Stocktake of Certificate Schemes

For Australian Energy Council

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KEY POINTS

- Retailer Certificate Schemes can be an efficient way to harness competition between energy retailers to deliver a policy objective at lowest cost.
- In order to do this, a scheme should have a single metric that can be achieved through a range of activities allowing the market to discover which activities are the most efficient way to achieve the metric.
- A scheme should also be based around tradeable certificates, and balance integrity with low barriers to participation and low administrative costs. Flexibility in compliance is also key.
- Consumers bear the costs of such schemes and so they should demonstrably benefit from the scheme regardless of whether they participate in certificate creation.
- The energy transition is creating a range of new challenges for existing schemes (mostly focussed on energy efficiency) and also driving government interest in creating new schemes (to develop renewable fuels industries).
- Policymakers should look for ways to streamline existing schemes, including features such as banking and borrowing, harmonisation, and allowing trading (where not already a feature).
- Policymakers should avoid creating sub targets, mixing and matching activities that don't deliver the same outcomes (e.g. mixing fuel-switching, energy reduction and demand management) and undermining additionality.
- Policymakers should also consider the equity implications of such schemes in the context of the growing deployment of consumer energy resources, such as rooftop PV, batteries and electric vehicles.
- In the case of renewable fuels schemes, policymakers should consider if these are the right policy levers, given limited options for qualifying activities and lack of clarity over whether all energy consumers benefit from the development of these industries.

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Executive Summary

In recent years Retailer Certificate Schemes (RCSs) have become a popular tool for Australian governments to deliver energy policy goals without having to directly fund them. The first of these was the Renewable Energy Target (RET) established in 2001. Towards the end of the 2000s several jurisdictions introduced energy efficiency RCSs. More recently, some governments have consulted on the introduction of RCSs aimed at supporting renewable fuels such as green hydrogen and biogas.

This report was commissioned by the Australian Energy Council to examine eight current and proposed RCSs at jurisdictional level – the national Renewable Energy Targets, which are due to expire in 2030, are out of scope. Five of the schemes are designed to support energy efficiency, with one specifically targeting efficiency at periods of peak demand. The other three (only one of which has been legislated) are designed to support the development of renewable fuels with a particular focus on green hydrogen. Within each category there are some significant design differences. The report describes the basic design features and underlying rationale for such schemes in general, sets out the key elements of each specific scheme, examines some recent developments and challenges and proposes some recommendations for improving the design of such schemes, especially in light of the respective jurisdictional reviews underway. It also calculates two key metrics for each scheme: the bill impact and the abatement cost, noting that all such schemes have emissions reduction as one of their objectives even though only one (the Victorian Energy Upgrades (VEU) scheme) currently specifically targets emissions reduction.

Finally, as the VEU is currently undergoing a strategic review, the report includes an appendix with recommendations specific to that review.

RCSs are not the only way to fund policy goals through energy bills – other policies such as the NSW renewable roadmap and the ACT 100 per cent renewables mandate are funded via distribution charges. In these cases, governments are awarding the relevant contracts, and so there is no need to directly involve retailers. So RCSs are used where governments do not need to be involved in the procurement- that is they are designed to deliver a general policy objective such as deployment of renewable generation or renewable fuels, or energy efficiency and governments are content to let the market find the lowest cost way to achieve the objective. This is the key advantage of a well-designed RCS – that it harnesses competition between energy retailers to find efficient solutions to policy goals. Accordingly, RCSs work best when:

- There is a single target metric
- There is a range of potential activities that can earn certificates, allowing the market to discover which are the lowest cost
- There is clarity over what constitutes qualifying activity and any audit or verification requirements are not unduly onerous
- There is a high degree of additionality – that is the scheme is funding activities that would not otherwise occur
- There is a market for activities and activities are fungible – i.e. tradeable certificates are created as a result of carrying out qualifying activities and a buyer of certificates can rely on the certificate's bona fides
- There is robust governance and oversight of the scheme (in order to give participants confidence in certificates) without creating undue barriers to participation
- Energy retailers (and any other directly liable entities) have clarity over their individual liabilities for the compliance year, and also have some flexibility in compliance (e.g. being able to borrow or bank certificates from future or earlier compliance years)
- Administrative costs are minimised

The other side of an RCS is that the activity must be paid for and consumers foot the bill. Analysis indicates a cost per MWh to consumers ranging from $0.71 for the NSW Peak Demand Reduction Scheme to $13.26 for the VEU. While individual schemes add only small amounts to a bill, in some jurisdictions consumers are paying for multiple schemes. In Victoria, for example, these schemes (collectively referred to as environmental schemes) are eight per cent of the Victorian Default Offer for 2024-25, or around $150 on an average household bill including

GST[1]. The rationale for imposing these costs on energy consumers is that either consumers generally benefit from the activities these schemes underwrite ("beneficiary pays") or that the activities are remedying an issue caused by energy consumption ("causer pays"), such as carbon emissions. In the latter framing, the abatement cost per tonne CO2e of energy efficiency RCSs ranges from $22.95 in NSW to $210.38 in South Australia, with a key driver being the emissions intensity of the state's electricity grid. Using energy consumers as an alternative tax base is regressive, given low income consumers pay a higher share of their income on average on energy.

Governments perceive RCSs as successful policies and so there is a temptation to use them as broader policy tools. This creates tension between government desires to achieve more specific outcomes and the fact that RCSs are designed to let the market find the most efficient solution, as well as tension between government's preference to avoid committing budget funds and the somewhat regressive nature of imposing costs on energy consumers. Recent developments and challenges include:

- Appropriateness of the metric in the case of the VEU, which continues to target emissions reductions through energy efficiency even as the emissions intensity of the state's electricity grid falls
- Domination by a single activity
- Sub-targets, such as priority populations, or specific fuels
- Administrative challenges, such as barriers to participation, onerous requirements for project-based activities, and lack of independent accreditation of third party activity providers
- Uncertainty over whether schemes genuinely stimulate the underlying activity, i.e. do energy efficiency schemes actually encourage energy efficiency?
- Additionality, i.e. assurance that the activity would not have occurred without the scheme, especially in the light of other policies to support the same policy objectives
- The changing nature of energy consumption, such as the increased deployment of batteries, electric vehicles and rooftop PV, which challenges the equity of RCSs and potentially undermines emissions benefits

Renewable fuel RCSs are only now being developed and so comparable challenges have yet to emerge. But even from the start, these schemes are challenged by the limited number of eligible activities, especially with the slow development of the green hydrogen industry, as well as by the question over whether households and small businesses are really beneficiaries of such schemes, given that they can decarbonise through electrification.

