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Australian Energy Market Commission

Report on approaches to Credit Support Regimes between distributors and retailers

May 2015

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Mr Sebastien Henry
Australian Energy Market Commission
PO Box A2449
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Our ref AEMC Credit Support Regimes Report 20150525

27 May 2015

Dear Sebastien

Approaches to Credit Support Regimes

We have been engaged by the Australian Energy Market Commission (AEMC) to provide advice on approaches to distributor-retailer credit support regimes in international jurisdictions and other sectors in Australia, and attach our draft report in connection with providing these services.

Scope of work

Our work has been performed in accordance with the scope of work outlined in the confirmation of services letter dated 22nd April 2015.

This report has been prepared on the basis of our work commencing on 22nd April 2015 and carried out up to 25th May 2015 including incorporating comments on a draft report from the AEMC on 21st May 2015.

Information

In undertaking our work, we had access to market information and reports published by various energy market regulators, operators and participants in the relevant jurisdictions. We have indicated in this report the sources of the information presented.

Distribution

This report has been prepared exclusively for Australian Energy Market Commission in relation to its consideration to modify the credit support regimes for distribution networks and retailers (contained within Chapter 6B, Part B of the National Electricity Rules (NER) and Part 21, Division 4 of the National Gas Rules (NGR)). This report must not be used for any other purpose or distributed to any other person or party, except as set out in our confirmation of services letter, or as otherwise agreed by us in writing.

Yours sincerely

Paul Lichtenstein
Partner

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- owes you no duty (whether in contract or in tort or under statute or otherwise) with respect to or in connection with the attached report or any part thereof; and
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The responsibility for determining the adequacy or otherwise of our terms of reference is that of the Australian Energy Market Commission.

The services provided under our engagement confirmation of services letter ('Services') have not been undertaken in accordance with any auditing, review or assurance standards. Any reference to 'audit' and 'review', throughout this report, is not intended to convey that the Services have been conducted in accordance with any auditing, review or assurance standards. Further, as our scope of work does not constitute an audit or review in accordance with any auditing, review or assurance standards, our work will not necessarily disclose all matters that may be of interest to the Australian Energy Market Commission or reveal errors and irregularities, if any, in the underlying information.

In preparing this report, we have had access to publicly available information. We have relied upon the truth, accuracy and completeness of any information provided or made available to us in connection with the Services without independently verifying that information.

Any findings or recommendations contained within this report are based upon our reasonable professional judgement based on the information that is available from the sources indicated. Should the project elements, external factors and assumptions change then the findings and recommendations contained in this report may no longer be appropriate. Accordingly, we do not confirm, underwrite or guarantee that the outcomes referred to in this report will be achieved.

We do not make any statement as to whether any forecasts or projections will be achieved, or whether the assumptions and data underlying any such prospective financial information are accurate, complete or reasonable. We will not warrant or guarantee the achievement of any such forecasts or projections. There will usually be differences between forecast or projected and actual results, because events and circumstances frequently do not occur as expected or predicted, and those differences may be material.

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Summary

Electricity and Gas Distributors recover the majority of their costs through invoicing retailers who then pass-through distribution charges to the customer in their retail tariffs. This creates a direct financial interdependency between retailers and distributors as the recovery of network costs depends upon the retailer paying the distributor. A payment default by the retailer could impact on the distributor's ability to operate and maintain the network.

To manage such risks, safeguards are included in the regulatory arrangements to protect the distributor in the event of a retailer defaulting on its payment obligations. The most common example of such a safeguard is a credit support arrangement, where retailers' financial strength is assessed and, as a result of that assessment, any retailer considered to be a higher risk of default could be required to provide a form of financial payment or guarantee in advance of any default. This credit support is intended to provide the distributor with an immediate source of funds to compensate it for any non-payment by the retailers.

There are a number of factors to balance when considering the design of a credit support regime:

- the costs to retailers of having to provide credit support, including whether it could act as a barrier to entry
- the magnitude of the risk to the distributor caused by a retailer defaulting upon its payment obligations
- ensuring both distributors and retailers face appropriate incentives to manage their risks
- the ability of the distributor to either recover the loss of revenue caused by the retailer's default through other means or to absorb the loss without experiencing financial stress
- the costs and impacts on consumers.

Determining the appropriate balance between these factors has the characteristics of an insurance problem, i.e. costs which could be material if and when they occur, but which have a low probability of occurrence. Requiring too much credit support could undermine efficiency as it diverts resources away from more productive uses, while not having enough credit support could lead to higher costs when a default occurs.

The Australian Energy Market Commission (AEMC) is currently assessing a rule change from AGL to modify the credit support regimes for distribution networks and retailers contained within Chapter 6B, Part B of the National Electricity Rules (NER) and Part 21, Division 4 of the National Gas Rules (NGR).

To aid its consideration of AGL's proposed rule change, the AEMC has asked KPMG to provide a review on approaches to distributor-retailer credit support regimes in international jurisdictions and other regulated sectors in Australia. The AEMC is interested in understanding how other

jurisdictions and regulated sectors have balanced the various factors in designing their approaches.

KPMG has reviewed the credit support approaches between electricity and gas distributors and retailers in the United Kingdom, New Zealand, Ireland, and Alberta Canada. We have also reviewed the approach in the electricity sector in Texas. We consider that these jurisdictions provide useful comparisons for the AEMC given the similarities in market structure and retail competition with the Australian energy sectors.

We have also surveyed the regulated water, telecommunications and rail sectors in Australia. In these sectors, the approach to credit support is not as well developed or defined as in the energy sectors. The discussion in this summary is focused on the findings from our review of international jurisdictions.

From the documents reviewed, the focus of the analysis has been on the commercial risks facing distributors rather than the risks to the operation of the market or to consumers if a retailer defaults. This report has also not reviewed the additional regulatory mechanisms designed to avoid systemic failure, i.e., where the retailer failure triggers a subsequent financial failure by the distributor. An illustration of such regulatory protections for distributors would be the UK provision for 'special administration' which is ultimately available to protect consumers if network companies are under threat of ceasing operation due to business failure.

This is highlighted by the fact that the credit support approaches are very similar in both the electricity and gas sectors in the jurisdictions reviewed, even though the impacts of a systemic failure are likely to be more material in the electricity sector.

A summary of our review is presented below with further detail on each jurisdiction contained in the main body of this report.

Objectives of the credit support approaches

From the international jurisdictions reviewed, there are three primary policy objectives behind the design:

1) To place a cost on the retailers reflective of their financial strength in order to encourage effective risk management in managing their business. This could be interpreted as addressing an asymmetric information problem for the distributors as they do not have complete information on risk of default of the retailer. By placing a cost on the retailer, it exposes them to the consequences of the decisions, and limits the risk and cost to regulated distributors and potentially, in turn, consumers.
2) To give the distributor an entitlement to immediately access a source of funds when the retailer defaults. This helps to ensure that distributors have adequate resources and working capital to perform their obligations even if retailers default in payment of charges.

3) To ensure that the credit support requirements are not unduly onerous so as to act as a barrier to entry to suppliers wishing to compete in retail markets and offering more choice to consumers.

We have described this as an entitlement rather than a guaranteed right to the security because, in the event of a retailer's insolvency, the ability to access security provided by the retailer could be subject to the insolvency proceedings and the rights of other creditors under insolvency law in that jurisdiction.

The regulatory institutions responsible for approving the arrangements have applied these three objectives from the perspectives of:

a) ensuring non-discrimination across retailers,

b) minimising costs and risks to consumers, and

c) preventing distributors from exercising monopoly power through requiring too onerous requirements on retailers.

In some jurisdictions' approaches, the distributor has the option of not seeking the full amount of credit. This is in recognition that the distributor is best placed to decide how best to manage its commercial risks.

The possibility of the credit support approach acting as a barrier to entry for retailers and undermining retail competition has started to be recognised in a number of jurisdictions. The assessment in those jurisdictions have identified the following reasons why this could be the case:

- large, incumbent retailers tend to have the existing financial standing able to satisfy the credit support requirement through the acceptable credit rating option
- new entrant retailers may find it difficult to fund a cash deposit or letter of credit because many new entrants would not have significant tangible assets against which a loan can be secured
- funding security can constrain new entrants' ability to grow their business
- large retailers have greater ability to spread costs of collateral across a wider customer base.

The potential barrier to entry was one of the reasons why the New Zealand Electricity Authority decided to reduce the security requirements from two months to two weeks. These factors have also been raised in an assessment of all the credit and security requirements in the energy sector undertaken by the UK government as part of the inquiry into competition in the retail markets.

Common design principles and features

KPMG has identified the following as common principles and design features for distributor-retailer credit support arrangements in the jurisdictions reviewed.

The level of security to be provided is based upon two variables:

- an assessment of creditworthiness of a retailer. Credit ratings are predominately used to assess a retailer's creditworthiness; and
- an estimate of the retailer's liability to the distributor for the period between the provision of network services and the payment.

Through these two variables, the credit support should increase as the risks to the distributor increases, either due to the retailer having a lower credit rating or a higher market share.

There are two types of approaches to linking the level of security to the credit rating:

- A simple binary method whereby a retailer only has to provide credit support if its credit rating is below a certain threshold rating. This is the approach used in New Zealand and Ireland. The definition of the threshold credit rating differs across the countries as shown in the summary table (see Table 1 on page 9).
- A more complicated method whereby the retailer is awarded an unsecured credit allowance and only has to provide security if its actual or expected liabilities are more than its unsecured credit allowance.

This second type of approach is similar to the NECF arrangements and used in the UK and Alberta Canada. In the UK, the maximum unsecured credit allowance for a retailer is 2 per cent of the distributor's regulatory asset value. In Alberta, the method is less complicated with the retailer qualifying for a fixed amount of credit allowance based upon its credit rating. For example, a retailer with a rating between AA- to AA+ qualifies for an unsecured credit allowance of $20m.

Other features of the alternative approaches to retailer security requirements are:

- In all jurisdictions, the security provided can be called upon when the retailer first defaulted on its payment to the distributor. In Ireland and Texas, a retailer default can trigger the distributor requesting more security.
- The size of the required security is linked to the estimate of a retailer's liability to the distributor in terms of network charges. Therefore, the security is implicitly linked to the billing and settlement periods.
- Retailers are offered a wide range of choice with respect to the acceptable forms of posting security under the credit support approaches.
- All the approaches reviewed, contained some form of a dynamic mechanism that allows the amount of credit required to fluctuate as the level of risk changes. These include:
    i. Credit ratings are by themselves dynamic and will change if the financial strength of the retailer changes.
    ii. In Ireland and New Zealand, the retailer must not be on a negative credit watch for their credit rating to qualify.

iii. In the Ireland electricity sector, a retailer default can trigger the distributor's ability to require more security.

iv. In Texas, a retailer is only required to provide credit for network charges after a default.

v. Either the retailer or a distributor has the right to seek a re-assessment of the required security at any time.

- Some international approaches contained incentives for retailers to pay on time.
- In the jurisdictions reviewed, the retailer meets its statutory obligations and complies with the terms of the distributor use of system agreement when the distributor is required to offer access to that retailer. A distributor cannot refuse access on the grounds of the financial circumstance of the retailer, unless the retailer fails to comply with its prudential obligations.

Effectiveness of the approaches during a retailer default

In the jurisdictions reviewed, there has only been one example where the current approach has been tested during a retailer default. On 18 October 2010, the New Zealand gas retailer, E-Gas, went into liquidation.

The situation was resolved under normal insolvency arrangements as the liquidator was able to sell the E-Gas customer base. The liquidator was also able to agree terms with the various counterparties (distributors, transmission owners, and the gas producer) that allowed the company to continue to trade pending a sale of the customer base. At that time, it was considered that terms of the distributor's Use of System Agreement provide a reasonable level of protection for gas distributors when a counterparty retailer becomes insolvent.

We note that a series of retailers defaulting in the UK during the early 2000s and Texas between 2003 and 2008 were a driver behind the establishment of the current credit support arrangements in those jurisdictions.

Allocation of risks between distributors and retailers

For most of the jurisdictions reviewed, the level of security required was set approximately to cover all of the retailer outstanding payments. Therefore, the security amount was calculated as the estimated retailer liability over the billing period and the settlement period (the total number of days between the provision of the network service and payment by the retailer).

This means that there is no sharing of the risks between distributor and retailer as the required security should adequately compensate the distributor for the full amount of the retailer's liability.

The exception to this is in the New Zealand electricity sector, where the NZ Electricity Authority determined that two weeks' security – half of the billing period - was appropriate given the low probability of default and the small impact to the distributor's annual revenue. The Authority based this analysis for two weeks on the probability and impact of a small new entrant retailer's default. This is because it considered that large incumbent retailers would meet the requirement through credit ratings and would therefore be unlikely to provide security.

The New Zealand Electricity Authority also considered whether the likelihood of default increased with reduced levels of prudential security because lower security requirements encourage more risky retailers. The Authority considered this to be unlikely as the principal risk and security requirements that retailers face relates to the wholesale market, and prudential distribution security requirements will not affect such matters.

The Authority also considered that suppliers in many other industries do not require a universal prudential security from customers, even though they typically face delays in payments (for example, a month in arrears plus 20 days). It appears that, in many industries with competitive markets, the universal requirement to post prudential security is competed away, even though suppliers may prefer to charge on such a basis.

KPMG did not identify any consideration of decreasing the billing period as an option to achieve a better balance of risks and costs between retailers and distributors in the jurisdictions reviewed.

Cost of providing credit support for retailers

Analysis conducted on the credit support arrangements for both the UK and New Zealand markets[1] included indicative estimates on the costs for retailers of posting security.

- The New Zealand Electricity Authority conducted a cost-benefit analysis of its decision to reduce the security requirement from 2 months to 2 weeks.
- The UK Department of Energy and Climate Change commissioned Cornwall Energy to assess the credit and collateral requirements in all UK energy sectors as part of its review into barriers to the retail market.

While there are differences in the methodology and assumptions between these two pieces of analysis, there are common findings relating to the costs on retailers of having to post security:

a) Having to post cash is the most expensive option for new entrant retailers. In the UK analysis, it was assumed that smaller retailers face a financing cost of 12% of having to fund cash as a security option. In New Zealand, the Electricity Authority considered that new entrants would face a financing cost of 17.5% to fund credit support via a bank loan or shareholder equity. This recognised that independent retailers may not have significant tangible assets against which a loan can be secured.

[1] For New Zealand, this analysis only applies to the electricity sector.

b) Letters of credit are cheaper than cash as, unlike cash borrowings, they are not priced by banks with a margin over an underlying interest rate. Instead they are priced on the basis of a regular fee charged against their face value.

c) Based upon an average credit rating of BBB, for the UK analysis the estimated financing costs for letters of credit were an annual fee of 2.5% of the face value of the letter of credit. The New Zealand Electricity Authority assumed that independent retailers face a cost of 3% for letters of credit but noted that the cost varies significantly by the retailer.

d) Both the UK and New Zealand analysis, recognised that parent company guarantees either directly to the distributor or to be used as support for a bank letter of credit, offer the cheapest form of security. However it was recognised that parent company guarantees are not free as they will have impacts on the credit assessment of the issuing parent company.

Interaction with other cost recovery mechanisms

Having the retailer provide credit support to cover all likely liabilities of the retailer at the time of default does not remove all the risks away from the distributor. A distributor would still be exposed to loss of revenue if:

- a retailer with a credit rating at or above the acceptable threshold defaults on payment; or
- the distributor may not have full entitlement to security provided by retailers that do not have acceptable credit rating as this could be subject to the insolvency proceedings.

In addition, a distributor may incur other costs in the event of a retailer default. For example, costs associated with the application of the Retailer of Last Resort mechanism.

The ability of distributors to manage this risk through recovering any retailer default costs through higher line charges (in a sense, socialise the risk) among end-use customers is not guaranteed in the jurisdictions surveyed.

Rather, the distributor would have to make an application to the regulator to seek to pass-through the losses through higher regulated charges. It was noted by the New Zealand Electricity Authority that distributors would be receiving some compensation for the risks through its regulated rate of return.

Emerging technologies

Generally, KPMG found that retailer default policies and credit support arrangements have not been used extensively and are therefore not particularly well tested.

