99,999/MWh).

The issue for the SO and wider market is what constitutes either a prohibitive or a reasonable bid. One option is to force parties to bid their reasonable costs. This requirement exists in many centralised electricity trading systems and would avoid the complexity of benchmarking and retrospective challenge.

Under the Energy Act 2010, the government will impose a licence condition on generators to tackle gaming where electricity is generated to achieve excess profit from offers and bids in the balancing mechanism.

There are other features of the transmission-access regime that should be improved. The interface between the SO and the transmission owners could be significantly sharpened to deliver more optimal outage planning. There is also a good argument for further transparency about future outages and their effect on transmission constraints at a level where all market participants can interpret what this means for their local network and for them specifically.

Although National Grid responded quickly to some significant operational issues, and has introduced a series of possible measures to provide short-term mitigation, the problems the SO is trying to address have been known for some time and require a much more comprehensive response.

The underlying problem is that the balancing mechanism is mainly aimed at bringing on or taking off the system-flexible generation for energy balancing. The growth of intermittent generation is a significant challenge for managing the system but efforts should focus on making the existing system work better and considering the problem in its entirety.

It is clear that a radical makeover is needed that permits the SO to carry out rational despatch across the system, while recognising the commercial realities facing operators. Just as regulators have had to content with market-bidding behaviour from coal-fired and gas-turbine generators, which causes price spikes in the market, it is no surprise that tactical bidding behaviour have been used by turbines seeking to maximise their revenues.

The complication for regulators is that while it's easy enough to direct that coal or gas generator to enter or leave a market, this is not an option when dealing with wind turbines or tidal power-based generation. After all, if there is not enough wind, no amount of direction can bring forth generation. Nor is the time of day for peak output wholly predictable. Intermittency and how to best cope with it is already a serious issue in the UK and is likely to become so in Australia as the proportion of generation coming from wind and tidal power grows.

6.2 Subsidising renewables

Several subsidy arrangements have been tried and tested in the British market to support more expensive renewable generation technologies.

6.2.1 Non Fossil-Fuel Obligation

The Non-Fossil Fuel Obligation (NFFO) began in the 1990s, before full retail competition was introduced. It was originally intended to provide financial support to the nuclear fleet but was extended to include renewables before it was implemented in 1990.

The NFFO required regional electricity companies to buy nuclear and renewable power, provided at fixed prices. Developers bid for capacity-based long-term contracts let by the government in a series of tranches. The first order was made in October 1990 and the last in September 1998, expiring in 2018).

However, the scheme was criticised because many of the contracts did not result in commissioned projects, as developers underestimated capital-cost requirements. Although it was a useful learning exercise on the change of government in 1997, the scheme was scrapped in favour of a more market-based approach where economic factors, rather than government, determined where and when generation would be deployed.

6.2.2 The Renewables Obligation

The Renewables Obligation (RO) was introduced in April 2002. It obliges licensed electricity suppliers to source an increasing proportion of electricity each year from renewable sources. To demonstrate compliance, suppliers present Renewables Obligation Certificates (Rocs), which are awarded to eligible generators according to their production volumes.

Suppliers buy Rocs from generators directly (often with the power) or via an intermediary. Where a supplier does not have sufficient Rocs to cover its obligation, a payment is made into a “buy-out” fund. The buy-out price is known to the market at least six months before the start of a compliance year. The proceeds of the buy-out fund are paid back to suppliers in proportion to how many Rocs they have presented.

Initially designed as a “technology neutral” mechanism, the RO has changed significantly. Different Roc award bands were introduced in 2009 to encourage less commercially viable technology (primarily to boost subsidy for offshore wind). At this time a “headroom mechanism” was also established to ensure that in any given year the RO target would outstrip available Rocs and so ensure the certificate values does not collapse.

Critics of the RO claim that so far, it has only generated about two-thirds of its renewable energy target, despite customers paying for the entire obligation. Whenever the RO has been set via the headroom mechanism (which it has the past three years) government assumptions have been overly optimistic, resulting in higher targets and higher costs for consumers (the nominal cost to the customer of the RO in 2012-13 is £6.40/MWh). However, much of the shortfall between outturn and targets can be attributed to delays in the planning system.

The RO will be phased-out for new generation projects during 2014-17 and replaced by a new mechanism being developed as part of the government's Electricity Market Reform (EMR) proposals. However, by that time more than 15GW of renewables capacity is likely to have already have been accredited under the RO.

6.2.3 Small-scale feed-in tariffs

From April 2010, generators of sub-5MW could receive a feed-in tariff (FiT) for all generation and an extra payment for power exported. The scheme aimed to address the complexity and high transaction costs associated with micro-generators seeking RO subsidy.

Shortly after it was launched it became clear that the FiT rates were too generous, particularly for household-size photo-voltaic (PV) installations. In the first two years 1.1GW of capacity across 260,000 sites was installed. As costs are recovered from all electricity customers via their supplier, the government undertook an emergency review of rates to slash the cost of the scheme. The review process was challenged on the grounds that it proposed cuts to tariffs before the consultation on changes closed. The final judgement ruled that government could not introduce changes to the FiT rates as originally proposed.

The scheme has highlighted several concerns. Firstly, it demonstrates that it is difficult for the government to establish reasonable subsidy rates and the potential for ad-hoc reviews to undermine investment certainty. Secondly, there is a cross subsidy from poorer consumers to more affluent ones. The bulk of the capacity has been installed by well-off customers who can benefit from lower electricity bills as a result. At the same time, bills for lower-income households have risen by around 0.1p/kWh.