The report's recommendations include:

- Harmonisation where possible across schemes with similar objectives
- Reducing administrative costs and increasing scheme flexibility
- Avoiding treating a scheme as a kind of "Swiss army knife" policy that can cover a wide range of activities targeting different outcomes (such as adding demand management to energy efficiency schemes)
- Refocus on the key metric, whether energy efficiency or renewable fuels, the scheme should be designed to deliver that one objective at lowest cost, and policymakers should not second-guess outcomes.
- Check the "beneficiary pays" logic (still) holds as schemes evolve – with fuel-switching activities undermining the case for non-participant consumers benefitting from the scheme
- Recognise the way that the energy sector is changing – and consider whether demand management may be a more relevant priority than energy efficiency as the grid decarbonises and two-way energy flows increase
- Don't believe the hype, or in other words, even if the scheme is beneficial, more is not always better as higher targets can increase the marginal costs of the scheme without a matching increase in benefits

[1] ESCV, Victorian Default Offer 2024–25 Final decision paper, May 2024. The figure is $135 per average bill before accounting for GST at ten per cent.

1. Introduction

In recent years several jurisdictional retailer certificate schemes have been implemented to drive various policy objectives, including energy efficiency, renewable fuels, peak demand management and other activity to support the decarbonisation of the Australian economy. The basic premise (expanded on in the next section) is that retailers have to either carry out certain qualifying activities each year or purchase certificates from other activity providers that have generated them by carrying out the qualifying activity. These build on the success of the national Renewable Energy Target (RET), which has resulted in two separate retailer certificate schemes, the Small Scale Renewable Energy Scheme (SRES) and the Large Scale Renewable Energy Target (LRET). Both schemes are due to cease in 2030 and there are no plans to extend them, with the Commonwealth instead setting up a voluntary Guarantee of Origin (GO) scheme[2]. Given this, the focus of this report is on the jurisdictional schemes, although the RET is referenced several times in this report for illustrative purposes. Current and potential schemes include:

- ACT Energy Efficiency Improvement Scheme (EEIS)
- NSW Renewable Fuel Scheme (RFS)
- NSW Energy Savings Scheme (ESS)
- NSW Peak Demand Reduction Scheme (PDRS)
- South Australia Retailer Energy Productivity Scheme (REPS)
- Victoria Energy Upgrades Scheme (VEU)
- Victoria Industrial Renewable Gas Guarantee (IRGG) (proposed)
- WA Renewable Hydrogen Target (RHT) (proposed)

Broadly, they fall into two categories. Five of the schemes are designed to support energy efficiency, with one specifically targeting efficiency at periods of peak demand. The other three (only one of which has been legislated) are designed to support the development of renewable fuels with a particular focus on green hydrogen. Within each category there are some significant design differences.

Two of the schemes are currently undergoing a review and so the report includes two appendices with recommendations specific to those reviews:

Appendix A responds to the VEU strategic review[3]

Appendix B responds to the REPS Issues Paper[4]

2. Rationale for retailer certificate schemes

Before examining each scheme in detail and how well it achieves its objectives, it's useful to consider the basic design features and the premise of such schemes. What is the benefit in setting up a retailer certificate scheme as opposed to other policy instruments to achieve the same objectives?

Design features

A retailer certificate scheme (RCS) is one of many policy options to achieve particular goals. It's useful to understand the circumstances under which an RCS is likely to be a particularly effective scheme. The generic design of a certificate scheme is as follows:

[2] See https://cer.gov.au/schemes/renewable-energy-target for further details
[3] DEECA, VEU strategic review consultation, February 2025
[4] DEM, Retailer Energy Productivity Scheme (2026-2030) Issues Paper, February 2025

- **Objective** - The government determines an overall goal or objective for the scheme. While there may be multiple objectives, they are all typically based on achieving a specific metric. This could be emissions reduction, energy savings, renewable fuel production, renewable energy production, etc.

- **Activities** - The government defines the activities that qualify for the achievement of the metric. This can have a technology component (which generation sources count as renewable), a measurement component (what are the efficiency gains from replacing an inefficient water heater with an efficient water heater), a geographic component (the activity must typically take place in the jurisdiction setting up the scheme) and other criteria.

  Each certificate represents one unit (a MWh, a GJ, a tCO2e) of the relevant activity. Two of the schemes under consideration do not actually use certificates, so they entail directly measuring and monitoring the activities of the liable entities. This influences other design elements of the scheme (e.g. there can be no secondary trading as there are no certificates to trade). In some cases, governments decide they wish to encourage a particular activity and award it multiple certificates. Typically, this distorts the scheme, as evidenced by the case of the RET, where a 5x multiplier for small scale rooftop PV swamped the scheme and crowded out large scale renewables, leading to the scheme being split into two to keep large and small scale renewables separate.

- **Liable entities** - The government determines the liable entities - the parties who must acquire and surrender certificates (or carry out the requisite quantum of activity for non-certificate schemes). This could be gas retailers, electricity retailers or both, depending on the purpose of the schemes. In some cases large industrial users who don't purchase their energy via a retailer also have a liability, but in other cases large users may be exempt (typically justified on the grounds of cost competitiveness).

- **Quantification of targets and allocation to liable entities** - The target number of certificates to be delivered each year must be determined. Many schemes start with a very modest target and increase it each year to a plateau. Realistically targets need to be set for at least two years in advance in order to give liable entities and other parties who originate the certificates (i.e. carry out the qualifying activity and then sell the certificates they create to liable entities) some certainty about the scheme. Ideally, targets would be set further out in advance, noting that market conditions can change and a target set many years in advance may turn out to be unduly high or low in the context of the scheme objectives (as indicated by the price of the certificates in that year). This in turn can lead to a review of the targets, which creates uncertainty for participants. Once the overall target is set, it needs to be divided up among liable entities. Since retailers differ greatly in size, it would not be appropriate to allocate liabilities equally. So, individual targets are scaled according to the size of the retailer. The most common metric for scaling is the volume of energy delivered to customers (this also facilitates allocation to large users as their consumption can be used). The caveat in this is that the individual targets need to be determined in advance of the compliance year so that each liable entity is clear on their target.