The increasing number of retailers and new business models (distributed generation, storage, energy supply companies) is a new area of consideration for regulators. The changing retail landscape may require a re-consideration of credit support arrangements and how to balance the factors in the design.

In both the UK and New Zealand, there has been an increased focus on the impact of credit support arrangements as a barrier to entry for new retailers. This could increase as new retailers and business models enter the market.

This led the New Zealand Electricity Authority to re-calibrate their solution to the insurance problem through changing the balance between ex-ante costs and ex-post regulatory adjustments. Effectively, the Authority decided to create a lower barrier to new entry and to potentially pass more costs associated with a retailer default on to consumers at the time of the default.

Table 1: Summary of international approaches to distributor credit support requirements for energy retailers

Feature of the credit support approach	UK - electricity	UK - Gas	NZ - electricity	NZ -gas	Ireland - electricity	Ireland –gas	Alberta	Texas
Who determines the approach	Industry subject to approval by regulator	Industry subject to approval by regulator	Regulator	Distributor	Industry subject to approval by regulator	Industry subject to approval by regulator	Government	Regulator
Date when current approach was established	2005	2005	2011	Not known	2002	2005	2003	2000
Acceptable credit rating threshold	Individual credit allowance with AA qualifying for 100% of allowance	Individual credit allowance with AA- qualifying for 100% of allowance	BBB -	BBB –	A+	BBB	Ratings above BBB- qualify for a fixed reduction in required security	BBB -
Reward for good payment history	Yes	Yes	No	No	No	No	No	Yes
Required security as ratio of billing period	1.75 times	2 times	0.5 times	2 to 3 times	2 times	2.4 times	2 times	Required only if retailer defaults
Choice in security	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

1 Introduction and KPMG's methodology

1.1 Introduction

KPMG has been asked by the Australian Energy Market Commission (AEMC) to undertake a review of approaches to distributor-retailer credit support in a variety of international energy markets in addition to other regulated sectors in Australia.

This request relates to a rule change proposal submitted by AGL to change the credit support arrangements between distribution networks and retailers in those jurisdictions which have adopted the National Energy Customer Framework (NECF), which include South Australia, Tasmania, the Australian Capital Territory and New South Wales.[2] These arrangements are common in both the electricity and gas sectors and are contained within Chapter 6B, Part B of the National Electricity Rules (NER) and Part 21, Division 4 of the National Gas Rules (NGR).

This section briefly describes the current arrangements and the AGL rule change proposal to provide context to this report. This section also sets out KPMG's methodology and the scope of the approaches covered by this review.

1.1.1 Credit support arrangements under the NECF

The purpose of the NECF credit support arrangements is to manage the risk to electricity customers from retailer default leading to non-payment of network charges.[3] Customers are ultimately exposed to this risk because distributors can pass through unrecovered network charges to end-use customers through their regulated charges.

Under the current arrangements, the amount of credit support a retailer is required to provide a distribution network service provider (DNSP) is determined by a formula. There are three steps to the formula:

1. **Determine the maximum unsecured credit limit for each DNSP.** This is the value of credit afforded to each retailer before it is required to provide credit support. Under the current rules, a DNSP's maximum unsecured credit allowance is equal to 25 per cent of its annual network charges billed to all retailers (and not just to the relevant retailer).
2. **Calculate an individual unsecured credit limit for each retailer.** This is based upon a credit allowance multiplied by the maximum unsecured credit limit. A retailer credit allowance is based upon its credit rating. Under this step, a retailer with an A-rating or above is afforded 100 per cent of the maximum unsecured credit limit. The credit allowance decreases steeply as the credit rating of the retailer decreases, with a retailer

[2] Queensland is scheduled to adopt the National Energy Customer Framework on 1 July 2015

[3] See Ministerial Council on Energy, Standing Committee of Officials Bulletin No. 192.

which has a BBB- rating allowed 22 per cent of the DNSP's maximum unsecured credit limit.[4]

3. **Determine the required credit support for each retailer**. A retailer is required to provide credit support for any difference between its deemed liability to the DNSP and its unsecured credit limit. For example, if a retailer's unsecured credit allowance was set to $250,000 and the retailer estimated liability to the distributor was $350,000, that retailer would have to provide credit support of $100,000.

A retailer's liability is calculated by multiplying its market share by the DNSP's annual revenue by the number of days, on average, between the provision of the network service and payment by the retailer. If a retailer's credit outstanding exceeds its individual unsecured credit limit, the retailer would have to provide credit support for the difference.

Under the current arrangements, a retailer has the following three options to achieve a credit rating:

- a credit rating from either Standard & Poor's, Fitch or Moody's; or
- where a retailer does not have such a credit rating from an agency, a Dun and Bradstreet dynamic risk score; or
- a guarantee from a financial institution. In this situation, the financial institution's credit rating will be used to calculate the retailer's required credit support.

Credit support provided must be in a form acceptable to the DNSP.

The current arrangements also state that no credit allowance will be provided to the retailer if either the retailer has failed to meet defined payment obligations or AEMO has made a claim on the retailer's credit support to the wholesale market.

1.1.2 AGL rule change proposal

In its rule change proposal, AGL is seeking to significantly change the arrangements for calculating a retailer's required credit support. AGL's proposal states that a retailer's credit support should reflect a measure of the Value at Risk (VaR) associated with a retailer's default and not be based upon a DNSP maximum credit allowance. The VaR reflects the probability of default, based on independent assessment of the retailer's risk of default, and an estimate of the retailer's likely liability to the DNSP at the time of default.

Under the AGL proposal, a retailer's credit support will depend upon its credit rating and its network charge liability.

- Retailers with a credit rating of BBB- or above will not be required to provide any credit support, because BBB- is recognised as an investment grade credit rating, which AGL

[4] The credit allowance percentage by credit rating is contained in Schedule 6.1 to Chapter 6B of the National Electricity Rules.

considers to present an appropriate level of risk that customers would be comfortable in accepting.

- Retailers with a credit rating below BBB- will be provided credit support based upon the difference in the probability of default of its rating compared with the default rate for a BBB-rating, multiplied by its network charge liability.[5]

AGL argues that the use of the DNSP maximum credit allowance term is not based upon any sound assessment of the losses a network would face, or could realistically withstand, in the event of retailer default. AGL considers that there is very little improvement in a DNSP's risk-weighted exposure when an investment grade retailer provides credit support above efficient levels, because these funds are unavailable to the DNSP to manage the default of low-rated retailers.

1.2 Methodology

The task in this review was to survey the approach used in overseas energy sectors and other regulated sectors in Australia for determining the credit support arrangements between distribution networks and retailers.

KPMG understands that AEMC will used this advice in its assessment of the AGL rule change, including the development of principles and key design features for the distributor-retailer credit support regime in the NER and NGR.

Consequently, we have:

- reviewed those jurisdictions which are most comparable to the risks and market characteristics of the Australian electricity and gas sectors
- provided a description on how different regulators have approached the issues being raised by the AGL rule change, including:
    - identified the policy objectives to the credit support approach;
    - identified the governance arrangements. For example, which body is responsible for determining the approach to credit support;
    - identified how the level of required credit support is determined and what is the resulting the allocation of risks between the retailer, distributor and customers;
    - reviewed the role of credit ratings and Value at Risk metrics in determining the required credit support;

[5] A retailer's network charge liability is defined under the current Rules and is approximately the average daily charge for a retailer multiplied by the number of days, on average, between the provision of the network service and payment by the retailer.

- identified how the credit support approaches relate to other regulatory mechanisms which manages the impacts of a retailer default (e.g., retailer of last resort, cost-pass through arrangements);
- identified if the approaches contain any dynamic adjustment that allows the level of credit support to be adjusted if circumstances change;
- described the approaches under a common framework to facilitate comparison to both the current arrangements and the AGL proposed changes.

For the purpose of clarity of the report, KPMG has expressed the acceptable credit rating in terms of Standard & Poor's credit rating scores. We note that, under the approaches reviewed, equivalent scores from other credit agencies are also acceptable.

This report does not assess the merits of either the current arrangements or the AGL proposed rule change.

1.2.1 Scope of approaches reviewed

The AEMC specified that our analysis should include a review of retailer-distributor credit support schemes for electricity and gas sectors in at least three international jurisdictions, one of which should be the United Kingdom.

We considered two factors in determining which additional jurisdictions to include in this study, beyond the United Kingdom. First, we took into account which jurisdictions have similar retail market characteristics and the extent of retail competition. Second, we sought out jurisdictions which have either well-developed and documented credit support regimes in place, or have recently reviewed their credit support arrangements.

The international jurisdictions which we reviewed were:

- United Kingdom electricity and gas sectors
- New Zealand electricity and gas sectors
- Republic of Ireland electricity and gas sectors
- Alberta, Canada electricity and gas sectors
- Texas, USA electricity sector

In addition, this report provides a high level description of the credit support approaches in the regulated rail, water and telecommunications sectors in Australia. However, the approaches in these sectors are not as well developed nor documented as the approach in the electricity and gas sectors.

This report therefore focuses primarily on reviewing approaches in overseas energy sectors. KPMG has extended the list of international jurisdictions to five in order to better assist the AEMC in developing a framework of the principles and design options behind retailer-distributor credit support regimes.

1.2.2 Structure of this report

The remainder of this report provides the description analysis of our review for each of the jurisdictions:

- Chapter 2 provides our review of United Kingdom
- Chapter 3 provides our review of New Zealand
- Chapter 4 providers our review of Ireland
- Chapter 5 providers our review of Alberta
- Chapter 6 providers our review of Texas
- Chapter 7 contains some analysis of the approach employed in other regulated sectors in Australia.

2 United Kingdom approach

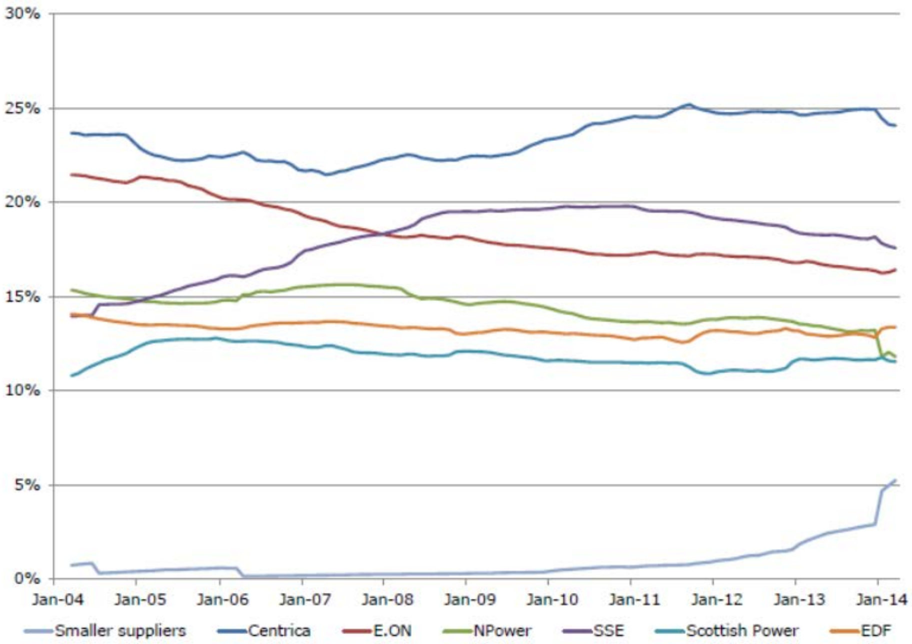
2.1 Overview of the retail market

Competition in the UK retail energy markets was introduced fully in 1999. Before that time, British Gas and the 14 Public Electricity Suppliers (PESs) had a monopoly to supply all domestic gas and electricity consumers respectively in Great Britain. In the subsequent five years, the number of suppliers in the market fell to six, as a result of horizontal mergers. Some of these businesses also merged with generation companies to create vertically-integrated groups.

The six largest suppliers now serve around 95 per cent of the domestic retail gas and electricity markets, and own around 70 per cent of the generating capacity. In the gas sector, vertical integration is less of a feature. Only Centrica (British Gas) has significant gas production capability as a part of its UK group, with production in 2012 representing around one-third of the total supply requirements for domestic and Small to Medium Enterprise (SME) consumers.

The UK electricity market is dominated by six suppliers (the 'Big Six'). These largest six suppliers directly also own about 70 per cent of generation capacity. The market shares of the Big Six range between 11 and 25 per cent. Figure 1 below shows the market shares of domestic electricity suppliers.

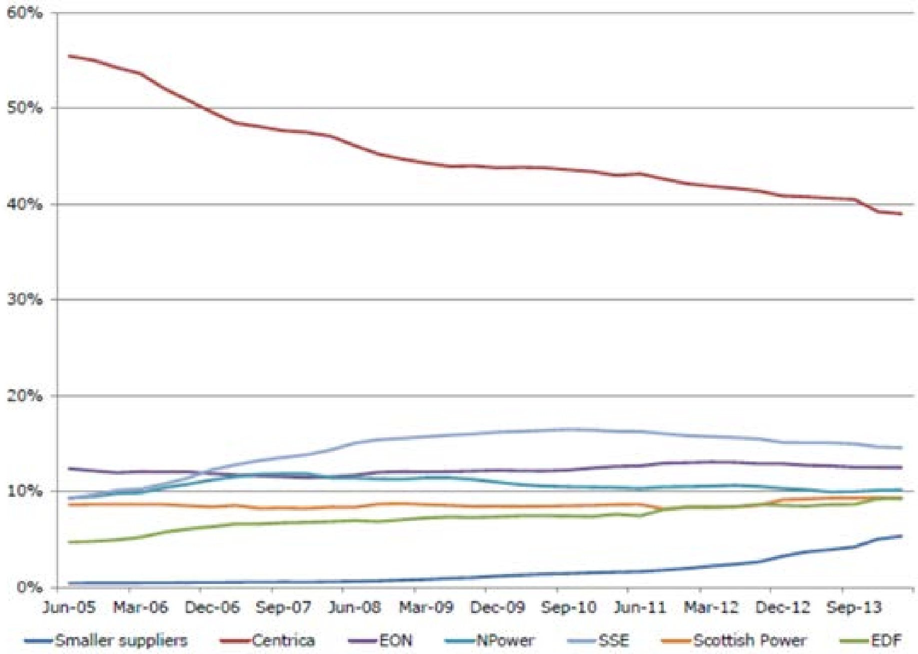
Figure 1: Domestic electricity supply market shares



Source: OFGEM

Figure 2 below shows the market shares of domestic gas supply. Centrica's former monopoly on the retail gas market continues to be eroded with the five other large suppliers now each having between 10-16 per cent market share. Centrica still retains a 40 per cent market share.

Figure 2: Domestic gas market shares



Source: OFGEM

The recent growth of smaller suppliers is an encouraging development (5 per cent in January 2014 in both electricity and gas). Ultimately, this suggests that it is becoming easier to enter these markets and to compete with the Big Six. Nevertheless, the market share of the small suppliers has remained low over the past decade, and it is unclear whether any single existing supplier will achieve sufficient scale in the near term to act as a disruptive constraint on the Big Six across the market.

For this reason (amongst others) in June 2014, Ofgem referred the GB energy market to the Competition and Markets Authority (CMA) for investigation. This referral followed a joint assessment of competition in the energy market (conducted by Ofgem, the Office of Fair Trading and the CMA) which found that competition in retail energy markets may not be achieving good outcomes for all consumers and small businesses. The assessment identified weak competition between larger energy suppliers, low customer trust and engagement, and barriers to entry and expansion.

Rates of switching are one indicator of the extent of competition in a market (although the figures should not be considered in isolation; factors such as the speed of switching, and the cost savings/value of switching are also important). Switching rates in the UK have declined since 2008, despite persistent price differentials and the availability of potentially significant savings. Ofgem states that this can, to some extent, be explained by the gradual withdrawal from doorstep selling of the Big Six.

Nevertheless, Ofgem has observed a significant spike in switching relatively recently (in particular switching rates in November and December 2013 were at their highest levels for five years). This behavioural change has also included an increase in switching away from the six largest suppliers, with 25-30 per cent of customers that switched at the end of 2013 moving to smaller suppliers. Ofgem suggests that this can largely be attributed to extensive publicity and media interest surrounding price rises. It is not clear whether these trends will be sustained.