6.2.4 Analysis of Green Schemes

Throughout Europe and Australia Green Schemes tend to be introduced in an ad hoc fashion without any clarity about their objectives. As they are typically funded through an impost on consumers rather than government subvention, the normal Parliamentary and budget accountability systems are bypassed. Thus in the UK, as in Australia, there are a multiplicity of schemes, sometimes at cross purposes, some more efficient than others, and all contributing to consumers' overall energy bills.

While the merits of carbon abatement and encouraging more energy efficiency and demand reduction are not doubted, the accumulation of short-term, ad hoc and sometimes contradictory policies adds to a growing public perception that green is bad. There is an important policy point to be made that coherence, longevity and openness and accountability are required to build or maintain public support in the green agenda.

6.3 Energy efficiency measures

6.3.1 Energy efficiency in the UK

In the UK, Government programs to improve household energy efficiency have been a feature of the market since 1994. Schemes have undergone a number of iterations, culminating in the current Carbon Emissions Reduction Target (CERT), which expires at the end of 2012. This obliges larger suppliers to demonstrate carbon savings from households by installing approved energy efficiency measures (typically insulation). Measures are given a lifetime carbon-savings score that counts towards each supplier's market-share based target. The program costs are recovered from all customers.

The CERT stipulates that 40 per cent of carbon savings must be made from "priority group" households (those receiving social benefits)—a reduction from the 50 per cent from the preceding Energy Efficiency Commitment scheme that ran from 2002 to 2008. Because of the regressive nature of these schemes consumer advocates have always campaigned for the highest possible level of installation to be directed at low-income households.

The counter argument has been that obligated suppliers are finding it increasingly hard (and expensive) to install measures in priority group dwellings and that since the programs have given more emphasis to carbon savings it makes more sense to target high users. Even where installations are heavily subsidised (to the point of being free at the point of delivery to the customer) suppliers still struggle to encourage customers to install measures. There is little appetite in government to fund schemes through taxation.

6.3.2 CESP—clawing back benefits for consumers

During the first two phases of the EU, ETS power generators received their allowances for free. In 2008, consumer groups called for a windfall tax on the industry when it became clear that generators were factoring the cost of carbon into the wholesale price. In response, the government brokered a deal to claw-back the value of the allowances.

The Community Energy Savings Program (CESP) was an element of this package. The £350 million scheme has run from 2009-12, with costs levied on both suppliers

and generators, and is similar to CERT in terms of allowable measures to be installed to demonstrate compliance.

The CESP has been designed to promote a “whole house” approach to treat as many properties as possible in the most deprived areas of Britain. As of December 2011, more than 300 schemes had been proposed and more than 30,000 properties treated.

The CESP marks a radical departure in energy efficiency measures. In past schemes, specific classes of consumer or elements of buildings were treated. In some cases, this involved replacing incandescent light globes with compact fluorescent tubes or the installing wall and ceiling insulation. With the rollout of the CESP, the rather obvious but valuable lesson has been learned that effective outcomes involve the whole house and require the circumstances of residents to be analysed. As the scheme is relatively new, its effectiveness has not yet been compared against the delivery costs of CERT.

6.3.3 The Green Deal and the Energy Company Obligation

From 2013, the CERT and CESP programs will be replaced by the Green Deal and accompanying Energy Company Obligation (ECO). The Green Deal is an attempt to introduce novel “pay-as-you-save” arrangements to encourage households (and businesses, although it’s primarily aimed at the domestic sector) to adopt relatively expensive insulation, (such as solid wall insulation for hard-to-treat properties) that are repaid via the electricity bill.

Green Deal providers will offer packages to customers after assessing their property. The “golden rule” is designed so that repayments do not exceed savings made on energy bills as a result of an installation.

Where a Green Deal is not viable in its own right, suppliers can offer subsidised measures to meet their ECO targets. This target is split 25:75 between an affordability and carbon-saving target and will be apportioned to suppliers based on their market shares.

The policy is nearing the end of its development but many issues remain. Many are concerned that the “golden rule” will not be readily understood, as it only applies at the point of installation. When energy costs increase, customers with a Green Deal will see their bills rise even though the package was offered on the basis that repayments would be equal to or less than bill reductions from improved thermal efficiency.

The Government plans to introduce threshold levels, so suppliers will not be obligated to collect Green Deal repayments recognising the potential fixed costs that small suppliers would have to absorb. But this would mean that opted-out suppliers could

not serve customers with a Green Deal, which runs counter to government rhetoric that it wants to see greater competition in retail markets.

A threshold is also proposed for supplier participation in the ECO. Again the rationale is that new-entrant suppliers growing market share would face prohibitive costs if they had to undertake non-core activities. While exemptions for small suppliers are sensible, the current proposals can potentially cap growth as the moment the threshold is breached the supplier is liable for the obligation across its entire customer base.

Instead of facing a “cliff-edge”, there have been calls for thresholds to be tapered to allow suppliers to continue to grow until they can compete with incumbent suppliers or for the introduction of a buy-out mechanism. This would allow the integrity of the scheme to be retained and smaller suppliers to gear up to become full participants.

6.4 The Renewable Energy Target (RET)

6.4.1 Background to RET

In August 2009, the Commonwealth Parliament legislated to expand the Renewable Energy Target (RET) to achieve 20 per cent of electricity from renewable sources by 2020. It was further extended in June 2010. These changes expanded the existing RET legislation. The enhanced RET, which includes splitting the RET into large- and small-scale components, supported renewable energy deployment in the electricity market. The RET is designed to complement a carbon price and help the transition to a clean energy future. COAG agreed to the national expanded RET scheme in April 2009. However, in agreeing to the RET, COAG conducted the COAG Review of Specific RET Issues, which noted that some specific issues should be further considered. Additional issues were subsequently included in the Review in November 2009.