- **Sub-targets** - some RCSs have subsidiary targets. Notably, both the non-certificate schemes (ACT and South Australia REPS) define priority customers (typically vulnerable or low income customers) to whom a certain level of energy efficiency activity must be directed. A similar concept is that of "banding" - several technology proponents advocated for banding of the RET, i.e. to allocate a certain proportion of the target to their technology, which was otherwise not sufficiently cost competitive to attract investors compared to more mature technologies such as wind farms.

- **Compliance cycle** - the RCS must define the compliance year and set dates for the acquittal of certificates or other compliance activity.

- **Backstop mechanism** - this is a common feature rather than a necessary one, but to avoid the risk of compliance with targets being unreasonably expensive (given that consumers ultimately bear this cost), many RCSs have a penalty price that liable entities can pay instead of surrendering certificates. As penalties are typically not tax deductible, it is generally considered better to purchase certificates up to a cost that is 43 per cent higher than the stated penalty rate due to the tax impact. The ACT scheme also has an option where liable entities can pay the ACT government (at a rate well below the penalty rate) rather than carry out activities. All retailers other than the incumbent retailer take up this option.

- **Flexibility mechanisms** – schemes can make compliance easier by building flexibility into compliance. This can take several forms. Having tradeable certificates is in itself an example of flexibility, allowing liable entities to buy and sell in order to get to the right number of certificates to meet their obligations. This can be further enhanced by allowing other parties to create certificates, so that the liable entities do not have to carry out the activity themselves (noting it is not going to be their core business), or to trade certificates, which can assist with market liquidity. Design elements that decouple a year's liability from the number of certificates created are also useful in providing flexibility. These include certificate carryover into future years, limited banking/borrowing to adjust one year's liability up or down, or refunding penalty payments if liable entities can deliver sufficient certificates in later years. Key to all such design elements is that the total number of certificates required to meet the targets over time doesn't change, just that the profile of when certificates are created doesn't match the profile of the targets precisely.
- **Deeming** - this is an important element of RCSs where it is hard to directly measure the relevant activities. So while in the LRET, or in a renewable fuel scheme, projects are at scale and their output can be directly measured, in the case of the SRES, direct measurement of output from small scale installations would be very onerous and add materially to the cost of the scheme. Instead, an assumption is made about the expected output of installations based on the size and the latitude (which impacts the amount of solar irradiance a system will receive) for a fifteen year period. Creating the certificates for fifteen years up front also facilitates getting the benefit of the certificates to the customer. Energy efficiency schemes utilise deeming both because many of the activities are small scale and because by its nature the impacts of energy efficiency are hard to directly measure.
- **Accreditation and verification** - the integrity of the scheme is paramount to ensuring it delivers what it is expected to do. A regulator must be appointed and typically certificate originators are accredited. In cases where they are not, such as the South Australia REPS, the liable entities are left with the responsibility and risk entailed in acquiring certificates from an originator. Accreditation supports the safety of activities as well as their integrity. In the case of energy efficiency schemes, deeming factors and other parameters should be tested periodically to ensure confidence that the scheme is delivering the right amount of energy efficiency.

How an RCS works

Having set out the principal features of an RCS, it's useful to consider why they are used instead of other policy instruments. There are two key reasons - to deliver the policy objectives at lowest cost and to allocate the costs of the policy to the appropriate parties. As the previous section illustrates, the administration of and compliance with the scheme can be somewhat complex and carries a cost. This cost is often higher than other ways to achieve the same outcome. Consider the ACT's 100 per cent renewables target. This scheme has similar goals to the RET, however, because the ACT government is entering into contracts with renewable energy projects itself[5], the administrative costs of the scheme are much lower than the RET, which needs an independent regulator, accreditation and audit processes, and so on. In fact the ACT policy piggybacks off the national RET scheme as the ACT government acquires and voluntarily surrenders RECs in order to demonstrate the additionality of its actions. So, an RCS needs to work in a way that delivers benefits that exceed these administrative costs.

The driver of benefits under an RCS is competition. The premise is that there is benefit in imposing an obligation on energy retailers because energy retailers compete against each other and so this competitive dynamic strongly incentivises them to discover the lowest cost way to meet the obligation. In turn, where there are other businesses that originate certificates that they sell to retailers, they are incentivised to create certificates at the lowest cost in order to profitably sell them into the market. This benefit should outweigh the additional administrative costs.

Achieving the lowest cost outcomes is also supported by having a liquid secondary market and a futures market, which facilitates multi-year contracts between liable parties and originators. This is especially important where the activity requires a large investment that will take many years to pay off. A futures market is more likely to emerge where there is stability in the scheme (the qualifying activities, targets and other key parameters only change infrequently). The other side of an RCS is who ultimately bears the costs of the scheme and whether this

[5] See for example https://www.climatechoices.act.gov.au/policy-programs/large-scale-feed-in-tariffs-and-reverse-auctions/large-scale-feed-in-tariff-payments-and-costs

cost allocation is appropriate. Retail competition means that retailers are incentivised to allocate the costs of the scheme to its customers in the same way that the scheme allocates obligations to retailers. So, if a retailer's target is based on the number of customers it has, it will pass on the costs as part of the fixed charge, while if the target is based on customers' aggregate consumption it will pass on the costs on a MWh/GJ basis. As discussed later this may raise issues of fairness when some customers have rooftop solar and so take less electricity from their retailer, meaning they contribute less to the scheme than other households.

The relevant principles for cost allocation include:

- efficiency, which devolves to one of "user pays, "causer pays" or "beneficiary pays"; and
- equity, which is a more subjective concept, but is typically some version of ability to pay.

Accordingly, a certificate scheme allocates costs appropriately to the extent it approximates efficient and/or equitable allocation. For example, one of the purposes of the RET was to help lower electricity prices (at least relative to the counterfactual if it had not been implemented) and since all customers benefit from lower electricity prices and their benefit is proportional to the amount they consume, the scheme's cost impacts were broadly appropriate.

An implicit assumption in the effectiveness of a certificate scheme is that the impact of the qualifying activities can be accurately determined – at least on an average basis. For example, in the case of energy efficiency schemes, are the "deemed" kWh savings a robust estimate of the average savings, and does this in turn translate into a good estimate of the emissions reduction? On a minor note, as there are "costs to achieve" there are also "emissions to achieve" compared to the counterfactual that are probably not accounted for. To the extent that a scheme fails to do so its effectiveness is undermined.