2.2 Approach to credit support in the electricity sector

2.2.1 Credit support arrangements

The credit support arrangements for all UK electricity distributors are set out in the Distribution Connection and Use of System Agreement (DCUSA).

The DCUSA was established in October 2006 as a multi-party contract between the licensed electricity distributors, suppliers and generators of Great Britain. The DCUSA provides a single centralised document which relates to the connection to, and use of, the electricity distribution networks. It includes the charging and credit/collateral methodologies for connection to, and use of, the electricity distribution networks.

Modifications to the DCUSA are considered by an industry panel but must be approved by the regulator, OFGEM.

The purpose of the credit support arrangements in the DCUSA is to provide security for the payment of charges under the DCUSA, and ensure distributors have adequate resources and working capital to perform their licence obligations even if users default in payment of charges.

Since 2006, the credit support arrangements have only been modified once, in 2013, in order to standardise the method of calculating the Fifteen Day Value used for credit cover monitoring across all distributors.

The DCUSA allows for the procurement of unsecured credit, allowing for up to 2 per cent of a Distribution Network Operator's RAB (Regulatory Asset Base) to be awarded as unsecured credit. This affords access to a reasonably large degree of unsecured lines to parties under the DCUSA relative to the network charges they incur. Unsecured credit can be accessed following an independent credit assessment score or credit rating, and a good payment history can allow the participant to access lower levels of unsecured credit (capped at 2 per cent of the maximum unsecured credit limit).

The DCUSA allows for lesser-rated or non-publicly-rated participants to avoid the requirement to post high-quality collateral (letters of credit or cash) through good payment history and an independent rating.

Documentation elaborating Ofgem's reasoning behind the selection of the 2 per cent RAB value for unsecured credit is not available, however, it is KPMG's understanding that this figure has been set to be large enough to ensure commitment without being too onerous. It is likely that this was established at privatisation of the regional electricity companies in 1990 and published in their prospectus. At the time, it would have been negotiated with the companies and set by Government.

If the retailer has a supply licence obligation and complies with the terms of the distributor use of system agreement then the distributor is required to offer access to that retailer. A distributor cannot refuse access on the grounds of the financial circumstance of the retailer, unless the retailer fails to comply with its prudential obligations.

2.2.2 How credit support is determined

Under the DCUSA:

- Users of distribution services (i.e. retailers) are subject to a credit limit, which is the sum of a credit allowance plus any additional security posted.
- The credit allowance is effectively an unsecured credit limit, similar to the current arrangements in NER and NGR.
- The Credit Allowance is calculated as:

  Credit Allowance = Distributor RAB x 2% x Credit Allowance Factor (CAF)
- The credit allowance factor is based upon the retailer's financial strength as measured by its credit rating, as showed in Table 2.

Table 2: DCUSA credit allowance factor ratings matrix

Standard and Poor's	Unsecured credit limit (%)
AAA to AA	100
AA- to A-	40
BBB+	20
BBB	19
BBB-	18
BB+	17
BB	16
BB-	15

- Retailers can also build up a lower level of unsecured allowances through good payment history. Where the user's payment record factor is to be used to determine the Credit Allowance Factor, the allowance will be built up by multiplying the number of months since the start of good payments by 0.033 per cent (deriving an allocation of 0.4 per cent per annum) of a maximum value of 2 per cent of the maximum unsecured credit limit (the maximum secured credit limit is 2 per cent of the relevant distributor's RAB). This means 2 per cent of the maximum secured credit limit could be achieved after five years of good payment history. If the user misses a payment, the unsecured allowance is reset to zero.

- Where the user does not have a credit rating as per above or where the user has not requested that the distributor uses the payment record history then CAF shall be determined by reference to the independent credit assessment. An independent assessment score is provided by a number of approved boutique credit agencies such as Dunn & Bradstreet.[6]
- Under this approach of an independent credit assessment, the highest CAF is capped at 20 per cent, which is equivalent to a BBB+ rating from a major credit rating agency. Therefore, ratings from such independent agencies are not afforded the same weighting as approved credit ratings. This is different to the Australian approach where a risk score from Dunn & Bradstreet can qualify for a 100 per cent unsecured credit allowance.[7]
- Details on the independent credit assessment are provided in the matrix which KPMG has included in Appendix A.
- The level of required security to be provided under the credit support arrangement depends upon the retailer's Credit Allowance and its VaR. The VaR is the value of billed but unpaid charges plus 15 days' of estimated value of charges based on their average daily charges during the previous month, less any prepayments. Retailers are billed by distributors on a monthly basis.
- If VaR exceeds 85 per cent of the credit limit (which is the sum of the retailer's credit allowance plus any security provided), the distributor will notify the retailer that it needs to increase its credit limit. This effectively means that the credit allowance is reduced by 15% to provide a buffer to protect the distributor. The purpose of this is to incentivise the retailer to keep topping up any security in advance to ensure that their credit limit exceeds their VaR by the given amount.
- The collateral instruments allowable under DCUSA are:
  a) a letter of credit or equivalent bank guarantee (available for an initial period of not less than six months). A letter of credit has to be an unconditional, irrevocable standby letter of credit approved by the distributor allowing for partial drawings and providing for the payment on demand by any bank which has a long-term debt rating of not less than single A;
  b) an escrow account deposit;
  c) a cash deposit;

[6] Other approved independent credit agencies include N2, Experian and Graydons.

[7] Scheduled 6B.1 to Chapter 6B of the National Electricity Rules.

d) a qualifying guarantee; or

e) any other form of collateral as agreed between the company and the user from time-to-time, including but not limited to performance bonds, bilateral insurance, and independent security.

- A distributor may rate the effectiveness of such collateral as being between 0 per cent and 100 per cent. Where the effectiveness of such collateral is rated as less than 100 per cent, its contribution to the aggregate level of cover provided will be reduced accordingly.
- The trigger for the distributor to access the security is when the retailer initially defaults on its payment.

2.2.3 Other issues

Retailer failures were a factor in creating the credit support arrangements.

Credit support arrangements have been formed (and have undergone a number of revisions) based on a series of supplier failures:

- In September 2000, Independent Energy went into administration with £165 million of debt. Innogy bought the business from the receiver and agreed to pay all post-receivership debts. However, debts incurred before receivership were, in many cases, not fully recovered (some of this liability thus fell to distribution companies to which was owed approximately £19m).
- On 4 December 2001, Enron Direct Limited (a gas and electricity supplier with approximately 12,000 gas sites and 183,000 electricity sites) went into administration following problems with its parent company in the USA. The failure of Enron in November 2001 again raised the issue of whether the current mechanisms for managing the financial risk resulting from a gas or electricity supplier or gas shipper failure are appropriate.

These two incidents led directly to the initiation of an OFGEM consultation process investigating the appropriate arrangements for covering credit risk and mitigating costs to which parties in the gas and electricity markets are exposed when a gas or electricity supplier or a gas shipper fails. OFGEM published its conclusions in February 2003 alongside a document outlining OFGEM's proposals for credit cover arrangements. The document also outlined principles that OFGEM will have regard to when executing its functions in relation to credit issues, and which also set down its preferred approach to the management of credit risk going forward. These are as follows:

- Incentives need to be placed upon the Network Operators (NWOs) to manage debt efficiently.
- Credit arrangements must not be unduly discriminatory, or prevent the promotion of competition.
- Credit arrangements should provide a secure and stable business environment.

- OFGEM should take measures to protect consumers from loss of supply, in the event of a supplier or shipper's failure to maintain adequate levels of cover or default on payments due.

Further supplier failures have since ensued and a number of revisions and consultations have been conducted since the above.

- In October 2002, TXU Europe's supply business was sold to Powergen following TXU's financial difficulties.
- In June 2003, Maverick Energy Limited (a small non-domestic electricity supplier) went into administrative receivership; its customer contracts were subsequently sold to Atlantic Electricity and Gas Limited.
- During the winter of 2005/6, five smaller suppliers failed and were unable to secure a trade sale (The Team Group of Companies, Eledor, Reepham, Utility Link and Zest).
- In October 2008, a supplier of last resort (SoLR) was appointed for the customers of Electricity4Business.

Subsequent revisions and updates to OFGEM's credit support procedures include:

- Arrangements for gas and electricity network operator credit cover. Conclusions and proposals - February 2003
- Best practice guidelines for gas and electricity network operator credit cover – November 2005.

The credit support arrangements have not been amended since November 2005.

Estimated costs of credit support on retailers

To establish whether the current arrangements across all forms of credit support are impacting competition in UK energy markets, the Department of Energy and Climate Change (DECC) Energy Markets and Consumers Team commissioned Cornwall Energy in late December 2013 to conduct a review of credit and collateral arrangements in the UK markets for gas and electricity.[8]

Cornwall Energy in its report to the UK Energy Department on credit arrangements in the UK energy markets provided an estimate of the total cost for all retailers of complying with the DCUSA. They estimated that the total cost to all retailers in 2013 was $16.51m which was split between $6.68m for cash collateral and $9.83m for letters of credit. Cornwall did not include a cost for posting parent company guarantees but notes that these are not cost free as they will have impacts on the credit assessment of the issuing company.

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[8] Cornwall Energy – Credit and Collateral in the GB energy markets Phase 1 and Phase 2 reports to DECC

Further detail on Cornwall estimates are set out in the methodology section of their main report.[9] Regarding financing costs, their key assumptions are:

- Letters of credit are cheaper than cash as, unlike cash borrowings, they are not priced by banks with a margin over an underlying interest rate. Instead they are priced on the basis of a regular fee charged against their face value.
- Based upon an average credit rating of BBB, the estimated financing costs for letters of credit are an annual fee of 2.5% of the face value of the letter of credit. Cornwall noted that this assumption may underestimate the real costs as wider costs on retailers are not included. For example, letters of credit attract arranging and renewal fees as they reach their maturity and need to be replaced.
- For cash posted as credit, Cornwall assumed an annual financing cost of 6.744%. This figure has been derived from DECC's assumptions on electricity market weighted average costs of capital for different types of retailers.[10] DECC's stated assumptions were that cost of financing was 6% for larger retailers and 12% for smaller retailers.
- Cornwall did not attempt to measure the opportunity cost for retailers of having to post security.

Cornwall also stated that, given the combination of the distributors' RAB and the 2 per cent derived level of unsecured credit allowance, the likely liabilities of users under DCUSA, and the ability to gradually build unsecured credit allowances, the burden of collateral on retailers under DCUSA is low. However, the exceptions to this are:

- new entrant users that are unrated and are not owned by investment grade companies: they cannot avoid cash or letters of credit by virtue of payment history performance or parent company guarantees
- recent entrants yet to establish a meaningful unsecured credit limit as a proportion of their overall distribution charges liability, even if they have displayed good payment performance
- recent entrants that do not make payments promptly.

Cornwall noted that such entities could be exposed to posting cash as security that could otherwise be used for productive purposes.

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[9] Cornwall Energy – Credit and Collateral in the GB energy markets Phase 1 Volume 1- main report June 2014 p.33.

[10] UK DECC, Impact Assessment for Electricity Market Reform—Supplier Obligation 23 October 2013. https://www.gov.uk/government/consultations/proposals-for-implementation-of-electricity-market-reform

2.3 Approach to credit support in the gas sector

2.3.1 Credit support arrangements

The credit support arrangements for gas distribution are set out in Uniform Network Code (UNC). The UNC is the legal and contractual framework for the supply and transport of gas, covering both transmission and distribution networks. It has a common set of rules that govern balancing of the gas system, network planning, and the allocation of network capacity.

The UNC was established in May 2005 as a result of the sale of National Grid's four Distribution Network (GDN) businesses.

While each distributor owner, along with National Grid Gas, is still required to produce its own Network Code, to prevent inappropriate fragmentation, the provisions within these codes are incorporated by reference to a common document known as the UNC. The UNC is thus the hub around which the competitive gas industry revolves, comprising a legal and contractual framework to supply and transport gas.

The UNC must be approved by the regulator, OFGEM.

Shippers must establish credit with each of the distribution network operators when they accede to the UNC. The primary purpose of collateral posted under the UNC transmission and distribution rules is to provide surety behind charges necessary to allow the gas transmission system to be appropriately operated and maintained. This security posted should ensure that gas networks will have access to working capital to cover non-payment of gas network use charges in the event of a user failure.

It should be noted that these charging and credit requirements rest on the shipper, as the UNC user. But commercial practice dictates that if a supplier uses a shipper service then these charges are often passed back by contract to be recovered in full.

There are similarities with the approach in the electricity sector, including:

- The billing period is monthly.
- Allowance for lesser-rated or non-publicly rated participants to avoid the requirement to post high-quality collateral (letters of credit or cash) through good payment history, or an independent rating
- the calculation of an unsecured limit as a percentage of each respective distributor's RAB affords a high degree of unsecured lines to parties under the UNC, relative to the charges they incur under the code
- the greatest burden of collateral is likely to fall on bad payers or on new entrants if they are relatively financially weak.
- If the retailer has a supply licence obligation and complies with the terms of the distributor use of system agreement then the distributor is required to offer access to that retailer. A distributor cannot refuse access on the grounds of the financial circumstance of the retailer, unless the retailer fails to comply with its prudential obligations.

2.3.2 How credit support is determined

Under the UNC:

- Shippers may be required to provide security by reference to a code credit limit.
- Shippers are subject to an unsecured credit allowance. The maximum unsecured credit limit is limited to 2 per cent of the transporter's RAB. The level of unsecured credit limit is calculated as a percentage of the maximum unsecured credit limit according to the credit rating of the shipper. How the credit allowance varies according to the shipper's credit rating is shown in Table 23.

Table 3: Uniform Network Code credit allowance factor ratings matrix

Standard and Poor's	Unsecured credit limit (%)
AAA	100
AA+	100
AA	100
AA-	100
A+	40
A	40
A-	40
BBB+	20
BBB	19
BBB-	18
BB+	17
BB	16
BB-	15

- Shippers can also build up a lower level of unsecured allowances through good payment history. In terms of acquiring unsecured allowances through payment history, a user can gradually build these up at 0.033 per cent for each month of good payment to an allowance equivalent to 0.8 per cent of the maximum unsecured credit limit (defined as 2 per cent of the GDNO's RAB). This level can therefore be achieved over the first two years after accession to the code.
- Where a user does not have a credit rating or good payment history, it can achieve a credit limit through an independent credit assessment, similar to the approach in the electricity sector. The independent credit assessment can either be the shipper itself or its parent company. The maximum allowance possible under this approach is 20 per cent of the distributor's maximum unsecured credit limit (i.e. 20 per cent times 2 per cent of the RAB). Appendix A provides a detailed matrix on credit scores under an independent credit assessment that affects a shipper's unsecured credit allowance.

- A shipper must ensure that they cover their VaR through the sum of their unsecured credit limit and (if necessary) any further security. This means that their credit code limit must be higher than the VaR.
- The VaR is the sum of the amount of invoiced but unpaid indebtedness under the UNC and any ancillary agreements (other than energy balancing charges), and 20 times the average daily rate of the aggregate amount (other than energy balancing charges) invoiced to the user in the previous calendar month. Shippers are invoiced monthly by distributors.
- A shipper's code credit limit may from time to time be reviewed and revised, at intervals of approximately 12 months. This could occur at the user's request; where any published rating of the user or any person providing security for the user is revised downwards; where any instrument of surety or security expires or is called; or at the transporter's request where it has reasonable grounds to believe that the effect of the review will be to reduce the user's code credit limit.
- The following forms of credit are deemed acceptable in terms of extending a user's exposure beyond its unsecured credit limit:
    a) Letter of credit. The letter of credit shall mean an unconditional irrevocable standby letter of credit, from a bank with a long-term credit rating of A.
    b) Guarantee. Such guarantees must be an on demand irrevocable guarantee or performance bond provided by a qualifying company—which means any company with a long term debt rating of at least A provided by a credit rating agency.
    c) Deposit deed. A deposit deed is a legal agreement that enables the user to deposit cash as security. The deed must be legally enforceable.
    d) Prepayment agreement. A prepayment agreement is an agreement between the transporter and the user that is legally enforceable. Its purpose is to enable a user to make payments of amounts calculated on a monthly basis by the transporter (using an accrual methodology) representing the transporter's estimate of the relevant amounts that will become due by the user in a charging month.
- The trigger for the distributor to access the security is when the retailer initially defaults on its payment.