The Renewable Energy Sub-Group (RESG) gave COAG a preliminary Review report in late 2009. Finalisation of the Review has been delayed by changes to the RET legislation and follow-on regulations in 2010 and 2011, as well as developments in the Commonwealth Government’s climate-change policy including the announcement of the Clean Energy Future (CEF) plan in July 2011 and legislation to implement a carbon price in November 2011. The CEF includes a number of additional mechanisms to support clean energy and complement the RET, including the \$10 billion Clean Energy Finance Corporation, \$3.2 billion Australian Renewable Energy Agency and the \$1.2 billion Clean Technology Program.

6.4.2 Issues in further development of RET

The enhanced RET legislation, passed in 2010, responded directly to some of the issues considered by the Review. As a result, the remaining issues are:

- the eligibility of new small-scale technologies, and
- the self-generation exemption provisions.

The preliminary COAG report⁴¹ identifies and analyses options for addressing each issue considered. The report was informed by submissions received through public consultations during 2009 and 2010 and modelling of the effect of the options on RET cost and technology mix. The report also recommends a preferred option for each of the issues considered.

The eligibility of new small-scale technologies: The preliminary report analysed 10 technologies suggested by stakeholders. Two technologies (solar-assisted cooling and geothermal ground-source heat pumps) were considered worthy of more detailed modelling to assess the effect of including them in the RET.

This report presents updated modelling of the effect of their inclusion, taking into account relevant changes in the policy environment, and noting the high level of uncertainty inherent in modelling the uptake of these technologies.

The modelling shows that including both technologies could increase the compliance costs of the RET by up to 9 per cent o 2020, and could increase retail electricity prices by up to 0.3 per cent in the same period.

RESG recommends that eligibility under the RET should not be extended to any new small-scale technologies. It considers that the uncapped nature of the SRES, combined with the uncertainty inherent in the modelling, will mean an unacceptable level of uncertainty about the potential impacts of including new technologies, particularly on electricity prices. While the SKM MMA analysis shows relatively minor effects on electricity prices as a result of including the two technologies modelled, RESG notes SKM MMA's caveat around the uncertainty inherent in this modelling. It also said that as displacement technologies, the two technologies modelled would be better supported under an energy efficiency scheme rather than a scheme designed to support renewable electricity generation.

The self-generation exemption provisions: The preliminary report acknowledged stakeholder feedback that the narrowly focused exemptions from RET liability for entities that generate their own electricity could discourage investment in large resource projects by imposing extra costs, and could distort efficient project design. Consistent with the preliminary report, this report presents two options:

⁴¹ COAG Review of Specific Renewable Energy Target (RET) Issues, *April 2012*, available at: <http://www.climatechange.gov.au/publications/renewable-energy/coag-review-specific-ret-issues.aspx>.

Option 1: Retain existing provisions. This would balance support for self-generation with minimising the impact on non-exempt households and businesses facing extra costs as a result of expanding the exemptions; or

Option 2: Extend exemptions. This would be consistent with stakeholder feedback that the current exemptions are not relevant to contemporary remote resource projects. This would extend the distance limit for the exemptions, and expand the 'self-generator' concept to accommodate more complex ownership arrangements. The existing provisions would remain for pre-existing self-generation plant, recognising the potential for windfall gains from investments made under the existing legislative framework.

RESG's majority consensus recommendation is to choose option 1 (retain existing exemptions). Most RESG members consider that the RET is a national scheme that requires national participation, and that extending the exemptions would cost liable parties more. The West Australian Government dissented from the majority view and argued that significant investment would not occur or that it would be substantially delayed or sub-optimised in scope without an extension of the self-generating exemption. The majority claimed that no extension should be allowed without clear justification of the assertions

The report shows that compliance costs would be around \$400 million higher for a doubled target and around \$1.4 billion higher for the industry target. It shows that when wholesale price cuts from increases in electricity supply relative to demand are not passed to retail prices, retail prices rise by about \$0.9/MWh under option 3 to 2020. The modelling suggests that combining the compliance cost and wholesale price impacts could lead to a small decrease in retail prices of less than 0.5 per cent on average under option 3 to 2020.

6.4.3 Climate Change Authority review

After the COAG subcommittee report was released, it was announced that the new Climate Change Authority (CCA) would review the RET. An issues paper was released in August 2012, and public submissions invited.⁴² A discussion paper will be released in October 2012, followed by stakeholder consultation. A final report will then be released in December 2012.

The RET Review is the first study to be conducted by the authority, which began on 1 July 2012 as an independent statutory body that advises on the operation of Australia's carbon price, emissions reduction targets, caps and trajectories, and other Federal Government climate-change initiatives.

⁴² Climate Change Authority, *Community invited to have its say on Renewable Energy Target*, 2012, available at: <http://climatechangeauthority.gov.au/news/20120820>.

6.4.4 Australian Energy Technology Assessment (AETA)

A new report on the comparative costs of renewable energy was released just as the Climate Change Authority was reviewing the RET. The Australian Government's chief energy forecasting body has published a dramatic revision of its cost estimates, predicting that onshore wind and solar PV will deliver the cheapest forms of energy by 2030—with solar PV dramatically cheaper than all other energy forms by 2050.