3. Stocktake of current jurisdictional schemes

Energy efficiency schemes

The four energy efficiency schemes, and to a lesser extent the NSW peak demand scheme, share a number of similarities but also a number of important differences. The energy efficiency schemes are relatively mature, having existed in one form or another since 2009 (or 2013 for the ACT scheme). Broadly speaking they all target energy efficiency activity, although there are signs that some are broadening their scope to cover other activities such as demand management and gas-to-electricity switching ("electrification"). Accordingly, all need to have processes to define eligible activities and calculate the assumed energy savings arising from each activity. All also cite emissions reduction among their objectives, although only Victoria has taken the extra step of using emissions reduction as the key metric. Accordingly the VEU also needs to determine emissions factors each year.

Two of the schemes have no tradeable certificates (ACT and SA). Two place liability on both gas and electricity retailers (Victoria and SA) while two are electricity only.

These fundamental design differences make it challenging to harmonise the schemes, although the fact that their underlying driver is energy efficiency means it is feasible if the political will is there. Harmonisation is discussed further in the recommendations section.

Table 1 below sets out some of the key features of each scheme.

Table 1: Key features of energy efficiency RCSs

Scheme	ACT Energy Efficiency Improvement Scheme	NSW Energy Savings Scheme (ESS)	Victoria Energy Upgrades Scheme (VEU)	South Australia Retailer Energy Productivity Scheme (REPS)	NSW Peak Demand Reduction Scheme (PDRS)
Objective	Encourage the efficient use of energy; and reduce greenhouse gas emissions associated with energy use in the Territory; and reduce household and business energy use and costs; and increase opportunities for priority households to reduce energy use and costs.	To create a financial incentive to reduce the consumption of energy by encouraging energy saving activities, to assist households and businesses to reduce energy consumption and energy costs, to assist households and businesses to reduce energy consumption and energy costs, to complement any national scheme for carbon pollution reduction by making the reduction of greenhouse gas emissions achievable at a lower cost.	Reduce greenhouse gas emissions. Encourage the efficient use of electricity and gas. Encourage investment, employment and technology development in industries that supply goods and services which reduce the use of electricity and gas by consumers.	Improve energy productivity for households, businesses and the broader energy system, with a focus on low-income households.	Reducing energy demand during peak hours. improve affordability by placing downward pressure on NSW wholesale electricity prices, improve sustainability by increasing load flexibility.
Metric	MWh energy saved	MWh energy saved	CO2e emissions saved	REPS GJ	Peak demand KW
Start year	2013	2009	2009	2021, but an evolution of REES 2009-20	2022
End year (if specified)	2030	2050	2045 (subject to legislation)	2035	2050
Latest version	2023	2024	2022	2022	2024
Liable entities	Electricity retailers	Electricity retailers and large users	Relevant entities (energy retailers)	Obliged retailers - gas and electricity	Electricity retailers and large users
Certificate name	n/a	Energy savings certificates (ESC)	Victorian energy efficiency certificates (VEECs)	N/a	Peak reduction certificates (PRCs)
Certificate represents	Non-certificate scheme.	Each certificate represents 1 megawatt-hour (MWh) of energy saved.	Each certificate represents one tonne of carbon dioxide equivalent of greenhouse gas saved.	Non-certificate scheme.	0.1kWh of peak demand reduction capacity.
Compliance activities for non-certificate schemes	Tier 1 retailers can meet their energy savings obligation by undertaking eligible activities or by acquiring approved energy savings factors from other retailers who undertake eligible activities. Alternatively, they can pay an energy savings	n/a	n/a	List of activities can be found at: https://www.escosa.sa.gov.au/industry/reps/activities	n/a

Scheme	ACT Energy Efficiency Improvement Scheme	NSW Energy Savings Scheme (ESS)	Victoria Energy Upgrades Scheme (VEU)	South Australia Retailer Energy Productivity Scheme (REPS)	NSW Peak Demand Reduction Scheme (PDRS)
	contribution fee to the government, currently $27.43/MWh.				
Scheme administrator	ACT government	IPART	ESCV	ESCOSA	IPART
Target/target setting	14.6% for 2024 and 25. 40% of activities to be delivered to priority households.	An energy savings target gradually increasing to 13% by 2030.	Targets set under the program aim to reduce Victoria's energy demand by seven per cent by 2025.	Targets set for 2021-2025, at 2,500,000GJ rising to 3,750,000GJ. Targets for 2026-30 to be set by the government. Sub-targets are 500,000GJ pa for both residential and priority sub targets.	A target reaching 10% of peak demand by 2029–30, and continuing to 2050.
Accreditation of activity providers	No	Yes	Yes	No	Yes
Penalty price	A retailer not meeting its energy saving obligation currently faces a penalty of $71.32 per MWh for 2024.	$29.02 per notional megawatt hour (MWh) before tax effect adjustment indexed to CPI ($33.84 in 2024).	The shortfall penalty for the 2024 compliance year is $90.00 per certificate.	No unit penalty price, but a non-compliant retailer could be penalised up to $1m.	$2.26 per certificate to start, indexed by CPI.
Banking and borrowing	No, but can carryover activities.	A surplus of certificates may be carried forward.	A surplus of certificates may be carried forward.	No, but a shortfall of up to 10 per cent can be carried over to next year.	Liable parties may carry forward 10% of their target. Certificates are valid for three years, beginning in the compliance period in which the peak demand reduction capacity is available. After three years, the certificate will expire.
Enabling legislation	Energy Efficiency (Cost of Living) Improvement Act 2012	Electricity Supply Act 1995	Victorian Energy Efficiency Target Act 2007 (VEET Act)	The Electricity (General) Regulations 2012 and the Gas Regulations 2012	Peak Demand Reduction Scheme Rule 2024
Liability calculation approach	Electricity sales as measured at the customer meter.	Gross AEMO settlement amount supplied by regulator + non-market acquisitions (e.g. embedded networks).	Net AEMO settlement for electricity supplied by regulator and AEMO settlement for gas.	Determined by regulator. Net AEMO settlement for electricity please confirm) and AEMO settlement for gas.	Gross AEMO settlement amount supplied by regulator + non-market acquisitions (e.g. embedded networks).