Estimated costs of credit support on retailers

Cornwall Energy in its report to the UK Energy Department on credit arrangements in the UK energy markets provided an estimate of the total cost for all retailers of complying with the UNC credit support arrangements. They estimated that the total cost to all retailers in 2013 was $28.1m of which 95% was estimated to be for letters of credit.[11] This is based upon the same assumptions for its analysis of the electricity sector as explained in section 2.2.3.

[11] Cornwall Energy – Credit and Collateral in the GB energy markets, Phase 1 Volume 2 - framework profiles and glossary report, p. 65

2.4 Other Issues

2.4.1 Ability of distributor to recover lost revenue through regulated charges

There is no explicit reference in Ofgem's new regulatory framework (RIIO) that directly facilitates the ability of the distributor to pass through of lost revenues from retailer default. Nevertheless, OFGEM, has the power to review licence terms/regulatory decisions of Distribution Companies on effectively an ad hoc basis (i.e in the event of extraneous circumstances and particularly when consumers may be adversely affected).

Thus, although no explicit arrangements are in place, OFGEM's powers provide an opportunity for the distributor to seek an adjustment to its regulated revenue. Unlike the arrangements in Australia, this would not be an automatic adjustment but subject to OFGEM's consideration.

The above notwithstanding, the UK gas and electricity markets already have an additional layer of security in place which in many ways serves to remove the need for pass through of lost revenues into regulated tariffs, this being, the Supplier of Last Resort Levy (SoLR Levy).

In certain circumstances, where a supplier is acting as a SoLR, electricity and gas suppliers' licences permit them to make a claim for the otherwise unrecoverable costs that they have incurred in being a SoLR (including potentially unpaid debts to the distributor). The extent to which this mechanism provides a means for a distributor to recover lost revenue from a retailer default depends on whether the liabilities are transferred to the failed retailer customers, for example, if the customer has not yet paid its bill for the period.

OFGEM's latest guidance document states that this would be paid by a 'levy' charged to gas transporters' and electricity distributors' Distribution Use of System (DUoS) charges. OFGEM is clear in saying that it would prefer a SoLR not to make a claim via these arrangements and states that a SoLR should set its charges for customers at a level that reflects the supplier's reasonable assessment of the expected costs involved in supplying those customers (and in this way potentially passing through the costs of unpaid debts).Ultimately, OFGEM argues that it would not be appropriate for the customers of a failed supplier to be charged less than the actual cost of supplying them with the difference being funded by other customers through these levy arrangements.

Nevertheless, the arrangements are in place and can be called upon if needed because, whilst OFGEM expects an efficient SoLR to be able to cover its own costs through deemed contract prices, they recognise that the circumstances of supplier failures are different and that there may be some instances when a SoLR incurs otherwise unrecoverable costs. Thus, following appointment of a SoLR that had not waived its right to make a claim, OFGEM will decide on a case-by-case basis whether it might be appropriate for a SoLR to make a claim on the levy - and whether the amount of any claim is reasonable.

2.4.2 Comparison on the unsecured credit allowance methodology between UK and Australia

The UK approaches to determining a retailer's unsecured credit allowance based upon its credit rating is similar to the approach used in Australia, for those jurisdictions under the NECF.

In this section, KPMG has provided some analysis comparing the UK to the NECF methodology to help demonstrate how the UK approach in both its electricity and gas sector work.

Figure 3 Comparison of UK and NECF methodologies for maximum allowed unsecured credit

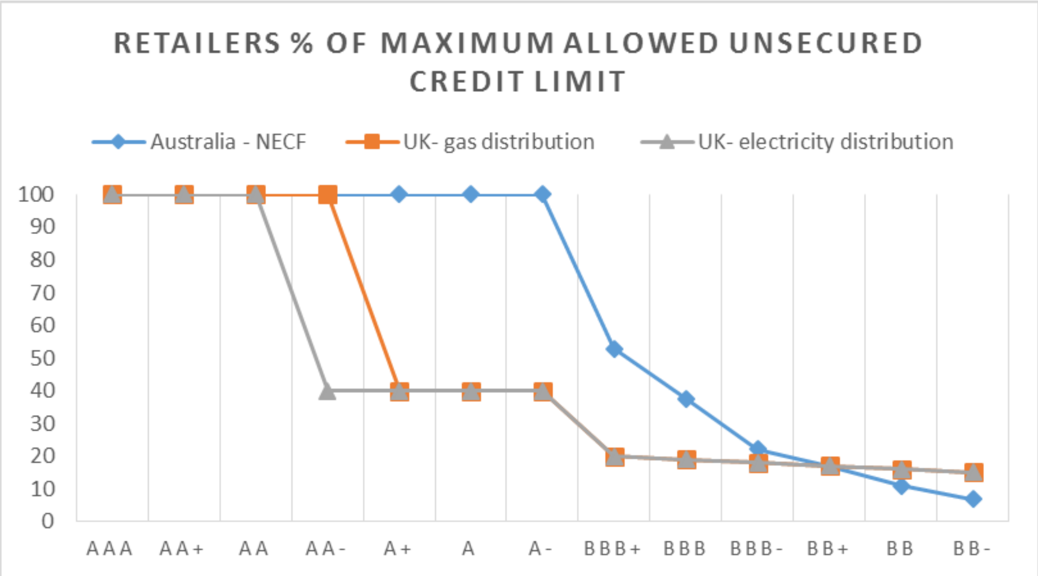
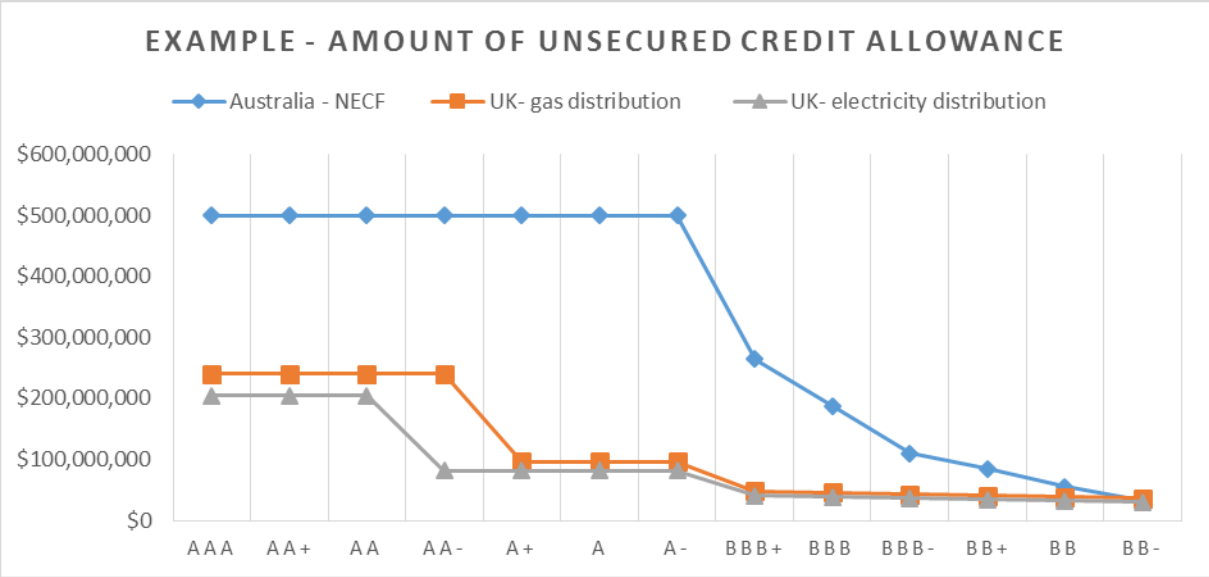


Figure 3 shows how retailers' percentage of the maximum allowed unsecured credit limit varies based upon its retailer credit rating. It demonstrates that for the NECF methodology, a greater range of credit ratings qualify for the 100% allowance than in the UK approaches. For example, an A- rated retailer qualifies for 100% of the maximum unsecured credit allowance while the same rated retailer in the UK would be allowed 40% of the maximum unsecured credit limit.

The methodology for determining the maximum unsecured credit limit differs between these jurisdictions. In the UK, the credit allowance is based upon 2% of the distributor's RAB, while under the NECF arrangements, the allowance is based upon 25% of the distributor's annual network charges. KPMG has done a further comparison based upon a simple example of a distributor with a RAB of $12bn and annual charges of $2bn. This is demonstrated in Figure 4.

Figure 4 shows in this example, a retailer in the NECF jurisdictions is allowed a higher amount compared to its UK counterparts. KPMG notes that this analysis is sensitive to the assumptions used. Also that there could be differences in the billing and settlement periods between the UK and NECF.

Figure 4 Comparison of UK and NECF methodologies under a common example



2.4.3 Inquiry into retail competition in UK energy markets

As noted above the DECC commissioned Cornwall Energy in late December 2013 to conduct a review of credit and collateral arrangements in the UK markets for gas and electricity.

In addition to the credit support arrangements for electricity and gas distribution networks, Cornwall reviewed a further five more distinct policies that define credit and collateral procedures within given areas of the energy market.

1. BSC (Balancing and Settlement Code) – Pertains to the electricity wholesale balancing market. Trading parties (participants) in this market may have debts (or be due payments) in respect of trades and/or trading charges incurred. Credit/collateral arrangements under the BSC ensure that, should a trading party default, there is liquid collateral to pay defaulted debts.
2. CUSC (Connection and Use of System Code) - This is the contractual framework for connection to and use of National Grid's high voltage transmission system. Within this code are outlined:

   - Procedures to cover unsecured losses from non-payment of transmission use (TNUoS) and balancing (BSUoS) charges, and the means to recover funds from the termination of a party's participation in CUSC.
   - Credit parameters to recover costs of stranded investments.

3. Contract for Difference (CfD) Credit Parameters. This policy ensures collateral for 21 calendar days of supplier levy payments, to ensure the CfD counterparty has working capital to pay generators in the event of non-payment of charges under the supplier obligation. The policy also:
   - Ensures a reserve fund to cover levy forecasting errors, and daily mismatches between amounts collected from suppliers and payments made to generators.
   - Implements an insolvency reserve fund to provide funds in the event of supplier insolvency in circumstances where the supplier's collateral has been exhausted and mutualisation amounts are yet to be received from non-defaulting suppliers.
4. Capacity Market Credit Parameters - cover the risk of the Capacity Market Settlement Agency not having working capital to pay generators under the supplier obligation.
5. Smart Energy Code (SEC) Credit parameters - to cover charges levied by the DCC and estimated charges during the invoice settlement period.

With regard to the promotion of competition, it was noted that, under current arrangements, the large vertically integrated (VI) suppliers have a number of advantages that allow them to reduce the costs of posting collateral, even if the volumes posted are relatively high compared to other market participants.

These include:

- a strong credit rating, which allows the large VI suppliers to avoid posting cash or letters of credit where frameworks allow (such as in transmission and distribution frameworks)
- this advantage also allows the large VI suppliers to raise such instruments at a cheaper cost, even where they are obligated to post such instruments (such as under the BSC and UNC balancing frameworks)
- a strong credit rating is also capable of being leveraged to support trading activity at longer dated maturities than other, less financially secure counterparties. Large VI suppliers have the ability to collateralise trades through the strength of their own balance sheets
- a greater degree of scale, skill, resources, and technological capability to reduce their exposure to costs under balancing frameworks, including the ability to net exposures
- an ability to spread costs of collateral across a wider customer base—including SME and I&C gas and electricity suppliers—maximising their scale to enhance and embed their competitive position.

DECC is currently considering the results of the Cornwall Energy Report, however, no developments, actions or proposed modifications have currently been reported. The reason behind this is the fact that, ultimately, this forms a part of the ongoing CMA investigation (the findings of the Cornwall Energy Report are likely to be considered within this context). Any proposed modifications to credit arrangements in the DCUSA (which can be raised by any relevant party at any time) are unlikely to be raised before the CMA publishes its recommendations.

3 New Zealand approach

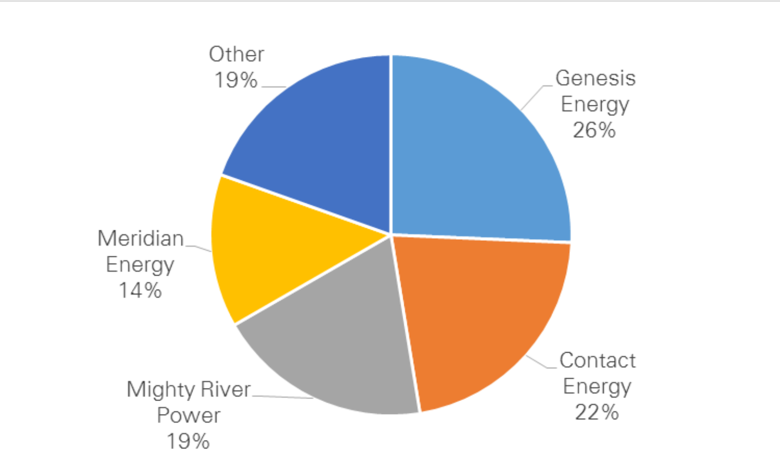
3.1 Approach in the electricity sector

3.1.1 Overview of market

The structure of the New Zealand electricity retail market is very similar to Australia. The retail market is dominated by four vertically integrated retailers that also dominate the generation market.

The top four retailers are Genesis Energy (524,127 connections), Contact Energy (443,915 connections), Mighty River Power (393,109 connections) and Meridian Energy (280,290 connections) which collectively have 80 per cent of customer connections (as at March 2015). Small retailers are starting to enter the market and compete.

Figure 5: New Zealand electricity market share at March 2015



Source: New Zealand Electricity Authority

Switching rates have remained high since 2011 with 1.5 per cent to 2 per cent of customers switching every month during 2014. More than 384,000 consumers switched during 2014.[12]

There are a total of 29 distribution businesses in New Zealand. There is a considerable variation in the characteristics of the various systems, which range in size from 4,000 to over 500,000 customers and in customer density from 3 to 29 connections/km.

Of those businesses, 17 are subject to a light-handed form of price and quality regulation administered by the Commerce Commission. "Light-handed" means that the businesses are not subject to a full building block revenue determination process.

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[12] New Zealand Electricity Authority, Electricity Market Performance 2014 Year in Review, p. 17

Under this default/customised price-quality path, the Commerce Commission sets a general maximum allowed price path and the minimum standards for all 17 distribution businesses. The business may incur penalties for breaches of price-quality paths following an assessment by the Commission on the reasons for the breach. Individual distributors have the opportunity during the regulatory period to apply to the Commission for an alternative or 'customised' price-quality path to better meet the particular circumstances of the individual supplier.

The remaining 12 electricity distributors across the country are exempt from default/ customised price-quality regulation as they meet the 'consumer-owned' exemption criteria under the *New Zealand Commerce Act*.

KPMG understands that any retailer which meets the terms of the distributor’s conditions of supply (which must be reasonable) shall have access to all of the distributor’s services on the same or equivalent terms as have been offered to any other retailer. Therefore the distributor can only refuse access to a retailer on financial considerations if the retailer fails to meet the credit support arrangements.

3.1.2 Credit support arrangements

The framework for distributor-retailer credit support is set out in the Electricity Industry Participation Code which is regulated by the New Zealand Electricity Authority. Distributors must comply with the Code when developing their Use of System Agreements with retailers.

On 28 October 2011, the Electricity Authority (Authority) amended the Electricity Industry Participation Code 2010 (Code) to introduce a number of measures to provide for ‘more standardisation’ of distribution arrangements.[13] These Code amendments sought to improve competition and choice for end-use customers by standardising aspects of distributor Use of System Agreements and tariff structures, and reduce retailers’ transaction costs. The Code amendments also address situations where particular approaches discourage retailer entry to, and expansion on, distributors’ networks.

As part of these amendments, the Authority significantly changed the credit support arrangements between distributors and retailers. The Authority made two key changes:

a) to establish BBB- as the minimum acceptable credit rating, and
b) to limit prudential security to a maximum of two weeks’ charges, instead of two months.