The Australian Energy Technology Assessment⁴³ (AETA) prepared by the government's Bureau of Resources and Energy Economics (BREE) slashes its previous estimates of the cost of a whole range of renewable technologies, and in some cases doubles the predicted cost of coal-fired generation in the decades to come—with or without carbon capture and storage.

BREE suggests that solar PV will compete with onshore wind, biomass and, controversially, nuclear, in Australia by the end of the decade, before emerging as the cheapest technology. Its estimates are for a midpoint of around \$224/MWh now, around \$116/MWh by 2030 and \$86/MWh by 2050, becoming as cheap as \$70/MWh by 2020 and \$30/MWh by 2050. Even brown coal, without a carbon price and CCS, is costed at around \$100/MWh by 2020, nearly double that with a carbon price. With CCS it is costed between \$150/MWh and \$200/MWh, depending on the technology.

These are the first government-sponsored technology cost estimates published since the draft energy white paper was released last December. That paper virtually ignored solar as a contributing element to Australia's energy grid, but it now recognises that estimates for solar PV were wide of the mark, and that its costs have fallen dramatically and would continue to do so (even though the report predicts no cost declines between 2020 and 2030).

6.5 Consumer interests in climate-change policies

Creating structures and policies to help energy markets adapt to climate change is the primary energy issue for most OECD economies. As described in earlier sections of this report, policy makers must tackle the “trilemma” of delivering security, affordability and sustainability.

Experience from many markets has shown:

- a piecemeal approach to implementing programs designed to encourage low-carbon generation or increase energy efficiency, with little analysis or consideration of interactions—particularly the impact on prices;

⁴³ Bureau of Resources and Energy Economics, *Australian Energy Technology Assessment*, available at: http://www.bree.gov.au/documents/publications/Australian_Energy_Technology_Assessment.pdf

- Differing approaches to assess the program benefits programs. These can be framed in terms of avoided carbon emissions (which introduces the complexity of placing a value on carbon), electricity generation costs, and/ or the effect on customer bills;
- Obligating market participants to deliver government policy aspirations can affect the ability of smaller companies to cost effectively discharge their requirements, thus reducing the ability of new entrants (and new entry) to compete on price;
- Assuming that where market participants are given obligations, competitive pressures alone are enough to ensure minimal costs are passed to consumers;
- Insufficient analysis of how obligated parties pass costs to consumers (i.e. per unit of energy or in standing charges) and the often regressive nature of policies where more affluent consumers may benefit from programs as the expense of low-income consumers (whose bills rise);
- Assumptions about the reduction in technology and deployment costs have proved inaccurate. Assessing future costs and benefits of programs requires caution. While there is always uncertainty with forecasts, this is even more so with many environmental programs, where the technology is unproven;
- The effect of a changing generation mix (and its location) on networks and efforts to efficiently balance systems as intermittent generation increases is often only seriously addressed when there are problems;
- “Traditional” network-charging approaches may penalise intermittent generation, despite subsidies; and
- Insufficient emphasis is given to reduce demand for energy as an alternative to investing in new assets to meet current and future demand.

Stringent and robust monitoring programs should be introduced after climate change mitigation policies are implemented—particularly where obligations are placed on market participants. This will help identify which policies are cost effective (instead of relying on forecasts) and would highlight any distributional impacts that fall disproportionately on vulnerable or low-income consumers.

The opportunities for demand-side responses to reduce the need for investment in infrastructure have languished and are the poor relation in energy policy. Those programs and trials that do exist focus on the technology and not customers. What is needed instead are programs to aggregate demand that commits to reducing consumption at peak times; identification of unmovable demand (due to personal

circumstance/ ill health etc.); updated building regulations; education campaigns delivered by trusted third parties; and market rules and regulations that are robust and meet consumers' needs.

Recommendations

- Coherence, longevity, openness, openness and accountability in the design, implementation and oversight of “green schemes” are required to ensure legitimacy and public support for schemes designed to reduce carbon emissions. Stringent and robust monitoring programs should be introduced when climate change policies are implemented, to identify the effect on distribution and cost.
- Urgent measures on demand-side responses are required to reduce the need for investment in infrastructure. These should include programs to reduce aggregate demand in peak times, updated building regulations, and education campaigns.

APPENDIX 1—Compliance management framework for implementing national energy retail rules

Part 12 of the National Energy Retail Law specifies the Compliance and Performance obligations of regulated entities and specifies the powers and obligations placed upon the AER to monitor compliance. Division one of the Act includes detailed provisions for Compliance reporting (Section 279), contents of compliance reports (Section 280) and AER Compliance Procedures and Guidelines (281)

The Retail Law also requires the AER to develop and publish AER Compliance Procedures and Guidelines describing how and when regulated entities must submit information and data to the AER. The Procedures and Guidelines support compliance with obligations under the Retail Law and Rules by:

- requiring regulated entities to submit information and data about compliance in accordance with the Procedures and Guidelines, which require regulated entities to establish and observe policies, systems and procedures; and
- requiring them to monitor their own compliance in accordance with the Procedures and Guidelines, explaining how compliance audits will be conducted and how the costs of audits will be recovered.

The AER is responsible for monitoring, investigating and enforcing compliance with obligations under the Retail Law and Rules in each participating jurisdiction. These functions ensure that consumers receive the full benefit of the protections provided by the Retail Law and Rules. Compliance with the Retail Law and Rules will help achieve the National Energy Retail Objective. This objective aims to promote efficient investment, operation and use of energy services for the long-term interests of consumers regarding price, quality, safety, reliability and security of supply of energy.

Having recognised that complying with the National Energy Retail Rules is necessary to ensure that consumers benefit, it is important that policymakers, regulators and market participants are in the best position to implement the National Energy Retail Rules in a generous and general way, before the rules are enforced.