Scheme	ACT Energy Efficiency Improvement Scheme	NSW Energy Savings Scheme (ESS)	Victoria Energy Upgrades Scheme (VEU)	South Australia Retailer Energy Productivity Scheme (REPS)	NSW Peak Demand Reduction Scheme (PDRS)
Exempt volume	None	Annual ESS (Electricity Load Exemptions) Order from the regulator.	Scheduled Activity Premises list by address (not by meter), which is challenging to match with customer addresses.	Designated purchases of electricity are exempt. These are determined by the minister and gazetted. There of not currently appear to be any gazetted items.	Annual PDRS (Electricity Load Exemptions) Order from the regulator.
Third-party audit of liability calculation required	No	Only if claiming exempt volumes or non-market acquisitions	Yes	No	Only if claiming exempt volumes or non-market acquisitions

Source: government and regulator documents and webpages

Recent developments and challenges

Appropriateness of the metric

While other schemes have transitioned from emissions reduction to energy savings (South Australia in 2013 and ACT in 2018), Victoria has kept emissions reduction as the metric. The standard emission intensity factor (electricity emissions factor) is rapidly reducing as Victoria decarbonises its electricity system (although the factor is hard to reconcile to other sources for actual emissions intensity, it is intended to represent a 10 year forward average emissions intensity for each compliance year):

From 1 August 2021 to 31 January 2022 EEF = 0·9546

From 1 February 2022 to 31 January 2023 EEF = 0·8142

From 1 February 2023 to 31 January 2024 EEF = 0·6738

From 1 February 2024 to 31 January 2025 EEF = 0·5334

From 1 February 2025 EEF = 0·393[6]

The logic of a single emissions factor for most activities falls down due to the combination of a rapidly changing factor and different deemed lifetimes for different activities - which can range from five to 20 years (this is not to suggest that individual activity factors should be estimated given this would add to an already complex scheme). In any case, the rapidly declining emissions factor means that the same activity generates ever fewer certificates and has undoubtedly been a key driver in the increase in certificate prices over the years.

One reason for Victoria's ongoing preference for an emissions reduction metric is that it suits the policy of using the VEU as the tool for subsidising electrification of gas appliances. But this is not really a strong rationale in itself.

More broadly it's unclear at this point whether the VEU (or the other schemes) are the best instrument for gas substitution (electrification). As discussed later, the benefits case for all customers is predicated on a reduction in electricity consumption and gas substitution does the opposite. This is not to suggest gas substitution is a bad idea, merely that it may be better suited to its own set of policies.

Across the schemes there is a varying approach to the treatment of upgrading the efficiency of gas appliances. Both Victoria and the ACT have removed these activities in recent years, though this still may result in the paradox that households who got an incentive to upgrade their gas appliance only a few years ago are now being offered incentives to replace it with an electric alternative. South Australia does not have a broader policy of reducing reticulated gas use and so gas hot water upgrades, for example, still qualify.

The other conundrum for such schemes is the extent to which general energy efficiency remains the most appropriate target. The growing volatility of the wholesale market as renewable penetration grows and the challenges of replacing old coal plants with new low/zero emissions dispatchable capacity has turned policymakers' attention to the value of demand management. South Australia and NSW have taken different approaches. South Australia has broadened the scope of its REPS scheme, rebranding it as an energy productivity scheme and including demand management activity such as time of use (ToU) tariff adoption and virtual power plant (VPP) take-up. The advantage of this approach is that it reduces administration costs to keep everything in one scheme, while the disadvantage is that the scheme loses clarity on the target metric. Demand management may not entail any overall energy reduction, (which is not a criticism - that's simply not the purpose of it), but then the deemed savings are "phantom" savings.

Conversely, NSW has set up a separate scheme. The PDRS is too new to carry out much by way of evaluation, but in principle the advantage of having two schemes is that it allows each scheme to focus on its target metric and activities to be appropriately designed for each. It's easier for policymakers to choose the level of ambition for

[6] DELWP, Measurement and Verification in Victorian Energy Upgrades Specifications, V7.0

each metric. However, having two schemes can lead to higher costs, although the combined bill impact of the ESS and the PDRS is lower than that of the REPS.

Domination by a single activity

Schemes are often dominated at any given time by one activity. The early years of the VEU, for example, saw waves of low cost residential items dominate, from low flow shower heads to standby power controllers to in home displays to LED downlights. As each activity neared saturation it was replaced by another (or in some cases the activity was withdrawn).

At other times, commercial lighting has dominated. In principle, this is simply how such schemes work - they find the lowest cost activity and focus on that as the most efficient way to generate certificates/meet liability (and thus the most efficient form of eligible energy efficiency). It only becomes an issue if policymakers decide it is an issue that other types of energy efficiency - and in particular other types of customer are being crowded out. So the 2024 review of the ACT EEIS noted that only 10 per cent of households benefitted from energy efficiency activity in 2023 and no small businesses because commercial activities were the most effective activity[7]. Similarly the 2020 review of the NSW ESS noted that c. 70 per cent of scheme savings to date were from commercial lighting[8].

Retailers with large commercial customers to whom they can pitch energy efficiency projects face a double-edged sword - on the one hand they have customers with large loads and so large potential energy savings, but on the other hand there are only a few customers to pitch projects to, and even fewer if there are large user exemptions (as in Victoria). Challenges with large user projects are discussed later.

Sub-targets

Policymakers' response to these market dynamics is often to consider some form of banding, as with the ACT and REPS priority population targets. Some submissions to recent scheme reviews have called for a residential sub-target. Other areas of concern are whether renters are able to benefit from the scheme and whether certificate creators target metropolitan populations over regional ones.

While banding or sub-targets are not fatal to the workings of a scheme, they reduce efficiency and increase the administrative burden, and so at best, should be used sparingly.

Administrative challenges

The popularity of commercial lighting is likely to be driven by the combination of being able to generate a high volume of certificates due to the scale of the project versus residential and small businesses and a straightforward verification process. There is a lot of scope for more bespoke projects at commercial and industrial scale, but several of the schemes do not facilitate this type of project. One submission to the review of the ESS found that the regulator's approach lacked flexibility and pragmatism resulting in a barrier to delivering large scale projects[9]. There was effectively a one-shot approach to verification, unlike Victoria, which allowed a more iterative approach. The audits were expensive and complex.

Conversely, a participant in the VEU found the ESS to be preferable and in their experience, multi-site customers often ended up carrying out activity only in NSW even when they could do the same in Victoria[10]. In their view the third party audit allowed for a consistent and streamlined approach compared to the lengthy and bottlenecked review process in Victoria that was somewhat duplicative.