On both of these issues, the Authority faced strong opposition from distributors. The reasons for this opposition were mainly based around the increased level of risk distributors considered they would be open to, due to the length of the billing cycle and an inability to materially influence this risk.

Some of the large retailers also expressed reservations about these changes. TrustPower expressed the greatest concerns on the grounds that it felt that lowering prudential security

[13] New Zealand Electricity Authority – More standardisation in distribution use of system agreements – overview 27 October 2011 These amendments meet the Authority’s obligations under sections 42(2)(e) and 42(2)(f) of the Electricity Industry Act 2010.

requirements may make it more likely that new-entrant retailers would go into default, with adverse consequences to it (as a potential 'retailer of last resort') and the market as a whole.[14]

In making these changes, the Authority considered that the previous arrangements of requiring security of two months' charges or adequate credit rating was acting as a barrier to entry in the retail market. The Authority noted that:

- Only the large, incumbent retailers are able to satisfy the credit support requirement through the credit rating option.
- A two month security requirement effectively results in retailers having to fund up to three months of cashflow as customers pay monthly in arrears. Small retailers argued that this constrained their ability to grow their business.
- Other retailers have been able to satisfy the prudential security requirements via accessing bank guarantees in the form of a letter of credit - the cost of this facility varies according to the retailer. The Authority found that the effective cost to independent retailers of this option can be greater than 3 per cent, whereas the cost for retailers that have a substantial parent company can be in the order of 1 per cent.
- Two week's security was appropriate given the likelihood of retailer default and the magnitude of retailer liability under the monthly billing cycle.

While a monthly billing cycle effectively equates to two months' settlement risk, the Authority did not consider it appropriate for retailers to provide full protection of two months' non-payment. This is because of the low probability of default and that the impact to the annual revenue would be relatively small. The Authority based this analysis for two weeks on the probability and impact of small new entrant retailers' default. This is because large incumbent retailers meet the requirement through credit rating and are therefore unlikely to provide security.

The Authority also decided that, while reducing the security requirement to two weeks could increase costs for consumers through higher line charges, such increases would be offset by the benefits of lower retailer costs and improved retail competition.

Since this change in arrangements, there has been a steady increase in the number of new retailers entering the New Zealand electricity market. In 2014 alone, 7 new retailers entered bringing the total number of retailers to 27.

It is impossible to confirm whether the loosening of the credit support arrangements is a primary driver in this trend. The New Zealand Electricity Authority considers that the increase in new entrant retailers reflects a package of reforms introduced in 2011 focussing on reducing barriers to entry for potential retailers.

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[14] New Zealand Electricity Authority Consultation Paper: Standardisation: Model Use of System Agreements and Proposed Code Amendments – 11 August 2011

In addition to the credit support changes, the Authority has adopted initiatives that reduce wholesale market risks for retailers and make it easier for them to manage the remaining risks. The Authority also altered customer switching rules recently so that retailers can be confident that they are competing on a level 'playing field'.

3.1.3 How credit support is determined

Under Parts 12A.4 and 12A.5 of the Code:

- The distributor has the choice whether to require the retailer to comply with the credit support requirements (referred to as prudential requirements).
- The retailer must either:
  - maintain an acceptable credit rating of at least BBB- (Standard & Poors) or equivalent and not be subject to a negative credit watch; or
  - maintain an acceptable security. The retailer has the following choices:
    - cash deposit
    - arranging for a third party with an acceptable credit rating to provide the security
    - a combination of those two options.
- The value of acceptable security must be the distributor's reasonable estimate of the retailer charges in respect of any period of not more than two weeks. Distributors bill retailers on a monthly basis.
- If the retailer provides a cash deposit, the distributor must pay interest earned in respect of the cash deposit to the trader on a quarterly basis, net of account fees and any amounts that are required to be withheld by law.
- A distributor and a retailer may agree prudential requirements that are less onerous on the retailer than the requirements of the Code.
- A distributor may require additional security for those retailers that do not maintain an acceptable credit rating. Such additional security must be such that the total level of security provided be no more than two months' line function services charges.
- The distributor must pay a financing charge to the trader in respect of the additional security. That financing charge is set quite high in the Code. For example, if the retailer provides additional security in the form of a cash deposit, the distributor must pay a charge of the bank bill yield rate plus 15 per cent (i.e. if the bank rate was 2 per cent, the financing charge would be 17 per cent). The Authority determined the level of the financing charges

to reflect the funding costs of a new entrant retailer and thus reflect an appropriate level of compensation.[15]

3.1.4 Other issues

Estimated costs of credit support on retailers

As part of its decision to change the credit support arrangements, the Authority conducted a cost benefit analysis on a range of options.[16] This analysis included developing estimates of the costs on retailers, especially new entrants, of providing credit support to the distributors. In its analysis, the Authority stated:

- New entrant retailers have indicated that if a bank is willing to lend money to cover prudential security requirements the funding cost can be significant – in the order of 15% to 20%
- Other retailers have been able to satisfy the prudential security requirements via accessing bank guarantees in the form of a letter of credit. It appears that the cost of this facility varies according to the retailer. Therefore, the effective cost to independent retailers can be greater than 3%, whereas the cost for retailers who have a substantial parent company can be in the order of 1%.
- Reducing the security requirements from 2 months to 2 weeks could save a retailer up to $14 per customer per year if the retailer is funding the credit support via a bank loan or shareholder equity at the cost of 17.5%. If the retailer is providing security through a bank guarantee at a cost of 3% the savings are $2.50 per customer per year.[17]
- It is expected that such a reduction in retailers' cost-to-serve will be passed through to customers over time; particularly if retail competition is relatively strong.

Application of the credit support in a Retailer Failure Event

Since the establishment of the market in 1998, there has been one instance of significant financial distress for an electricity retailer – that of NGC in 2001. NGC's financial distress arose because it was a retailer with a substantial net purchase exposure to the spot market.

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[15] New Zealand Electricity Authority, Consultation Paper – Standardisation: Clarifications to prudential proposal and proposed changes to distributor indemnity proposal – 3 October 2011. New Entrant Retailers argued that a bank would charge 15% premium to fund a cash deposit because many new entrants would not have significant tangible assets against which a loan can be secured.

[16] New Zealand Electricity Authority Consultation Paper: Standardisation: Model Use of System Agreements and Proposed Code Amendments – 11 August 2011

[17] Such a level has been based on discussions with independent retailers, and also analysis of general lending rates by banks to businesses for unsecured loans – given that many independent retailers will not have significant tangible assets against which a loan can be secured.

However, even in that situation, NGC did not default on its obligations as its parent company honoured its debt to distributors. It was not considered at that time, that this event required amendments to the credit support arrangements.

Ability to recover loss revenue from a retailer default

Distributors in New Zealand are subject to two different forms of regulation regarding prices.

Some distributors are exempt from the price-quality regulation under Part 4 of the *Commerce Act*. These distributors have no explicit constraint on their ability to recover the costs of retailer default by increasing network charges. If a distributor is exempt from price-quality regulation, the distributor is able to recover the cost of retailer default either in the form of specific increases in subsequent year(s) following a retailer's default or, alternatively, including a cost to cover the anticipated loss in charges each year in order to recover the average expected level of default.

For those distributors subject to the Commerce Commission's default/customised price-quality regulatory regime, their ability to recover the costs of retailer bad debt will be determined by the operation of the regime. Two aspects of the 'mechanics' of the Commerce Commission's regime will determine the extent to which distributors are able to account for the cost of retailer bad debt.

First, distributors are allowed to earn a return that reflects the risk of doing business. Bad debt is a "normal" cost of doing business for almost all companies and is one of the risks they face. The Weighted Average Cost of Capital WACC set by the Commerce Commission assumes that distributors will face some level of risk, and compensates them for that risk (through its decision on the asset Beta).[18]

Secondly, the regime has the potential for distributors experiencing extreme levels of bad debt to receive revenue adjustments in the future to reflect the higher level of risk. Distributors are free to apply for a customised price path during a price control period, for example, to cover higher levels of opex arising from increased bad debts. It will be up to the Commerce Commission to consider whether higher prices are justified in the case of a retailer default.

3.2 Approach in the gas sector

3.2.1 Overview of the market

The retail gas market in New Zealand is relatively small with a total of 270,000 connections and is confined to the North Island. The market accounts for 20 per cent of total gas consumption in New Zealand, with the majority of gas being consumed by electricity generation and the

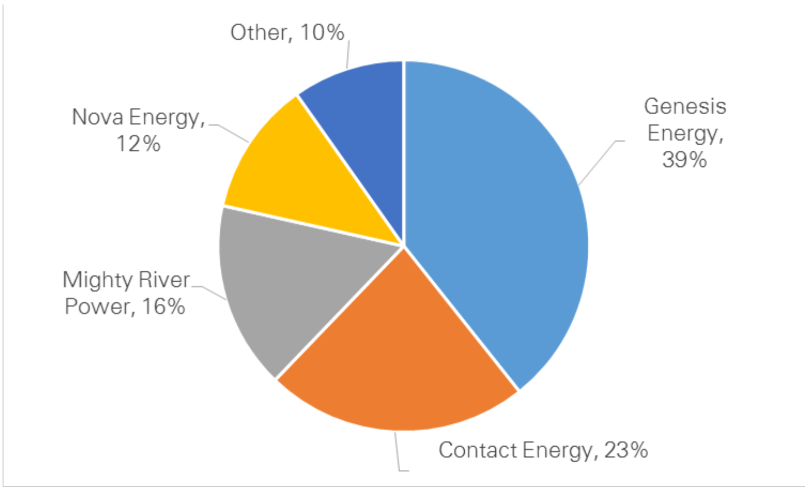
[18] The asset beta reflects the systematic risk (exposure to market-wide factors) faced by comparable companies (predominantly overseas companies). The New Zealand Electricity Authority considered that some level of the risk of bad debt will be related to market-wide factors and therefore will be reflected in the beta.

petrochemical industries. The retail gas market continues to grow, with around 14,000 new consumers in the past five years.

In January 2015, the biggest four retailers accounted for 90 per cent of customer connections. Competition has increased in recent years as new retailers enter the market and smaller retailers increase their market share. There are now 10 retailers active in the market across various locations and over 99 per cent of gas consumers have a choice of seven or more retailers. Customer switching between retailers has increased markedly to 18.8 per cent of customers switching per year.[19]

Figure 2 shows retailers' market share by active customer connection points as at January 2015. Genesis Energy is the largest retailer by customer numbers, supplying gas to 104,748 ICPs, followed by Contact (60,982), Mighty River Power (43,330), and Nova (31,259).

Figure 6: New Zealand gas retailer market share by ICPs for 2014



Source: New Zealand Gas Story, Gas Industry Co, March 2015, P. 120

There are three open access gas distribution service providers serving the retail market with multiple networks across the North Island of New Zealand:

1. Vector has six distinct distribution networks throughout the North Island. Vector is the largest distributor supplying 66 per cent of gas and has a total of 156,952 connections across its six networks.
2. Powerco is the second largest distributor, with five networks in the lower half of the North Island. It accounts for 27 per cent of gas conveyed and has a total of 102,794 connections.
3. GasNet, a subsidiary of Wanganui Gas, covering the Wanganui and Rangitikei regions, has a total of 10,229 connections.

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[19] New Zealand Gas Industry Co: The New Zealand Gas Story – State and Performance of Gas Industry – March 2015.

KPMG understands that any retailer which meets the terms of the distributor's conditions of supply (which must be reasonable) shall have access to all of the distributor's services on the same or equivalent terms as have been offered to any other retailer. Therefore the distributor can only refuse access to a retailer on financial considerations if the retailer fails to meet the credit support arrangements.

3.2.2 Credit support arrangements

The regulation of the access terms and prices to the three distribution networks is through a mixture of regulatory and industry bodies. This co-regulatory model, in which gas industry governance arrangements are developed in a partnership between industry and the Government, is unique in New Zealand.[20]

An industry body –the Gas Industry Company (GIC) - has been established under legislation and has a number of statutory functions. GIC works with the industry and government to find solutions - both voluntary and regulatory - to meet government objectives for the gas sector. Essentially, the industry is given the opportunity to develop industry practices, with a back-up of the force of law through regulation and the ability of the Minister to step in to counter any hold-out behaviour, or an inability of participants to reach an appropriate, workable arrangement.

Distributors require retailers to meet prudential requirements in order to use distribution networks. The arrangements for distributor-retailer credit support are set out in the distributors' Use of System Agreement with the retailers. The terms and conditions of these agreements are determined by the distributor through commercial negotiation with the retailers and are not subject to approval by the GIC.

GIC has stated that it considers that prudential requirements are commercial matters between the parties and that it does not have the ability to make regulations to manage distributor related risks that may arise from retailer insolvency.[21]

While GIC did not mandate minimum or maximum levels of prudential requirements, in 2012 it introduced a voluntary scheme based upon a set of common principles for distribution Use of System agreements for the networks to comply. These principles are set at a high level and do not explicitly define the approach to credit support but provide some direction to the distributors.

In developing industry best practices on distribution access terms, GIC had regard to the government objectives which include:

- Gas industry participants are able to access distribution pipelines and related services on reasonable terms and conditions.
- Consistent standards and protocols apply to the operations relating to access to all distribution pipelines.

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[20] It mirrors a co-regulatory governance model that previously applied in NSW.

[21] Gas Industry Co – Insolvent Retailers Options Paper – Analysis of Submissions – 5 March 2013, p. 18

- Barriers to competition are minimised.

While the credit support approaches remain a commercial matter for the distributors, the GIC principles and the government objectives provide some discipline and direction on how the distributors should develop their credit support regimes.

Separate to the role of the GIC, the New Zealand Commerce Commission regulates the price and quality of the three distribution networks. The Commerce Commission has determined that regulation is necessary given that these networks face no competition. The Commerce Commission sets a default price-quality path for each network. Each path specifies maximum price or revenue, and minimum quality standards with which each network must comply during the regulatory period. The current period runs from 1 July 2013 to 30 September 2017.[22]

3.2.3 How credit support is determined

The principles underlying the design of the credit support approach are similar across the three distributors, with the credit support requirements dependent on the creditworthiness of the retailer.

Under the distributors' UoS agreements, retailers:

- must either maintain an acceptable credit rating or
- provide credit support of up to two or three months of estimated network charges payable by that retailer.

Vector and GasNet define an acceptable credit rating as being a BBB- rating, while Powerco does not explicitly define what it considers to be an acceptable rating.

Retailers are invoiced for gas distributor charges on a monthly billing cycle, and have 20 working days from the end of the month to settle. Therefore, it is considered that two or three months of credit provides sufficient buffer to protect the distributor from the loss of revenue due to a retailer default.

Details of the credit support arrangement for each distributor is set out in Table 4.

Table 4: Credit support arrangement for New Zealand gas distributor

Distributor	Credit Support Arrangements
Vector[23]	• Retailer must either maintain an acceptable credit rating or provide acceptable security. • Acceptable credit rating means that the retailer or a third party on the retailer's behalf has a long term credit rating of BBB-. In addition, the retailer must not be subject to a negative watch by the agency providing the credit rating. • Acceptable security must either be:

[22] New Zealand Commerce Commission, Setting Default Price-Quality Paths for Suppliers of Gas Pipeline Services 28 February 2013

[23] See - http://vector.co.nz/disclosures/gas/prescribed-terms-and-conditions-of-contracts

Distributor	Credit Support Arrangements
	◦ Unconditional guarantee from a third party with an acceptable credit rating for an reasonable estimate of charges of two or three months of highest gas usage ◦ Unconditional performance bond or bank guarantee for a reasonable estimate of charges of two or three months of highest gas usage ◦ Any other form of security acceptable to Vector ◦ If Vector requests, an enforceable security in relation to the retailer's consumer contracts. • The Distributor may review, or the Retailer may require the Distributor to review, the value of security required to be provided at any time.
Powerco[24]	• The same arrangements as Vector except for the definitions of acceptable credit rating and acceptable security in addition to the procedures for reviewing the level of support provided. • Powerco Agreement does not define either what it considers to be an acceptable credit rating or acceptable security. • Poweco will not initiate a review of the Acceptable Security Amount more than once in any 12 month period, except where the total number of retailer connections has increased by more than 20 per cent since that amount was last reviewed or determined.
GasNet[25]	• The same arrangements as Vector except for the definition of acceptable security. • If the retailer does not maintain an acceptable credit rating of at least BBB-, it needs to provide security equal to a reasonable estimate of the Network Service Charges that the Retailer is likely to be required to pay in respect of any two month period. Security must either be: ◦ cash deposit subject to conditions, or ◦ any other form of security acceptable to GasNet. • If an Insolvency Event occurs in relation to the Retailer, the Agreement states that the ownership right of the cash deposit will be transferred to GasNet if the retailer fails to pay.