The National Energy Retail Law empowers the AER to require reports, including, “**a report on any additional matters that the AER considers appropriate for inclusion (Section 280(d))**”.

The primary obligation for Compliance with the National Energy Retail Rules rests with energy retailers. However the long history of deregulating industries both in Australia and abroad, demonstrates that without vigilance from regulators and consumers, compliance is not uppermost in the minds of senior management.

This Compliance Management Framework serves as a checklist to establish and maintain compliance with The National Energy Retail Rules. The framework sets out the required compliance management system under three criteria:

Structural matters: This covers the compliance infrastructure or the "building blocks" for a compliance management system.

Operational matters: This covers the procedures and processes required for the day- to-day operation of the Energy Marketing Rules.

Maintenance matters: This covers processes needed to ensure that the Rules are applied on an on-going basis.

There are several sections covering disputes and complaints handling. It would be more efficient if these were consolidated in one area and that the Australian Standard on Complaints Handling (AS ISO 10002) form the basis of the complaints handling/dispute resolution system. Sections that cover dispute resolution/complaints handling include:

- Billing Disputes (s 29)
- Payment difficulties (s 33)
- Small-customer disputes (s 50)
- Complaints (s 101)
- Metering complaints (S140)

Checklist for Compliance Management System for Energy Retail Rules.

Task required	Whose responsibility?
STRUCTURAL MATTERS	
Board/top management involvement	
Design a comprehensive compliance management system for Energy Retail Rules	The Board
Appoint a Compliance Officer/Manager	
Appoint a senior person as a Compliance Manager to implement Energy Retail Rules Compliance Management System.	CEO/Retailer
Ensure reporting systems to the board are in place and that reporting is timely. This should involve serious compliance breaches of the Energy Marketing Rules, especially regulator concerns and reporting back regarding strategies to improve or rectify compliance	Board
ADEQUATE RESOURCES	
There should be adequate resources for the Energy Marketing Rules compliance function including: • A Compliance Manager who is responsible for ensuring Energy Marketing Rules are implemented • Access to expert advice • A cross-functional Compliance Committee • Refresher and induction training program on procedures for Energy Marketing Rules • Adequate staffing to carry out procedures required by rules	Board
COMPLIANCE POLICY	
The company should implement a Compliance Policy to ensure commitment and conformance to Energy Marketing Rules. This should require the Chairman and CEO's signatures.	Board
RISK ASSESSMENT	
Undertake a risk assessment to assess which aspects of Energy Marketing Rules apply to the company and the likelihood and the consequences of breaches of	Board

Energy Marketing Rules. Develop controls/procedures to manage identified risks.	
ALLOCATION OF RESPONSIBILITY	
Clear allocation of responsibilities about "who does what" in relation to implementing the rules set out below, including identifying each manager's compliance responsibilities.	Board
COMPLIANCE COMMITTEE	
Set up a cross-functional compliance committee to coordinate compliance across the organisation.	Board
COMPLIANCE PLAN	
Develop an Energy Marketing Rules Compliance Plan that sets timelines stipulating when important compliance processes must be carried out during the year.	Board
A SYSTEM OF DOCUMENTATION OF ALL COMPLIANCE MATERIAL	
Develop a documentation system to record compliance-related activities to demonstrate due diligence in compliance	Board
OPERATIONAL MATTERS	
Education and training A training program needs to be developed so that all existing and newly recruited staff are aware of the new system and procedures under the Energy Marketing Rules	HR
Regular communications designed to secure compliance A system needs to be developed to ensure that the compliance message is delivered to relevant staff regularly to ensure conformance to the Rules and the procedures developed are kept front-of-mind. Non-conformance instance from reporting systems can form part of the compliance communication and also feed back into the training.	Compliance Manager/ information unit
Performance appraisal Compliance with procedures established to ensure the Rules operate should be part of the performance appraisal	HR
Access to expert advice The Compliance Manager should be both visible and	Compliance Manager

accessible throughout the organisation. Expert advice should be sought when the Rules require, interpretation.	
Operating procedures Procedures should be developed or reviewed and, if necessary, updated for all of the Energy Marketing Rules (as set out below) and implemented.	Board
CLASSIFICATION OF CUSTOMERS	
Classification of customers (section 6), including design in a form to elicit appropriate information to classify customers (section 7) and reclassification processes (section 8).	Compliance Officer/ Retailer
Classification of business customers (section 9) and reclassification processes (section 10)	Distributor
Distributor classification and reclassification—requirements (Section 11)	Distributor
A template for Terms and Conditions for a standard retail contract as set out in Schedule 1 of the rules, should be developed and implemented (Sections 12-14).	Board/Retailer
Pre-contractual procedures should be developed, including a pre-contractual request to designated retailer for customer retail contracts (Sections 16 & 18).	Board/Retailer
Pre-contractual procedures for customer retail contracts should be developed (Section 17).	Board/ Distributor
Information and procedures to provide to a small customer who requests the sale of energy under the retailer's standing offer should be developed (Sections 18-19).	Board/Retailer
Customer retail contracts—billing Procedures, process and staff training should be developed for • The basis for Bills (section 20) • Estimations (section 21) • Proportionate billing (section 22) • Bill smoothing (section 23) • Frequency of bills—at least every 3 months (section 24) • Contents of bill (section 25)- Bill design • Pay-by dates (section 26) • Apportionment (section 27) • Historical billing information (section 28)	Board/ Retailer /Finance unit