These concerns are indicative of a broader question mark over whether any of the schemes are as efficient as they could be. In SA, because the regulator does not accredit activity providers, the retailer and activity provider often have to go through the same review process, and the retailer has to repeat it if they start using another activity provider. In order to ensure the integrity of certificate creation, the VEU and ESS need to have some form

[7] Frontier Economics, Review of the Energy Efficiency Improvement Scheme, March 2024
[8] DPIE, NSW Energy Savings Scheme – Final Statutory Review Report 2020, June 2020
[9] ESIA submission to the draft Statutory Review Report 2020, May 2020
[10] Interview, Newgrange Consulting and liable entity

of activity provider accreditation, and while administratively burdensome for small businesses it likely works better for retailers than the South Australia model.

As a result of issues like these, the administrative costs of the schemes, while similar to each other, are significantly higher than their European equivalents. An independent evaluation of the REES (the predecessor to REPS) estimated admin costs at between 3.6 and 4.1 per cent of overall costs while schemes in the UK, France and Denmark only had administrative costs of 0.2-0.4 per cent[11].

Do energy efficiency RCSs actually encourage energy efficiency?

Apart from adding to the overall cost of the schemes, the administrative burden also makes it hard for smaller energy efficiency providers to participate. The most successful business models at residential level appear to be from activity providers with aggressive marketing tactics offering low cost items at no cost to the household, i.e. making it a "no-brainer". Unfortunately, this results in nuisance cold calls and door knocking. Victoria has recently sought to stamp out such activity, but the report writer's experience is that this has not been very successful, and of course it means providers have to use higher cost origination options instead.

Consumer and community groups have often noted the lack of "deep retrofit" activity being encouraged by the schemes, which they consider would be highly beneficial, especially for priority customers. The reality is that the schemes are not oriented to such projects, which are too bespoke to efficiently roll out. This means that perversely, householders who take the initiative to carry out their own retrofits are among the least likely to benefit from the scheme. Again, arguably this does not matter as long as energy efficiency is being delivered somehow, but it is counterintuitive that such schemes actually work against a culture of proactive energy efficiency.

As several of the low cost activities have reached saturation or have been deregistered, activity providers are likely to have to attempt to deliver more complex schemes. The additional costs entailed in this will be spread over greater energy savings, so the overall impact on scheme costs on a per kWh basis remain to be determined. Alternatively, providers may pivot to focus on commercial users, where the savings from an individual project can be many times greater than that from an individual household.

Additionality and interaction with other schemes and regulations

While the academic literature suggests that energy efficiency activity by energy users is below optimal levels - this being the primary "market failure" energy efficiency RCSs are aimed at addressing – this doesn't mean that absent policy interventions, no energy efficiency activity would be carried out. Given that some energy efficiency activity occurs "naturally" it can be difficult to determine the level of *additionality* of the schemes - that is the proportion of the savings that would have occurred without the scheme.

This is further complicated by the existence of multiple policy instruments aimed at supporting energy efficiency. These include additional subsidy schemes, direct investment (for example in public housing or government buildings), appliance labelling and minimum efficiency standards for buildings and appliances. As the VEU strategic review consultation notes:

"Energy consumers are also using less energy, per capita. This is being achieved through consumer choices along with improved mandatory energy efficiency standards for new residential and commercial buildings, Victoria's minimum rental standards (introduced in 2021) and retrofit programs, such as upgrades in social and public housing. Steady improvements to energy performance standards for equipment and appliances have also contributed."[12]

It's beyond the scope of this report to carry out an exhaustive review of relevant policies, however both jurisdictional and national policies play a role. While there's not an inherent contradiction in having multiple policy instruments, it does result in a lack of clarity over the outcomes achieved by each individual policy. Where multiple subsidies programs exist are available, for example, it may be the case that at the margins some activity requires the user or supplier to be able to "value stack" multiple subsidies in order for it to be economic. It's likely that in many other cases, a single subsidy would be sufficient to elicit the activity and the additional subsidy is merely a

[11] Common Capital, Independent Evaluation Past performance and future policy options for the Retailer Energy Efficiency Scheme (REES), July 2019
[12] DEECA, VEU strategic review consultation, February 2025, p4

windfall for the consumer or the supplier. Furthermore, not all energy activity is worth doing, i.e. it uses more resources than it saves, and so an activity that requires multiple subsidies is probably a misallocation of resources.

Of course, where there are multiple forms of subsidy available, achievement of RCS targets becomes easier and cheaper. Conversely if other forms of support are withdrawn, the costs of the RCS scheme may rise and so governments should be cognisant of the way different schemes interact. The small scall renewable energy scheme (SRES) supports two activities recognised under RCSs – installation of qualifying heat pumps and solar hot water, but this scheme is being phased out by 2030.

Minimum standards and labelling also interact with RCSs by driving up the average efficiency standard of buildings and appliances. RCS activity parameters may need periodic adjustment to reflect these changes.

Attempts to directly measure additionality are rare. An exception is the most recent review of the ACT EEIS, which estimated between 52 and 62 per cent of the energy savings from the activities carried out were additional - i.e. they would not have happened without the scheme[13]. Conversely 38-48 per cent of the energy savings were not additional. The figure is specific to the ACT scheme, but realistically some percentage of all the schemes would have happened anyway.

The implications of rising deployment of batteries and consumer energy resources

As the deployment of consumer energy resources increases, there are consequences for RCSs that allocate liability by volume of energy consumption. The first is that customers with rooftop PV take less electricity from their retailer (even though they don't necessarily use less energy overall) and so their share of the cost burden of an RCS falls relative to non-solar customers. Whether this is fair or not is debatable, but it is a consideration. Additionally, some retailers own and operate batteries whose net consumption of energy is very low (as batteries have high round-trip efficiency). But depending on how the target is defined, the gross consumption from charging the battery may be included in the calculation of an individual retailer's target. Electric vehicles (EVs) also complicate the picture. Governments are promoting them on the grounds of emissions reduction, yet they get no credit under any of the current schemes but incur their share of certificate costs when charging from the grid.

Benefits case for energy efficiency RCSs

A key premise of the energy efficiency RCSs is that they satisfy the "beneficiary pays" criterion because their impact on the electricity market results in lower costs for all customers, not just those who get the benefits of the activities that generate certificates.

All four of the long running jurisdictional energy efficiency schemes have been reviewed and the review findings include that each scheme has delivered material net benefits. A detailed examination of the benefits calculations is beyond the scope of this report but they appear typically to be based on the following assumptions:

- that the deemed energy savings are the actual energy savings (notably the 2020 review of the NSW ESS included measurement and verification studies to validate the deeming factors);
- that these savings are additional (that is they would not have happened had it not been for the scheme - noting that some reviews recognise the difficulty of demonstrating additionality);
- that a robust $MWh (or $/peak MW) savings can be inferred. This could include wholesale market savings and network savings;

In practice these all represent assumptions, and the headline figures on savings are effectively conditional on these underlying assumptions holding true.