3.2.4 Other issues

Application of the credit support in a Retailer Failure Event

On 18 October 2010, the gas retailer, E-Gas, went into liquidation. E-Gas was mostly based in the Wellington area and, at the time, its market share was approximately 3 per cent of all gas customers (7000 customers). E-Gas tended to focus on gaining its customers from the small to

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24 http://www.powerco.co.nz/uploaded_files/Publications-and-Disclosures/New/For-Retailers/Powerco-Gas-Use-of-System-Agreement-Blank-Template-Dec-2013.pdf

25 See: www.gasnet.co.nz/assets/Draft-GasNet-UoSA-20140129-Clean-version.pdf

medium sector of the commercial and industrial market and its customers comprised 9 per cent by volumes.

The situation was resolved under normal insolvency arrangements as the liquidator was able to sell the E-Gas customer base.[26] The liquidator was also able to agree terms with the various counterparties (distributors, transmission owners, and the gas producer) that allowed the company to continue to trade pending a sale of the customer base. This agreement provided protection for the liquidator, and provided the confidence needed to attempt a sale process to achieve an orderly transfer of the E-Gas customers.

At that time, it was considered that terms of the distributors' Use of System Agreement provide a reasonable level of protection for gas distributors when a counterparty retailer becomes insolvent.[27]

In a report to GIC assessing the impacts of a retailer insolvency, Castalia Strategic Advisors commented that:

> *The prudential requirements that are posted by retailers without investment grade credit ratings provide an important form of protection for gas distributors. Having two to three months of prudential requirements allows distributors to identify any risk of payment default, provide notice of appropriate action (such as disconnecting customers), and then take action as necessary.*

It is also recognised by the industry that the credit support arrangements do not insulate distributors from any impact of a retailer insolvency. This is because gas distributors are unsecured creditors, and therefore the funds simply may not be available on liquidation. However, it is considered that this risk under the normal insolvency arrangements provides some incentive for the distributor to actively monitor and manage their counterparty risk. Distributors will also have the incentive to use the available legal means in order to limit the period of default and, thereby, cap their respective exposures.

After the E-Gas insolvency, gas distributors and transmission system owners appear to have placed a renewed focus on ensuring that sufficient prudential requirements are maintained, and that appropriate measures are available to deal with retailer payment default or late payment. This includes clarifying their ability to access the provided security during any insolvency events in their Use of System Agreements.

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[26] Government implemented temporary backstop regulations (the Gas Governance (Insolvent Retailers) Regulations 2010), which would have transferred the E-Gas customers to other retailers had a sale not occurred. At the time E-Gas became insolvent, the government felt urgent regulations were necessary to meet the objectives of protecting consumers and/or managing the liabilities of other retailers in the event the liquidator was unable to sell the E-Gas customer base. In any event, those Regulations were not required to be implemented as the liquidator was able to complete a sale process.

[27] Gas Industry Company – Insolvent Retailers worksstream: Castalia Strategic Advisors Report p. 28. 22 June 2012

Interaction with other regulatory mechanisms

Use of System Agreements also enables gas distributors to disconnect unallocated customers. This provides the basis for gas distributors to credibly threaten to disconnect customers if they are unwilling to change supplier after their retailer has ceased trading. This is an extreme option but can act to cap a distributor's exposure to a retailer insolvency.

It is unclear whether the distributors are able to recover the lost revenue through their use of system charges. If a distributor increased its price to recover lost revenue, this could trigger a breach of its default price path as set by the Commerce Commission. In this situation, the Commerce Commission will investigate the causes of the breach and determine whether it was appropriate.

There is currently no formal retailer of last resort mechanism to address a gas retailer insolvency event. At the time of the E-Gas failure, the New Zealand Government introduced emergency legislation to facilitate customer transfers.[28] However, those regulations were revoked in 2011 because the Government accepted the advice from the industry that a permanent regulatory mechanism was not needed.

It is recognised by the Government and the GIC that, in most cases, the normal insolvency arrangements could be relied upon to manage a gas retailer insolvency. However, both parties accept that a market failure could occur in limited situations. To manage this rare risk, GIC prepared a set of drafting instructions to facilitate transfers that could be quickly tailored to an insolvency situation and implemented urgently if required.[29]

[28] Gas Governance (Insolvent Retailers) Regulations 2010

[29] Gas Industry Company: Draft Decision Paper – Framework for gas retailer insolvency arrangements, 15 October 2014.

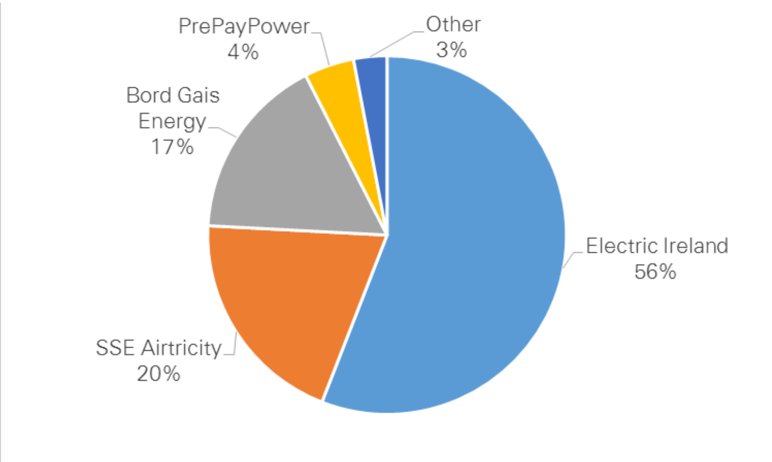
4 Ireland approach

4.1 Approach in the electricity sector

4.1.1 Overview of market

There has been full retail competition since 2005 with price deregulation occurring in October 2010 for business customers, followed by the residential market in April 2011. There are seven active suppliers in the electricity retail business and residential markets. Figure 7 shows that 97% of the market share is with four retailers, with Electric Ireland being the most dominant retailer with 56% market share.

Figure 7: Irish electricity market share by MWhs



Source: CER 15/019 Electricity & Gas Retail Markets Report Q3 2014

There is a distribution network, Electricity Supply Board Network (ESB), which is regulated by the Commission for Energy Regulation (CER).

4.1.2 Credit support arrangements

The rules for credit support between ESB and retailers are set out in the distributor's Use of System Agreement.

The current Use of System Agreement is approved by the CER and the current version was approved on 30 January 2008.[30]

[30]ESB – Distribution Use of System Agreement – Framework Agreement
http://www.cer.ie/docs/000338/cer08204.pdf

The current credit support arrangements was last amended by the CER in 2002. At that time, the CER was of the opinion that the security cover provisions in the existing agreement were particularly onerous to suppliers entering and expanding within the market. However, the Commission was also of the opinion that ESB should not be exposed to the entire value of Distribution Use of System payment (DUoS) owed by suppliers in the event of dispute.

The Commission therefore advised ESB-distribution that the security cover should be reduced from three months to two months' cover. However, additional provisions could be put in place, to provide cover in the event of a dispute.

The CER also included a mechanism for the credit support to be revised in the event where the risks of default has increased. The agreement states that, if the level of debt exceeds the existing cover by more than 10 per cent, the ESB would seek additional security to cover the full amount of indebtedness. CER recognised that there are a number of advantages with this approach:[31]

a) would reward retailers who pay promptly by keeping their level of cover to the minimum necessary;

b) ensures that the level of security covers the actual exposure of ESB to a retailer default; and

c) provides an incentive for ESB to monitor the level of debt.

KPMG note this clause may not prove to be effective in the scenario of when the retailer is in serious financial difficulties as the retailer may not be able to provide the additional security.

4.1.3 How credit support is determined

Under ESB's Distribution Use of System Agreement, a retailer must either:

- maintain an approved credit rating of not less than A+ rating; or
- provide either a letter of credit or a cash deposit[32].

The letter of credit must be by a bank with a long-term credit rating of at least AA (Standard and Poor) or AA2 (Moody's) or equivalent. The agreement states that AA minus rating will not suffice.

The required security is based upon the retailer's use of system charges over a two month period.

The credit support can be revised if at the end of any month the amount invoiced to the retailer plus any existing unpaid invoices, including any amount in dispute, exceeds the existing amount of Security.

[31] CER– Explanatory Note on Security Cover for ESB Distribution Use of System Agreement 2002 http://www.cer.ie/docs/000338/cer0225.pdf

[32] The Company may at its sole discretion accept an alternative form of security.

The required cover can be revised. The principle here is to monitor the level of debt and to seek an increase in cover when the level of debt exceeds the existing cover by more than 10 per cent. The threshold avoids excessive administration by suppliers and DSO.

In the case of cover by 10 per cent or more, the company shall notify the user of the recalculated amount of security cover in writing, whereupon the user shall ensure that ESB receives the necessary additional security cover within 10 business days.

If the retailer has an approved credit rating, it must immediately notify ESB if it is placed on credit watch or its credit rating changes.

It is not clear why the distributor requires that the minimum credit rating for the party providing a letter of credit is higher than the threshold for an approved credit rating for a retailer.

4.1.4 Other issues

Application of the credit support in a Retailer Failure Event

No retailer has defaulted since full retail competition.

Ability to pass through retailer default costs onto customers

The ESB distribution revenue determination includes the provision for pass-through of uncertain costs. The definition of uncertain costs is quite broad and the CER will assess each application on each individual merit. The CER has stated that ESB should provide evidence that it has attempted to minimise such costs through negotiation wherever possible.

ESB, therefore, will be required to provide a detailed justification of this expenditure and to have demonstrated that it has taken reasonable steps to minimise the impact as part of the annual review process.

4.2 Approach in the gas sector

4.2.1 Overview of market

There are six active suppliers in the gas retail business and domestic markets.

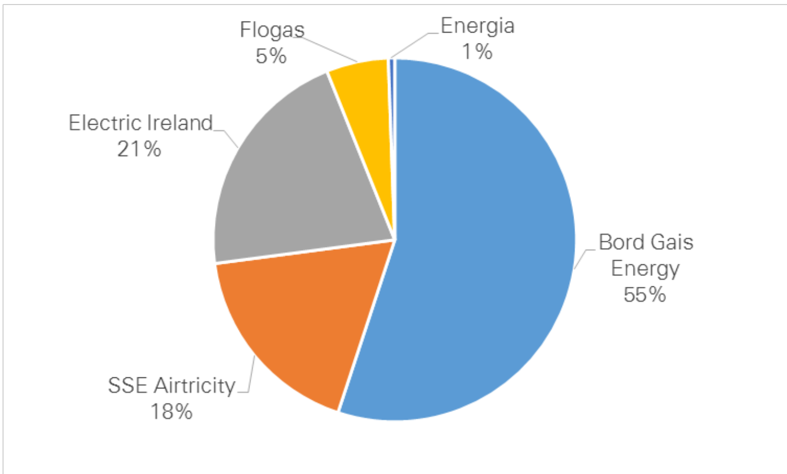
The natural gas retail market has been open to full competition since 1st July 2007. Competition began in 2004 with three suppliers competing for the larger industrial and commercial customers. Since that time, through active consultation with industry participants and the development of new market processes, the number of suppliers has increased with competition increasing in all sectors of the retail market. This has, in part, been enabled due to the ease with which customers can switch supplier. All natural gas customers have been eligible to switch supplier since July 2007.

Full market liberalisation took place on 1st July 2007 following the implementation of the necessary legislation. All sectors of the natural gas retail market are currently deregulated except the residential supply market. There are a number of licensed suppliers in the market competing at all levels in the market. Competition in the residential gas supply market, however, has not reached a level at this point in time where the CER considers it appropriate to deregulate. The CER continues to regulate the end user prices charged by Bord Gáis Energy to residential customers in order to ensure customers receive value for money and efficient services.

Gaslink is the Transmission System Operator (TSO) and Distribution System Operator (DSO) for Ireland and, as such, are responsible for operating, maintaining and developing Ireland's natural gas transmission and distribution systems. Gaslink is responsible for the commercial and legal framework governing access to, operation and development of the gas market and includes Third Party Access, Transportation Services, Connection Policy and Financial Security Arrangements.[33]

The CER sets the tariffs for access to and use of the gas distribution system and transmission system.

Figure 8: Irish gas market share by GWhs in 2014



Source: CER 15/019 Electricity & Gas Retail Markets Report Q3 2014

4.2.2 Credit support arrangements

The credit support arrangements are outlined in Gaslink's Financial Security Policy which is a supporting document to its Code of Operations. The Code of Operations governs the relationship between Gaslink and shippers or retailers regarding the transportation of gas on both the Irish transmission and distribution networks.

[33] Gaslink was established under legislation as an independent subsidiary of Bord Gáis Éireann (BGÉ) to fulfil the requirements of EU Directives relating to the development of the natural gas market. On behalf of Gaslink, Bord Gáis Networks (BGN) constructs, extends and manages the day to day operation of the natural gas network in Ireland.

The regulator, CER, approves both Gaslink's Code of Operations and its Financial Security Policy. The Financial Security Policy was first implemented in March 2005 to support the opening up of the gas market, and the credit support arrangements have remained the same since that time.

The credit support arrangements apply to both the gas transmission and distribution networks.

Under the arrangements, new entrant retailers face a higher security requirement. The arrangements define a new entrant as a retailer which does not have six months of continuous charges paid. Under the arrangements, the commodity cover proportion of the required credit calculation is multiplied by a default rate of 115 per cent for a new entrant. This may be stricter and thus less amenable for new entry. Other conditions are identical for new entrants and existing parties.

4.2.3 How credit support is determined

The approach to credit support in the Irish Gas market differs from the approach in the electricity market.

- The retailer (or shipper) is exempt from having to provide credit support if it has an approved credit rating.
- The definition of an approved credit rating is BBB or higher by S&P and/or BBB or higher by Fitch and/or Baa2 or higher by Moody's.
- If a retailer has an Approved Credit Rating and such credit rating is subsequently downgraded to less than the Approved Credit Rating or is withdrawn, the retailer must immediately notify Gaslink.
- When a retailer has less than an approved credit rating or no credit rating, it must provide and maintain Security Cover in respect of the Financial Security Amount in one or more of the following forms:
    a) Letter of credit issued by a bank with long-term unguaranteed unsubordinated debt rated at least AA by S&P and/or AA2 by Moody's and/or AA by Fitch
    b) Charged Account (meaning an interest bearing deposit account with a bank that satisfies specific criteria)
    c) Cash deposit option
    d) Qualifying guarantee in favour of Gaslink by an entity with an Approved Credit Rating.
- The retailer has the choice of which of these options to provide as long as the security cover meets the conditions of Gaslink's Financial Security Policy

- Financial Security Amount is based on 72 calendar days' worth of network charges[34] for both the transmission and distribution networks.
- Seventy-two days is more than the potential total liability for the network in the event of default. Retailers are invoiced monthly and Gaslink must issue the invoice within five businesses days. Retailers then have 12 days to pay. KPMG understands that extra security is due to the potential for extra payments levied on the retailer at the end of the year for deviations between forecast and actual volumes.[35]
- The amount of security provided may be reviewed on a monthly basis and in any event will be reviewed annually to account for changes to network charges.

4.2.4 Other issues

Application of the credit support in a Retailer Failure Event

No retailer has defaulted since full retail competition.

Ability to pass through retailer default costs onto customers

This is the same as in the electricity sector.

The definition of uncertain costs is quite broad and the CER will assess each application on individual merit. The CER has stated that Gaslink should provide evidence that it has attempted to minimise such costs through negotiation, wherever possible.

Gaslink therefore, will be required to provide a detailed justification of this expenditure and to have demonstrated that it has taken reasonable steps to minimise their impact as part of the annual review process.