BILLING DISPUTES	
A complaints-handling system using AS ISO 10002 and which also meets the requirements of section 29 should be developed.	Complaints Manager
Undercharging and Overcharging (sections 30-1) Procedures should be developed.	Finance unit
Payment Methods (section 32) Processes for various methods of payment as set out in section 32, should be set up.	Finance unit
Payment difficulties (section 33) Processes should be set up to deal with these situations. Note: There is a link between these requirements and section 50	Finance unit
Shortened collection cycles (section 34) Procedures should be developed.	Finance unit
Request for final bill (section 35) Procedures should be developed.	Finance unit
Tariff changes Procedures should be developed for: - Obligations on retailers (section 36) - Customer request for change of tariffs (section 37) - Change in Use (section 38) - Customer retail contracts—security deposits - Consideration of credit history (section 39) - Requirement for security deposit (section 40) - Payment of security deposit (section 41) - Amount of security deposit (section 42) - Interest on security deposit (section 43) - Use of security deposit (section 44) - Obligation to return security deposit (section 45)	Finance unit
Market retail contracts—particular requirements - Tariffs and charges (section 46) - Cooling-off period and right of withdrawal—market retail contracts (section 47) - Retailer notice of end-of-market retail contract (section 48) - Termination of market retail contract (section 49) - Small customer complaints and dispute resolution information (section 50) <u>Note</u> that there are requirements covering complaints handling in section 29 and section 33. Retailers should introduce systems that satisfy the requirements of the	Legal unit

Australian Standard on Complaints Handling AS ISO 10002. • Liabilities and immunities (section 51) • Indemnities (section 52)	
Deemed customer retail arrangements • Obligations of retailers (section 53) • Formation of standard retail contract on incomplete request (section 54)	Legal Unit
Other retailer obligations: • Referral to interpreter services (section 55) • Information provided to customers (section 56) Note: this sets out specific requirements on what must be included on the retailer's web page • Retailer obligations in relation to customer transfer (section 57) • Notice to small customers on transfer (section 58) • Notice to small customers where transfer is delayed (section 59)	Information unit
Energy marketing: • Retail marketers carrying out energy marketing activities should have done a risk assessment about which sections of the <i>Telecommunications Act 1997</i>, the <i>Do Not Call Register Act 2006</i> and the <i>Australian Consumer Law</i>, set out in Schedule 2 to the <i>Competition and Consumer Act 2010</i>, apply to their marketing operations. Providing information to small customers, including: • The requirements for and timing of disclosure to small customers (section 62) • Form of disclosure to small customers (section 63) • Required information (section 64) Energy marketing activities • No-contact lists (section 65) • No canvassing or advertising signs (section 66) • Duty of retailer to ensure compliance (section 67). <u>Note:</u> the retailer audits its marketers to ensure that they have adequate compliance systems. • Record keeping of marketing activities (section 68)	Compliance Manager/Legal Unit Information Unit Compliance Manager

Miscellaneous • Compliance by small customers who are not owners of premises (section 69) • Termination of standard retail contracts (section 70)	Legal Unit
Customer hardship • Obligation of retailer to communicate customer hardship policy (section 71) • Payment plans (section 72) • Waiver of late-payment fee for hardship customer (section 73) • Payment by Centrepay (section 74) • Hardship program indicators (section 75) • Waiver of debt for hardship customer (section 76)	Credit/ Collection/ Finance Unit
Relationship between distributors and customers • Application of this Part (section 77) • Variation or exclusion of provisions of this Part by AER-approved standard connection contracts (section 78) Customer connection services • Application for customer connection services (section 79) • Information provided to customers (section 80) Deemed standard connection contracts • Model terms and conditions for deemed standard connection contracts (section 81) Negotiated connection contracts • Small customer complaints and dispute resolution information (section 82) Liabilities and immunities (section 83) Distributor obligations to customers Distributor service standards and GSL schemes (section 84) Fault reporting and correction (section 85) Provision of information (section 86) Referral to interpreter services (section 87)	Information Unit Information Unit Legal Unit Information Unit/ Complaints Manager Information Unit Information Unit

Distributor interruption to supply Distributor's right to interrupt supply (section 89) Planned interruptions (section 90) Unplanned interruptions (section 91) Miscellaneous Compliance by small customers who are not owners of premises (section 92) Relationship between distributors and retailers—retail support obligations	
DISTRIBUTOR AND RETAILER RESPONSIBILITIES	
Assistance and Cooperation Assistance and cooperation (section 94) Information requirements Information about applicable tariffs, connection-related information and other information (section 95) Requirements for information (section 96) Distributor and retailer contact details (section 97) Contact details for customers (section 98) Information on planned interruptions (section 99) Information on unplanned interruptions (section 100) Shared customer inquiries and complaints Inquiries or complaints relating to the retailer (section 101) Inquiries or complaints relating to the distributor (section 102) Disconnection and reconnection of shared customer's premises Disconnection of premises by the distributor (section 103) Disconnection notice (section 104) Liability for ongoing charges (section 105) Reconnection (section 106) Disconnection) of premises—small customers • Reminder notices—retailers (section 109) • Disconnection warning notices—retailers and	Information Unit Complaints Manager Connection Services Connection Services Complaints Manager Emergency Services