For example, the 2020 review of the NSW ESS claimed that "In its first decade, the ESS has reduced the wholesale electricity price by an average of $2.30 per MWh. This includes costs of $1.10 per MWh which are offset by

[13] Frontier Economics, Review of the Energy Efficiency Improvement Scheme, March 2024

savings of $3.40 per MWh"[14]. Notably in its early years, the costs of the ESS exceeded the wholesale price benefits. Since 2017, however when the wholesale price jumped the estimated benefits have significantly exceeded the costs (as similar price increases were seen across all jurisdictions, this would be applicable to the other energy efficiency schemes too).

The accuracy of the benefits calculation is dependent on the accuracy of the deeming factors and also the robustness of the counterfactual used for modelling what wholesale prices would have been without the demand reduction caused by the scheme (there's also an implicit assumption of additionality, i.e. that the activities that created the certificates would not have happened if the scheme was not in place). Nonetheless the principle is sound: by subsidising energy efficiency activities, the RCSs have increased the level of energy efficiency activities, these activities have reduced electricity demand, and lower demand should result in a lower price.

There may also be some savings elsewhere in the supply chain. However, even though some of the other costs, such as network costs, market costs and other RCS costs are charged on a variable basis, their underlying cost drivers are largely fixed. in the case of network costs, these vary more with peak demand than with total demand, meaning that the PDRS has a better claim to reducing network costs for all customers than the general energy efficiency schemes.

However, the benefits claims are less clear to the extent schemes move more towards energy productivity activities, including gas to electric switching and activities that don't entail an overall fall in consumption, such as in-home displays and tariff changes.

Gas to electric switching may result in less energy use overall - the electric alternatives that are supported by the schemes, such as heat pumps are highly efficient, but the main rationale is emissions reduction. And since they result in more electricity use, logically they contribute at the margins to an increase in electricity prices, so such activities don't generate benefits for other electricity users. Whether they have an impact on gas prices for those remaining on gas is unclear, noting that there are different dynamics in play. Wholesale gas prices in eastern Australia are influenced by LNG export prices[15], so may not be responsive to changes in domestic demand.

Renewable fuel schemes

Renewable fuel schemes are relatively new. Only one scheme has been legislated so far: the NSW RFS, and this is already subject to potential reform[16] before it's even been implemented. Meanwhile, WA has consulted on a potential renewable hydrogen target[17] and Victoria is now consulting on the design of its Victorian Industrial Renewable Gas Guarantee (IRGG)[18]. Given the lack of progress or comment from the WA Government, it appears that the WA RHT may not be implemented at this time.

In principle renewable fuel schemes can be a driver of demand (and thus help stimulate the development of a supply industry) for a range of renewable fuels, such as green hydrogen and biomethane. These fuels are currently not cost competitive and so they need some kind of policy support to kickstart the industry. The logic of using a retailer certificate scheme as opposed to other policies is to leverage off the competitive dynamic to find the renewable fuel use cases that require the lowest premium to be commercially viable - just as the RET discovered the sources of renewable electricity generation that ended the lowest premium. In order to do this, the widest range of fuels that can be considered renewable should be eligible, as should the widest range of use cases. Governments should be prepared to accept the outcomes of what the market uncovers (absent serious unanticipated consequences). Further, the parties who ultimately bear the cost of the scheme should benefit in some way from the deployment of renewable fuels.

The current design features or proposed design features of the three schemes are set out in Table 2 below.

[14] DPIE, NSW Energy Savings Scheme – Final Statutory Review Report 2020, June 2020, p9

[15] https://www.accc.gov.au/inquiries-and-consultations/gas-inquiry-2017-30/lng-netback-price-series
[16] DCCEEW, Opportunities for a renewable fuel industry in NSW Discussion paper, August 2024
[17] DMIRS, Renewable Hydrogen Target for electricity generation in the South West Interconnected System Consultation Paper, October 2022
[18] DEECA, Victoria's Renewable Gas Directions Paper, December 2024

Table 2: Key features of Renewable fuels RCSs

Scheme	NSW Renewable Fuel Scheme (RFS)	WA Renewable Hydrogen Target	Victoria Industrial Renewable Gas Guarantee
Objective	to create a financial incentive to increase the production of renewable fuels.	Industry development, Decarbonisation of the electricity grid, Electricity grid reliability and stability, Reducing the risk of fuel cost escalation in a carbon constrained world, Decarbonisation of the Western Australian economy	Under development, objective not specified (but aimed at developing RE gas sector)
Metric	GJ of eligible RE fuels (currently only hydrogen)	GJ natural gas displaced	GJ of eligible RE gas
Start year	2026	TBC	2027
end year (if specified)	2044	2040 proposed	2035 proposed
Liable entities	Natural gas retailers and large users that don't purchase gas through a retailer.	Electricity retailers and large users	Licensed gas retailers along with wholesale energy purchasers who do not procure gas through a licensed retailer, probably. Considering excluding small gas users.
certificate represents	1 GJ of green hydrogen that is produced	1MWh generated from hydrogen	TBC
Conversion factors	Renewable Fuel Production (GJ)= Hydrogen GO (kg) x Lower Heating Value (0.12GJ/kg)	n/a	TBC
scheme administrator	IPART	TBC	TBC
target/target setting	The targets gradually increase to 8 million gigajoules (GJ) by 2030	TBC 1/5/10% by 2030	1 PJ by 2030, 4.5 PJ by 2035 (proposed)
geographic constraints	Local use refers to the end use of hydrogen in NSW or for NSW Government-funded projects, but initially hydrogen produced in NSW will be deemed local use	Must be for generation within the South west interconnected system (SWIS)	Will presumably target Victorian production and use
accreditation	Guarantee of Origin (GO) certificates required to confirm green hydrogen produced from Renewable energy	TBC	TBC
penalty price	$17.50/GJ (= $25 tax effective)	TBC	TBC

Source: Government and regulator documents and webpages. TBC means yet to be confirmed, as the scheme is still under consultation.