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[34] Capacity Charges, Commodity Charges and VAT as appropriate

[35] Gaslink, Code of Operations, Part I

5 Alberta, Canada approach

5.1 Approach in the electricity sector

5.1.1 Overview of market

Alberta's retail electricity market opened to competition in 2001. Prior to this, consumers purchased their power from one of three large vertically integrated utilities (TransAlta, Epcor and Atco) or from their local rural electrification association (REA) or municipality.

Since 2001, Albertans have been free to choose from which company they wish to buy their electricity. If they select a retail electricity provider, they enter into a retail service agreement (contract) that specifies the price they pay and the services they receive. Residential customers, farm customers and small commercial and industrial customers who prefer not to choose a provider are eligible to remain on a default rate (the Regulated Rate Option, or RRO) if they use less than 250,000 kilowatt hours of electricity per year. Regulated retailers set their rate using a formula approved by the Alberta Utilities Commission whereas a competitive retailer sets their rate independently.

As at September 2014, 14 retail electricity providers sell power to 1.7 million sites in Alberta. These include:

- 1.36 million residential (79 per cent of the total sites)
- 106,755 agricultural (6 per cent)
- 182,599 small commercial and industrial (11 per cent)
- 16,897 large commercial and industrial (1 per cent)

Regulated Rate Providers

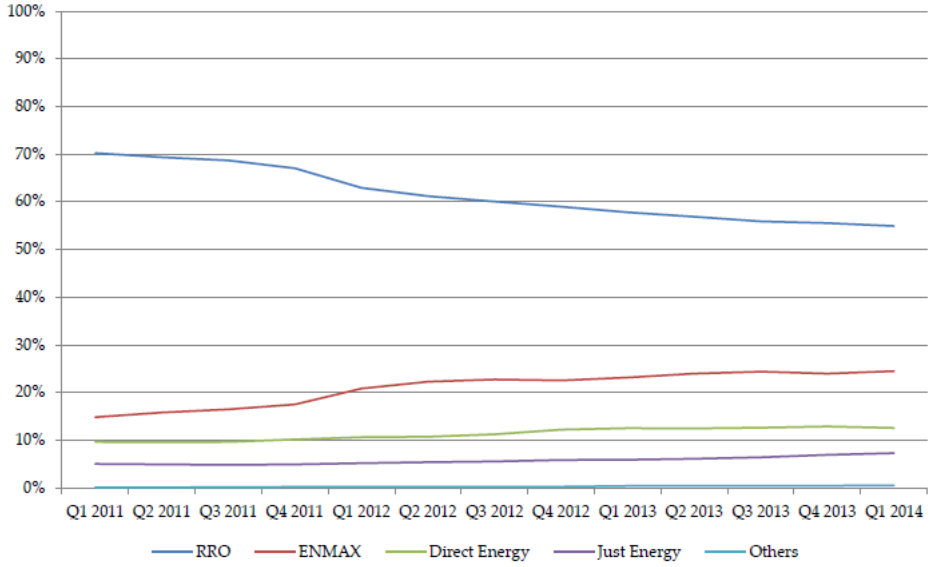
By default, Albertans who have not chosen a retailer automatically buy power and receive service from the regulated rate provider designated for their region of the province. The price offered by default or regulated rate providers is called the Regulated Rate Option—the RRO.

The service provision and rates of RRO providers are regulated by the Alberta Utilities Commission (AUC), which allows these providers the opportunity to recover all their reasonably incurred costs plus a reasonable profit margin from consumers. The way the regulated rate providers obtain power from the market is specified by the Regulated Rate Option Regulation, and the price they charge their customers is determined by market conditions.

Under the *Electric Utilities Act*, distribution utilities are responsible for providing the RRO to eligible customers in their service territories. Distribution utilities have the option of providing the RRO directly or through a designated agent.

Large customers who use more than 250,000 kilowatt hours of electricity per year are not eligible for the RRO. Large customers who have not signed agreements with retail electricity providers receive electricity from default suppliers at an unregulated rate (AUC 2008). Default suppliers are free to set the rates, terms and conditions for their customers. Under the *Electric Utilities Act*, distribution system owners are responsible for providing service-territory-specific default supply services to large customers who have not signed agreements with retail electricity providers.

Figure 9: Residential electricity market share by consumption, Q1 2011 to Q1 2014



Source: Alberta Market Surveillance Administrator - State of the market 2014

Retail Requirements

Retailers who wish to sell electricity in Alberta must meet a number of requirements:

- They must be licensed by Service Alberta (under the Fair Trading Act) and post a $1 million bond.
- They must abide by a code of conduct set by Service Alberta, which outlines strict rules with regard to issues such as customer confidentiality, fair treatment and the marketing of their retail services.
- They must post security deposits with the Alberta Electric System Operator (to buy electricity from the power pool) and with the Natural Gas Exchange or other brokerages (to purchase financial hedges on their contracts for supply).
- They must post security deposits with each distribution company (for using their wires).

5.1.2 Credit support arrangements

Each retailer is required to satisfy prudential requirements for their exposure to each distribution company. The retailer prudential requirements are specified in the retailer terms and conditions for electric distribution services. These can be found on the AUC website - http://www.auc.ab.ca/utility-sector/rates-and-tariffs/Pages/MonthlyRegulatedRateOptionRates.aspx?AuthoringError=NoUpdatesOnGetReque st Electricity rates and terms and conditions[36].

The prudential requirements outlined in each of the retailer terms and conditions for electric distribution services documents refer to the credit support arrangements defined under the Electric Utilities Act (as administered by the AUC). In particular, Distribution Tariff Regulation, A.R.162/2003[37].

5.1.3 How credit support is determined

A distributor must require a retailer to provide a security deposit before the distributor provides service to the retailer under the distribution tariff. The security deposit must be in an amount equal to the value projected by the retailer of the retailer's payments under the distribution tariff over a period equal to the lesser of:

a) 75 days, or

b) the total of

   i. 20 days, plus

   ii. the number of days between consecutive bills issued by the owner to the retailer, plus

   iii. the number of days from the issuance of a bill by an owner until payment is due from the retailer.

A retailer that provides its credit rating may have the security deposit reduced as follows:

a) by $25 000 000 if the credit rating is AAA- or higher;

b) by $20 000 000 if the credit rating is between AA- and AA+, inclusive;

c) by $15 000 000 if the credit rating is between A- and A+, inclusive;

d) by $10 000 000 if the credit rating is between BBB- and BBB+, inclusive.

The security deposit cannot be reduced to below $0 and must be provided in the form of a financial deposit, a bond, an irrevocable letter of credit or an irrevocable guarantee from a person, other than the retailer, with a credit rating.

5.1.4 Other issues

Application of the credit support in a Retailer Failure Event

No retailer has defaulted since full retail competition.

[36] http://www.auc.ab.ca/utility-sector/rates-and-tariffs/Pages/Electric.aspx

[37] http://www.qp.alberta.ca/1266.cfm?page=2003_162.cfm&leg_type=Regs&isbncln=9780779728817

Ability to pass through retailer default costs onto customers

The distribution tariff regulation does not provide for the distribution company to pass through costs onto customers in the event of a retailer default.

In the event of a retailer default, the distribution company may access the security provided by the retailer under the prudential requirements.

5.2 Approach in the gas sector

5.2.1 Overview of market

Prior to 1985, the price of natural gas was set by agreements between the federal government and the Province of Alberta. With the signing of the Natural Gas Markets and Pricing Agreement on 31stOctober, 1985, a daily spot price for natural gas was set by competitive forces of supply and demand.

Natural gas is transported from the "wellhead" or natural gas processing plant throughout Alberta via a 31,000 kilometre high pressure transmission network owned and operated by ATCO Pipelines and Nova Gas Transmission Limited (NGTL).

In October 2011, ATCO Pipelines and NGTL integrated their commercial operations under one set of rates and services. The integration included an 'asset swap' where both companies exchanged assets to help streamline operations for both companies and for customers. Rates and tariffs on the gas system are regulated by the Alberta Utilities Commission (AUC) primarily under the provisions of the Gas Utilities Act[38] (Alberta) and the Pipeline Act[39] (Alberta).

Natural gas retailers in Alberta purchase natural gas directly from producers or through trading platforms such as the Natural Gas Exchange (NGX) in Alberta, or the New York Mercantile Exchange (NYMEX) in the US, both daily and in the future to sell and bill Albertans.

Since 2004, Albertans may choose to continue receiving their natural gas from a Retailer that is regulated by the AUC, the Regulated Retailer, or they may choose to obtain their energy from a Competitive Retailer. The AUC reviews only the rates charged by Regulated Retailers.

As at September 2014, 13 retail gas retailers sold power to 1.2 million sites in Alberta. These include:

- 1.11 million residential (92 per cent of the total sites)
- two agricultural (0 per cent)
- 89,132 small commercial and industrial (7 per cent)
- 2,262 large commercial and industrial (1 per cent)

[38] http://www.qp.alberta.ca/1266.cfm?page=G05.cfm&leg_type=Acts&isbncln=9780779742615

[39] http://www.qp.alberta.ca/1266.cfm?page=p15.cfm&leg_type=Acts&isbncln=9780779746187

By default, Albertans who have not chosen a retailer automatically buy gas and receive service from the regulated retailer designated for their region of the province. The price offered by default or regulated retailer is called the Regulated Rate Option—the RRO.

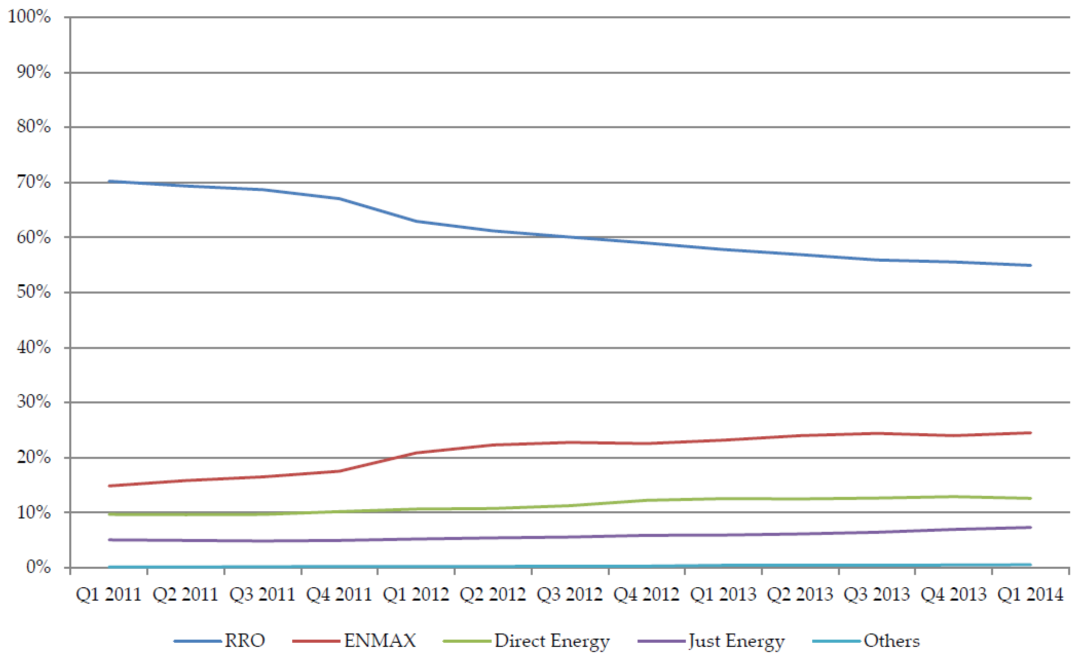
The service provision and rates of RRO providers are regulated by the Alberta Utilities Commission (AUC), which allows these providers the opportunity to recover all their reasonably incurred costs plus a reasonable profit margin from consumers. The way the regulated rate providers obtain gas from the market is specified by the Regulated Rate Option Regulation, and the price they charge their customers is determined by market conditions.

Under the Gas Utilities Act, distribution utilities are responsible for providing the RRO to eligible customers in their service territories. Distribution utilities have the option of providing the RRO directly or through a designated agent.

Large customers who use more than 8,000 GJ of gas per year are not eligible for the RRO. Large customers who have not signed agreements with retail gas providers receive gas from default suppliers at an unregulated rate. Default suppliers are free to set the rates, terms and conditions for their customers. Under the *Gas Utilities Act*, distribution system owners are responsible for providing service-territory-specific default supply services to large customers who have not signed agreements with retail gas providers.

The market shares for residential gas sites in Alberta, as detailed in Figure 10 below, follow a broadly similar pattern to those observed in electricity. The percentage of residential natural gas customers on the default rate is similar to the ratio in electricity, with different proportions of consumers on default-rate contracts across the three distribution zones.

Figure 10: Residential gas market share by consumption, Q1 2011 to Q1 2014



Source: Alberta Market Surveillance Administrator - State of the market 2014

Retail Requirements

Retailers who wish to sell gas in Alberta must meet a number of requirements:

- They must be licensed by Service Alberta (under the Fair Trading Act) and post a $1 million bond.
- They must abide by a code of conduct set by Service Alberta, which outlines strict rules with regard to issues such as customer confidentiality, fair treatment and the marketing of their retail services.
- They must post security deposits with the gas distribution companies.

5.2.2 Credit support arrangements

Each retailer is required to satisfy prudential requirements for their exposure to each distribution company. The retailer prudential requirement is specified in the terms and conditions for distribution access services specified by each distributor. These can be found on the AUC website - Natural gas rates and terms and condition of service. [40]

The prudential requirements outlined in each of the retailer terms and conditions for distribution services documents refer to the credit support arrangements defined under the Gas Utilities Act (as administered by the AUC). In particular, Natural Gas Billing Regulation, A.R. 185/2003[41].

As the credit support arrangements for distribution tariffs are prescribed in this regulation, they can be changed through legislative amendments by the Alberta Government. The AUC does not have the discretion to alter the required security amount.

In 2008, the distributor ATCO Gas submitted a proposal to the Alberta Energy and Utilities Board (the predecessor to the AUC) to increase the required credit support to 60 days of distribution charges. The Board opposed the proposal to adjust the prudential requirements suggesting that the impact of the change would only reduce risk for ATCO Gas by increasing the effective prudential requirement from 40 to 60 days. The Board considered the proposed change would tend to provide a barrier to new retail competition and might hinder market development. The Board rejected ATCO Gas proposal on the grounds that it did not have the power to amend the arrangements.

However, the Board decided to introduce a new additional requirement of an additional 20 days security to the security level required under regulation. The Board justified this additional requirement on the grounds that the additional security was required for the potential load

[40] http://www.auc.ab.ca/utility-sector/rates-and-tariffs/Pages/NaturalGas-RatesandTermsandConditionofService.aspx

[41] http://www.qp.alberta.ca/1266.cfm?page=2003_185.cfm&leg_type=Regs&isbncln=9780779728749

balancing costs of the distributor in the case of a retailer default and not to compensate the distributor for non-payment of distribution tariffs.[42]

5.2.3 How credit support is determined

A distributor must require a retailer to provide a security deposit before the distributor provides service to the retailer under the distribution tariff. The security deposit must be in an amount equal to the value projected by the retailer of the retailer's payments under the distribution tariff over a period equal to the lesser of:

a) 75 days, or

b) the total of

   i. 20 days, plus

   ii. the number of days between consecutive bills issued by the owner to the retailer, plus

   iii. the number of days from the issuance of a bill by an owner until payment is due from the retailer.

We understand that this method for calculating the amount of security to be provided by retailers has enabled distribution system owners to use different timeframes to determine the amount of security required, based on differences in billing cycles. This approximately works out to two times the billing period for distribution service charges.[43]

A retailer with a credit rating of at least BBB- or higher can qualify for a reduction in their required security. A retailer that provides its credit rating must have the security deposit reduced as follows:

a) by $25 000 000 if the credit rating is AAA- or higher;

b) by $20 000 000 if the credit rating is between AA- and AA+, inclusive;

c) by $15 000 000 if the credit rating is between A- and A+, inclusive;

d) by $10 000 000 if the credit rating is between BBB- and BBB+, inclusive.

If the reduction allowance for credit rating is more that the retailer's required security deposit, the retailer will not have to provide any security (i.e., the security deposit cannot be reduced to less than $0).