distributors (section 110) Retailer-initiated disconnection of premises • Disconnection for unpaid bill (section 111) • Disconnection for unpaid security deposit (section 112) • Disconnection for denying access to meter (section 113) • Disconnection for illegally using energy (section 114) • Disconnection for non-notification by move-in or carry-over customers (section 115) • When retailer must not arrange disconnection (section 116) • Timing of disconnection where dual fuel contract exist (section 117) • Request for disconnection (section 118) Distributor disconnection of premises • Grounds for disconnection (section 119) • When distributor must not disconnect premises (section 120) Re-connection of premises • Obligation on retailer to arrange re-connection of premises (section 121) • Obligation on distributor to re-connect premises (section 122) Life-support equipment • Application of this Part (section 123) • Retailer obligations (section 124) • Distributor obligations (section 125) • Registration details kept by distributor (section 126) Pre-payment meter systems • Definitions (section 127) • Disclosure requirements at energy marketing stage (section 128) • System requirements (section 129) • Trial period (section 130)	Metering services
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• Operating instructions to be provided (section131) • Consumption information to be provided (section 132) • Limitation on recovery of debt (section 133) • Credit retrieval (section 134) • System testing (section 135) • Overcharging (section 136) • Undercharging (section 137) • Illegal energy use (section138) • Life-support equipment (section 139) • Customer inquiries and complaints (section 140) • Payment difficulties and hardship (section 141) • Payment towards pre-payment meter system account (section 142) • Tariffs and charges (section 143) • Billing for other goods and services (section 144) • Customer termination of contract or request for removal (section 145) • Different retailer (section 146) • Deemed customer retail arrangements (section 147) Exempt selling regime AER power to exempt • Individual exemptions (section 149) • Deemed exemptions (section 150) • Registrable exemptions and registered exemptions (section 151) • Conditions generally (section152) • Conditions for deemed exemptions and registered exemptions (section 153) AER Exempt Selling Guidelines • AER Exempt Selling Guidelines (section154) • Provisions relating to individual exemptions: • Application for individual exemption or variation of individual exemption (section 155) • Public notice and submissions (section 156) • Deciding application (section 157) • Conditions for individual exemptions (section 158) • Form of energy to be specified (section 159)	
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• Notice of decision to grant application (section 160) • Deemed refusal (section 161) • Issue and public notice of individual exemption (section 162) • Notice of refusal (section 163) Public Register of Authorised Retailers and Exempt Sellers • Public Register of Authorised Retailers and Exempt Sellers (section 164) Retail-market performance reports • Purpose of this Part (section 165) • Contents of retail-market performance report—retail market overview (section 166) • Contents of retail-market performance report—retail market activities review (section 167) Customer retail contracts—electricity consumption benchmarks • Purpose of this Part (section 168) • AER administration of electricity consumption benchmarks (section 169) • Retailer's obligations—electricity consumption benchmarks (section 170) • Distributor's obligations—electricity consumption information (section 171) Consultation for national energy retail framework • Customer Consultative Group (section 172) • Retail consultation procedure (section 173)	
MAINTENANCE MATTERS	
Monitoring systems Develop a monitoring program to include: • Surprise spot-checks by the Compliance Manager to ensure procedures are being followed; • Mandatory attendance at training; • Reporting systems checks by the Compliance Manager e.g. complaints data, queries from	Compliance Manager

regulators and whistle-blowing reports for non-conformance • Audits by in-house auditors to ensure conformance with procedures designed to control high-risk matters • Mystery shopping	
Reporting systems Visible and accessible whistle-blowing and complaints-handling hotlines should be developed.	Compliance Manager
Compliance failures identified, and their causes analysed and rectified Compliance failures can be identified through monitoring and reporting systems. The Compliance Manager should regularly review data from these sources to identify non-conformance.	Compliance Manager
Website update	Information Technology

APPENDIX 2—Social tariffs in the UK⁴⁴

A brief history of mandatory social tariffs

Energy Watch was the gas and electricity watchdog established by the Utilities Act 2000. Its activities were taken over by Consumer Focus in 2009. Energy Watch provided free and impartial advice to energy consumers, handling complaints and intervening with energy suppliers on consumers' behalf. In 2007, Energy Watch handled 750,000 complaints and inquiries and obtained 7.4 million pounds in compensation and other payments for consumers across the UK.

In the UK, high prices have undermined attempts to eradicate fuel poverty in vulnerable homes. In the 5th Annual UK Fuel Poverty Progress report, published in 2007, the government admitted that more than a million vulnerable households would still be struggling to pay their fuel bills by 2010. The average household energy bill stands at 1,000 pounds although those on pre-payment meters (PPMs) are likely to be paying considerably more. Consumers who pay for both fuels via PPMs could be paying as much as 400 pounds more for their energy than those on an online, direct debit tariff from the same company. Energy consumers have seen unprecedented and unrelenting price rises since 2003, with gas increasing by 82 per cent and electricity by 61 per cent, with a small drop in prices in 2007.

In theory, all consumers can take advantage of the competitive energy market and reduce their bills by switching supplier. In practice, half of all consumers have never switched supplier and 65 per cent of pensioners have never switched supplier. At the same time, online switching sites remain largely unavailable to the 5.8 million people on PPMs, two million people cannot switch because they are in debt to their supplier and hundreds of thousands of Scottish consumers are on radio-controlled meters and cannot switch for technical reasons (dynamic tele-switching meters).

Switching is not a realistic option for many people who are fuel poor. While switching can help consumers reduce the very worst impact of rising bills, Energy Watch would agree with the Energy Minister's comments to the BERR select committee on 31 January, that switching is not the universal way for consumers to benefit from the market, especially the vulnerable.