These reduction allowances are irrespective of the size of the retailer's liability to the distributor. KPMG has been unable to find any reasoning for these amounts but we also note

[42] Alberta Energy and Utilities Board Ruling - ATCO Gas Retailer Service and Gas Utilities Act Compliance Module 3, Part 1 March 17, 2008

[43] Alberta Market Surveillance Administrator, The state of the market report 2014, p.11 27 November 2014.

that for the wholesale market, a retailer's credit support requirement can be reduced by the same absolute values.

The security must be provided in the form of a financial deposit, a bond, an irrevocable letter of credit or an irrevocable guarantee from a person, other than the retailer, with a credit rating.

If a retailer's actual outstanding charges are materially greater than the existing security requirement, the distributor must update the projection of required security and, if additional security is required based on the updated projection, require the retailer to provide the additional security within 5 business days.

5.2.4 Other issues

Application of the credit support in a Retailer Failure Event

No retailer has defaulted since full retail competition.

Ability to pass through retailer default costs onto customers

The distribution tariff regulation does not provide for the distribution company to pass through costs onto customers in the event of a retailer default.

In the event of a retailer default, the distribution company may access the security provided by the retailer under the prudential requirements.

6 Texas, USA approach

6.1 Approach in the electricity sector

6.1.1 Overview of market

In 1999, the Texas Legislature passed a deregulation law that made it possible for consumers in most parts of Texas to choose their own electric company. The new law was passed to encourage free market competition and lower prices. About 85 per cent of Texas residents purchase their electricity in the deregulated, competitive market, while the electric rates in a few major metropolitan areas (Austin, San Antonio) continue to be regulated by the State.

People living in deregulated areas can now choose their Retail Electric Provider (REP). The same Transmission and Distribution Utilities (TDUs) continue to deliver electricity to homes and businesses, regardless of which company is selling electricity to the customer. Local TDUs still read meters, respond to service interruptions, and continue to maintain the poles and wires. The seven TDUs operating in Texas must offer access to their wires to all REPs on a non-discriminatory basis under standard tariffs and terms and conditions administered by the Public Utilities Commission of Texas (PUC).

The competitive market has the following customer segmentation:

- 5.9 million residential customers
- 1.0 million commercial customers
- 3,848 industrial customers.

Since the implementation of competition, Texas has seen a proliferation of providers and products available to residential, commercial and industrial customers with 114 REPs operating in the State serving 11.1 million retail customers and providing over 300 products with 100 per cent renewable content available (as at September 2014). [44]

Since 2002, over 90 per cent of customers in all customer classes have exercised their ability to switch power providers at least once, and Texas continues to be recognised as the most successful competitive retail market in North America. This is demonstrated by its number one rank for the past seven years in the Annual Baseline Assessment of Choice in Canada and the United States, a scorecard developed to measure the success of U.S. states and Canadian provinces in implementing a competitive retail market.[45]

In 2003, the top 10 retail electric providers represented more than 87 per cent of retail electric sales. In addition to incumbent electricity providers such as Reliant, TXU, First Choice, and Direct Energy, entities like Tenaska, Dynegy, and Calpine figured prominently in the top 10. This

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[44] PUC 2015 State of Competition in Electric Markets of Texas

[45] PUC 2015 State of Competition in Electric Markets of Texas

was early in the history of Texas electric deregulation. Residential and most commercial customers could still rely on the default "price-to-beat" offered by incumbent electricity providers. Therefore, the concentration of marketing efforts was to large commercial and industrial customers.

By 2008, the top 10 retail electric providers accounted for approximately 84 per cent of all retail electric sales volumes. While the concentration of market power diminished only slightly from 2003, the composition of the top 10 providers changed more significantly. While some large commercial and industrial specialists like Constellation, Suez and Sempra were in the top 10, the group favoured retail providers with broader marketing strategies. Competitors like Gexa and Stream Energy joined the incumbent electric retailers to round out the list.

In 2012, market concentration of the top 10 retail electric providers dropped to around 79 per cent. Just Energy, through its organic growth and acquisition of Hudson Energy, Tara Energy, and Amigo Energy entered the top 10. Otherwise, the composition was similar to 2008 in that it favoured retail providers with broad marketing strategies.

One of the most interesting trends has been the decline in market share by Reliant and TXU. In 2003, their combined market share was close to 70 per cent. By 2008, it had declined to just over 50 per cent and it continued to decline to near 40 per cent by 2012. The market share of the top 10 providers only declined by approximately 5 per cent during that same period. Therefore, while the largest two retail electric providers undoubtedly lost market share to smaller firms, large competitors captured most of their lost market share. The trend has been for greater diversification of load among retail providers but with most of the diversification being within the top 10 providers. [46]

6.1.2 Credit Support Arrangements

The credit support arrangements were introduced when the Tariff for Retail Delivery Service document was implemented in August 2000. The Public Utility Commission of Texas approves this document.

REPs are required to have an amount of credit support available in order to operate in the Texas electricity market. These credit support arrangements are prescribed in Chapter 25 of the Substantive Rules Applicable to Electric Service, Subchapter E Certification, Licencing and Registration - Section 25.107.

Additional credit support is required by any REP responsible for billing and collecting transition charges from customers in a TDU service area. These additional arrangements are prescribed in Chapter 25 of the Substantive Rules Applicable to Electric Service, Subchapter E Certification, Licencing and Registration - Section 25.108.

A REP is not required to provide credit support to the distributor with respect to network charges except if the REP has defaulted on one or more payments to the distributor within the past 24 months. KPMG understands that this arrangement recognises that the retailer has

[46] [http://electricitymatch.com/texas-electricity-provider-market-share/]

already provided adequate security to both demonstrate its financial strength and provide a source of funds that would help the market manage the impacts of the retailer defaulting.

KPMG has not discovered any changes to the credit support arrangements since implementation.

6.1.3 How credit support is determined

A retailer is not required to provide credit support to the distributor with respect to network charges except if the retailer has defaulted on one or more payments to the distributor within the past 24 months.

If a retailer has defaulted, it must provide a deposit as security equal to one-sixth of the estimated annual amount to be billed.

A wide range of products qualify as suitable security under the arrangements, including:

a) cash

b) surety bond

c) letter of credit

d) affiliate guaranty

e) or any combination thereof can be used. Providers of affiliate guaranty, surety bonds or letters of credit must have and maintain long-term unsecured credit ratings of not less than “BBB-” or “Baa3” (or equivalent) from Standard and Poor’s or Moody’s Investor Service, respectively

f) any other forms of security which are mutually agreed to by both parties, provided that the distributor offers such terms on a non-discriminatory basis to all retailers.

A retailer operating in the Texan electricity market is subject to other credit support requirements.

A retailer must provide credit support in relation to transition charges. Transition charges are a specialised fee to allow the distributor to recover the transaction costs of securitization of their stranded assets which have become uneconomical as a result of deregulation. Utilities are allowed to securitize or refinance their regulatory assets and/or stranded costs as long as it benefits ratepayers. Securitizing debt provides funding at a lower cost than traditional utility funding. KPMG has not reviewed these arrangements.

Separate to any distribution credit support required by a REP, in order to qualify to operate in the Texas electricity market, a REP is required to have an amount of credit support available. In order to operate in the Texas electricity market a retailer (or its guarantor) must elect to either:

- maintain an investment grade credit rating; or
- have a tangible net worth greater than or equal to $100 million, a minimum current ratio (current assets divided by current liabilities) of 1.0, and a debt to total capitalisation ratio not greater than 0.60, where all calculations exclude unrealised gains and losses resulting from

valuing to market the power contracts and financial instruments used as supply hedges to serve load, and such calculations are supported by an affidavit from an executive officer of the REP attesting to the accuracy of the calculation; or

- have shareholder equity of one million dollars shall be determined net of assets used for collateral pledged to secure the irrevocable stand-by letter of credit of $500,000. A retailer is not allowed to make any distribution to shareholders until it has met this requirement.

The retailer must provide this general required credit support to the transmission and distributor operator. The network business effectively acts as a custodian of this credit support. As explained below, when the retailer defaults, this general credit support is used to cover the retailer liabilities and fund the retailer of last resort mechanism.

6.1.4 Other issues

Ability to pass-through loss of revenue

The rules do not specifically allow for the pass through of any revenue lost from a retailer default through its regulated charges. However where a retailer is unable to fulfil its obligation, a TDU may access the credit support arrangements in place that allowed the REP to operate in the market.

Under a retailer default, credit support is allocated in the following order:

(i) to pay the deposits to retail electric providers that provide service in a mass transition event (relating to Provider of Last Resort (POLR))
(ii) for customer deposits and residential advance payments of customers in a mass transition event (relating to Provider of Last Resort (POLR))
(iii) for services provided by the independent organisation related to serving customer load
(iv) for services provided by a TDU\
(v) administrative penalties.

Application of the credit support in a Retailer Failure Event

One or more REPs defaulted on their obligations to the Electric Reliability Council of Texas (ERCOT) in 2003, 2005, 2007, and 2008, and the customers of those REPs had to be transferred to other REPs. These defaults impacted other market participants financially as follows:

- ERCOT, REPs serving as POLRs, and TDUs incurred administrative costs to execute a mass transition of the customers of the defaulting REP;
- TDUs incurred financial losses arising from unpaid charges for delivery services provided to the defaulting REP; and
- costs associated with unaccounted-for-energy (UFE) charged by ERCOT to the remaining REPs on a load-ratio basis.

Based on information gathered from market participants and other sources[47] it is estimated that the defaults by six REPs in 2005 resulted in approximately US$7 million in losses arising from UFE costs to REPs and unpaid delivery charges to TDUs. Losses of approximately US$4.4 million were incurred in 2008 when five REPs defaulted.

Following the 2008 defaults the PUC made changes to Section 25.107 to strengthen the certification requirements for retail electric providers (REPs) in order to better protect customers, transmission and distribution utilities (TDUs), and other REPs from the insolvency of REPs and other harmful conditions and activities of REPs. These changes formed the credit support arrangements currently in place today.

Energy Future Holdings (EFH), the biggest power company in Texas, filed for bankruptcy in April 2014. EFH is the parent company of three retail electric providers (REPs) in Texas, TXU Energy, ET Services Company and 4Change Energy. TXU Energy has approximately 1.7 million customers. Luminant is a power plant operator owned by EFH with a total generation capacity of about 15,400 megawatts across its generation fleet.

As allowed under Chapter 11, the bankruptcy has allowed EFH to continue normal business operations while it reorganises its balance sheet.

EFH has formally filed pleadings asking the Bankruptcy Judge to allow it to continue all normal business operations including honouring all customer contracts and all customer incentive programs. EFH also has announced an agreement with key creditors in support of the restructuring.

Therefore in this case, there has been no triggering of the credit support requirements as the three retailers have continued to honour their payments to distributors. The PUCT has told the court that it supports this request for the retailers to continue serving their respective customers without interruption and supports their plans to continue competing in the retail electricity market.

[47] https://www.puc.texas.gov/agency/rulesnlaws/subrules/electric/25.107/35767pub.pdf

7 Approaches in other regulated sectors in Australia

The AEMC has also asked KPMG to review credit support approaches in other regulated sectors in Australia.

Regarding the water and telecommunications sectors, there is no specified credit support regime and, instead, credit risk is factored into regulated price determinations. The approach in the Queensland regulated rail sector is defined in the access arrangements, and the remainder of this chapter provides an overview of those arrangements.

7.1.1 Credit support in the regulated rail sector in Queensland

There are two major network owners in Queensland:

- Aurizon Network – who operates the coal network in central Queensland
- Queensland Rail – operates the network outside central Queensland.

These networks are subject to regulation by the Queensland Competition Authority (QCA) under the *QCA Act*. QCA approves the rail access undertakings which sets out the general terms and conditions under which a network will provide access to the relevant parts of its below-rail (track) infrastructure.

The access undertakings contain the credit support requirements that operators must provide in order to have access to the network. In its rulings on the access undertaking agreement, the QCA has: [48]

- accepted that networks face counterparty risk and that it is reasonable for an access agreement to include security (credit support) arrangements to manage counterparty risk
- agreed that networks are entitled to their own reasonable assessment of a customer's creditworthiness and that networks can asked for credit support in appropriate cases
- stated that any requirement for additional security above the required amount should be based on an objective test and independent evidence of a downgrading of an access holder's credit rating.

Therefore under the rail access undertakings, credit support is required at the discretion of the network operator based upon its own assessment of the creditworthiness of the user. In applying the credit support requirements, the network must act reasonably and the requirement should reflect the cash flow risk that the network has taken on. The magnitude of any credit support requirement is usually capped at 12 weeks of access charges.[49]

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48 Queensland Competition Authority, Final Decision QR Network DAU 2010, September 2010, p.87

49 For example, Queensland Rail, Draft Access Agreement, December 2014

Other features of the approach in this sector includes:

- the form of credit support must be a bank guarantee or other security that is unconditional, irrevocable, payable on demand and otherwise in a form acceptable to the network
- if the user provides a cash deposit as a security, the network will pay interest on the cash deposit. Under the access undertaking, users are required to demonstrate that it is has the financial capability to perform its obligations
- under Aurizon's access undertaking, the user can request Aurizon to review its creditworthiness if it considers that its financial circumstances have changed.

The QCA has only intervened in changing the network's proposed credit support conditions when it has considered that the network's proposed terms are either too high, unnecessary due to other regulatory requirements or discriminatory across different types of users. For example:

1. In its draft decision for Aurizon's Draft Access Undertaking 2014, the QCA proposed to remove the network's entitlement to require security from a train operator. QCA considered that such security is no longer necessary because the *Transport (Rail Safety) Act* 2010 mandates the requirements of accreditation for railway operations. As accreditation requires includes evidence of financial capacity or public risk insurance arrangements, QCA stated that "this should itself provide Aurizon the necessary comfort regarding the operator's financial capability".[50]
2. For its 2010 Access Undertaking, Queensland Rail proposed an additional credit requirement on coal freight operators of an additional three month security if the coal operator liabilities exceeds 66 per cent of the original security amount provided. QCA rejected this requirement on the grounds that it was potentially discriminatory and not justified.[51]

50 Queensland Competition Authority Draft Decision, Aurizon 2014 Draft Access Undertaking – Draft Decision Volume 1 – Governance and Access, January 2015

51 Queensland Competition Authority, Final Decision QR Network DAU 2010, September 2010, pp. 87-88

Appendix A: Independent Credit Assessments in the United Kingdom

A.1 Electricity Matrix

Credit assessment score	Check it (ICC) credit score report	Dun and Bradstreet comprehensive report	Equifax	Experian bronze, silver or gold report	% of distributor's maximum unsecured credit limit
10	95-100	5A1	A+	95-100	20
9	90-94	5A2/4A1	A/A-	90-94	19
8	80-89	5A3/4A2/3A1	B+	80-89	18
7	70-79	4A3/3A2/2A1	B/B-	70-79	17
6	60-69	3A3/2A2/IAI	C+	60-69	16
5	50-59	2A3/1A2/A1	C/C-	50-59	15
4	40-49	1A3/A2/B1	D+	40-49	13 2/3
3	30-39	A3/B2/C1	D/D-	30-39	10
2	20-29	B3/C2/D1	E+	20-29	6 2/3
1	10-19	C3/D2/E1	E/E-	10-19	3 1/3
0	Below 10	Below E1	Below E-	Below 10	0

A.2 Gas Matrix

Independent assessment score	Equivalent of the independent assessment score to credit scores by the independent credit rating agencies for independent assessments			% of distributor's maximum unsecured credit limit
	Dunn and Bradstreet/N2 check comprehensive report	Experian bronze, silver or gold report	Graydons level 1, level 2 or level 3 report	
10	5A1	95-100	1A	20
9	5A2/4A1	90-94	1B/2A	19
8	5A3/4A2/3A1	80-89	1C/2B/3A	18
7	4A3/3A2/2A1	70-79	2C/3B/4A	17
6	3A3/2A2/1A1	60-69	3C/4B/5A	16
5	2A3/1A2/A1	50-59	4C/5B/6A	15
4	1A3/A2/B1	40-49	5C/6B/7A	13 2/3
3	A3/B2/C1	30-39	6B6C/7B/8A	10
2	B3/C2/D1	20-29	8B	6 2/3
1	C3/D2/E1	10-19	8C	3 1/3
0	Below E1	Below 10	Below 8C	0