Social tariffs

In the 2001 Fuel Poverty Strategy the government committed to maintaining a downward pressure on prices. The benign price environment at the time meant that

⁴⁴ This is taken from a briefing provided by Energy Watch to a UK parliamentary inquiry considering social tariffs. The full briefing can be found here:

<http://www.publications.parliament.uk/pa/cm200708/cmpublic/energy/memos/ucm0602.htm>

energy prices served as a part of the solution and made a positive contribution to reductions in fuel poverty. Since 2003, however, they have become the problem.

The 2007 Energy White Paper observed that UK fuel poverty was back at the four million household mark - double the 2004 figure and a return to pre-Strategy levels. Price rises have undermined the government's notable efforts and investment in eradicating fuel poverty by outstripping income growth and outpacing the rate at which energy efficiency and heating improvements can be installed.

What are social tariffs?

Social tariffs are the best way of ensuring that suppliers' most affordable energy rates are aimed at fuel poor households. Energy Watch believes that they should be offered as part of a package that supplements income maximisation initiatives and energy efficiency programs. Social tariffs would prevent the lowest cost tariffs (internet-only direct debits) becoming the preserve of more affluent consumers. Some suppliers have acted positively in this regard, but others have not.

Social tariffs offered with minimum standards are the best way of addressing the gap in the government's fuel poverty strategy, and making energy more affordable to fuel-poor households. These can be offered in a way that supplements actions on income and energy efficiency. However, in the current situation, where some suppliers do a lot and others do very little, statutory minimum standards may be necessary to ensure that all suppliers offer social tariffs in a proportionate manner and on an adequate scale.

What's wrong with the voluntary approach?

The Energy White Paper challenged each supplier to offer assistance program to their fuel-poor customers and indicated that legislation would be considered if the current programs were deemed disproportionate and inadequate.

Despite some improvement, a report for Energy Watch by Cornwall Energy Associates has highlighted just how disproportionate supplier provision remains. If energy suppliers fulfil the commitments made to government, the industry will invest 0.25 per cent of its estimated turnover in social tariffs and rebates—the initiatives that offer direct assistance with the cost of energy to fuel-poor households.

If and when individual suppliers' commitments are met, this will range from British Gas investing 0.49 per cent of its turnover to a mere 0.079 per cent of turnover for npower and Scottish & Southern Energy. British Gas is committed to offering assistance to 4.7 per cent of its consumer base, compared to 0.79 per cent for npower and 0.34% for Scottish & Southern. The commitments made by British Gas will equate to 71 per cent of the total industry assistance offered, while its market

share represents just 33 per cent whereas npower has an 11 per cent market share but has a social package commitment that will represent 4 per cent of the total.

The voluntary approach also carries an inherent risk of 'backsliding', either through suppliers reneging completely on commitments - especially if rising wholesale prices put the bite on voluntary initiatives—or where the best scale-back their activities, causing levels to drop rather than rise.

Energy Watch believes that the government's challenge has not been met. To ensure proportionate action from all energy suppliers, the government must make it clear to the energy industry that its threat to require social tariffs is genuine.

The way forward - empowering the Secretary of State and minimum standards for maximum impact

Given that progress towards eradicating fuel poverty has reversed, and the limitations and disparities of the current approach to social tariff provision, the government must use the Energy Bill to grant the Secretary of State the **necessary powers** to require energy supply companies to offer social tariffs in accordance with minimum standards. Energy Watch believes that any analysis of the current industry provision should trigger the white paper promise to give the Secretary of State legal powers.

The actual minimum standards could then be set out in secondary legislation and would cover:

- The framework for the obligation to offer social tariffs: This would be expressed as a target for each supplier to fulfil. As with the existing Energy Efficiency Commitment, statutory targets guard against market distortion and ensure no supplier is unduly disadvantaged by the obligations, thus ensuring proportionality and, crucially, driving up the number of social tariffs being offered.
- Eligibility criteria: Government, in consultation with interested parties, should determine which group(s) will be eligible for social tariffs. The same eligibility criteria must be adopted by all suppliers.
- Recruiting eligible consumers: The Department for Work & Pensions and HM Revenue and Customs should be obliged to develop a mechanism to use their data to successfully identify and target eligible consumers (this can be by location rather than person specific), or which verifies eligible consumers and allows them to self-present to suppliers.
- Price: Social tariffs must be the lowest-cost tariff rate that a supplier offers and should be available to eligible consumers regardless of payment method. The social- tariffs rate should be indexed against suppliers' tariff prices in the open

market, thereby reflecting each supplier's overall competitiveness and further safeguarding against market distortion and erosion of competitive positions (i.e. NOT a single, 'universal' social tariff being imposed on all suppliers).

- Length of entitlement: Social tariffs should be entitled for between 12 and 24 months at a minimum. They should then be re-assessed. This would give energy efficiency and heating measures (through suppliers' own obligations and Warm Front and its equivalents), as well as income maximisation measures, time to take effect.

Not a single tariff, but a single framework

Energy Watch believes that minimum standards are necessary to ensure that the industry levels up to the best, not down to the worst. Companies such as British Gas and EDF Energy, which have made significant commitments to their social tariffs, should be able to maintain and even build on their social tariff offerings, confident in the knowledge that their competitors will be required to match their commitments.

Npower, the company which has done or promised the least in regard to providing social tariff, has already written to Ofgem stating that: *'At present, government is encouraging the delivery of a social action solution within a voluntary framework. It is doubtful whether this is the most efficient approach and it is also seemingly inconsistent with a market framework.'*

Energy Watch believes that the government should not require all suppliers to offer exactly the same social tariff product. Instead, requiring a social tariff that meets key criteria and key targets would provide a solution that fits the character of the UK energy market, while providing real cost-protection for the fuel poor.



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