As can be seen, the schemes are more limited in scope than the ideal RCS. The NSW RFS was initially designed with green hydrogen as the only eligible fuel in the first instance, although the government is now consulting on opening up the scheme to other fuels because the green hydrogen industry is taking longer to develop than anticipated. The proposed WA scheme is specifically targeted at the use of green hydrogen as a fuel in the electricity sector. The Victorian scheme appears to be open to multiple fuels, with an expectation that for the first few years of the scheme, biomethane will outcompete green hydrogen. While Victoria is proposing a scheme with multiple fuels, it is taking a restrictive approach to the qualifying use cases, as only renewable gas used exclusively in the industrial and gas powered generation (GPG) sectors will be eligible.

Where the objective is to support a single fuel (as per the initial set-up of the NSW RFS) and even a single use case for that fuel (as in the proposed WA RHT), then the purpose of having a retailer scheme is less obvious (other than governments being able to implement policy without impacting their own budgets).

Similarly, if the NSW government's goal is to support both green hydrogen and biomethane then a retailer scheme is not the optimal policy as it may result in only one fuel succeeding, if there is a material gap between the cost to produce a certificate for each fuel. To manage this by introducing banding or multipliers for whichever fuel is expected to be less competitive undermines the price discovery element of the scheme. Notably, attempts to boost rooftop PV by awarding it 5x certificates ended up distorting the RET so much it had to be split in two.

Benefits case of renewable fuel RCSs

Renewable fuel RCSs also appear to be a poor fit in terms of who bears the cost of the scheme and how that aligns with the benefit. The most prospective uses of hydrogen are to replace industrial scale gas use in hard-to-abate sectors, such as steelmaking, brick kilns and some forms of transport. So these large users are the key beneficiaries, noting that there are some broader economic benefits to retaining such industries in a low carbon world. Small businesses and households are unlikely to transition to hydrogen and there are limited feedstocks of biomethane, meaning that these customers' optimal route to decarbonisation is to electrify instead. So they do not directly benefit from a renewable fuels scheme. The Victorian IRGG implicitly recognises this by considering an option to only require industrial gas users to fund the scheme. The WA proposed RHT takes a different approach - on the basis that the targeted activity is green hydrogen used to fuel GPG, the proposed liable entities are electricity retailers and large users. However, since the primary underlying objective is still the development of the hydrogen industry, it's unclear why small electricity users should be underwriting it.

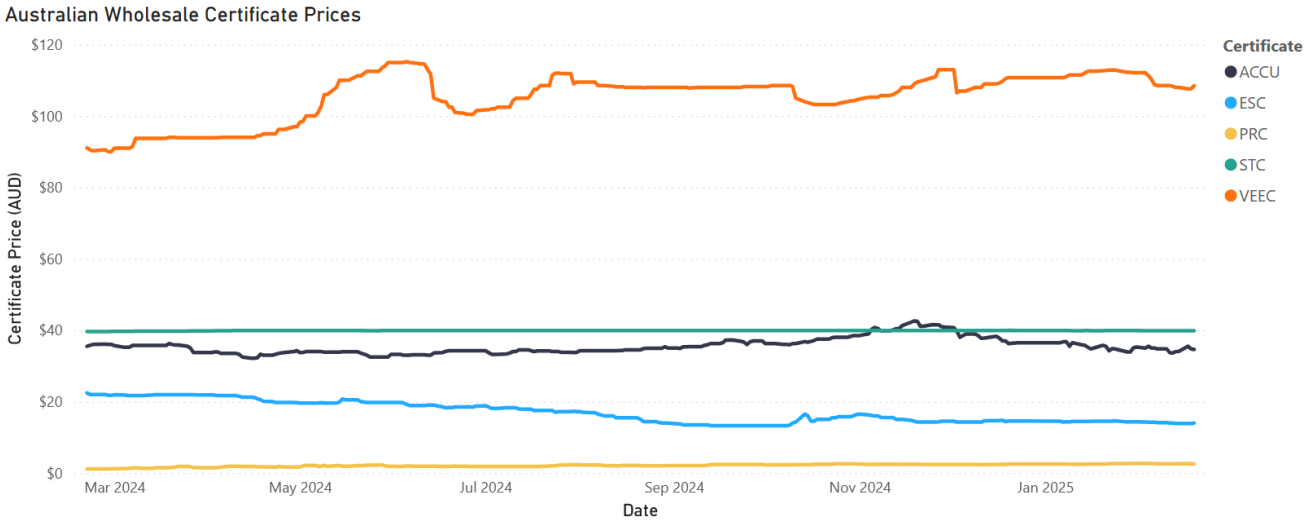
On the premise of the current actual and proposed design of the renewable fuel RCSs, they are not well aligned to the rationales for an RCS. There are not sufficiently diverse choice of eligible activities for the schemes to do the work of finding the lowest cost activities; governments seem to have a pre-determined outcome in mind for the schemes and there is limited alignment of the scheme benefits with the ultimate payees.

4. Abatement costs of RCSs

Comparing the costs of different schemes that have different metrics and target different activities is challenging. However, the one common objective across the schemes is that they are all intended to assist in emissions reduction, albeit only the VEU uses this as its metric. Accordingly the most appropriate point of comparison is to estimate the cost of abatement these represent. This also allows for comparison to other policies that reduce emissions. For example, while there is only a partial overlap, the Commonwealth's Safeguard Mechanism represents a policy that is aimed at emission reduction, where eligible activities include energy efficiency and fuel-switching.

The latest costs for the tradeable certificates are shown in Figure 1 below, with ACCUs and small scale renewable certificates (STCs) shown for comparison.

Figure 1: Spot prices of tradeable certificates



Source: Northmore Gordon, accessed 21 Feb. 25

ACCUs currently[19] trade at $34.60 and each represents a tonne of carbon dioxide or equivalent greenhouse gas (tCO2e) avoided, as does a VEEC, which is trading at $108.50. Both are on a rising trend, with ACCUs trading above $30 for about a year and VEECs above $90. It's clear that a VEEC is systematically more expensive abatement than ACCUs. This of course assumes that each accurately represents a tonne of abatement. Notably, the ACCU market remains highly subject to government choices around qualifying activities, buybacks and other instruments.

To arrive at an abatement cost in $ tCO2e for the other energy efficiency schemes, it's necessary to do two things:

1. derive a cost in $/MWh and
2. impute a tCO2e/MWh for avoided emissions, based on the emissions intensity of electricity in the state.

The NSW ESS uses tradeable certificates (ESC in Figure 1). The spot price on 21 Feb. 25 was $14.00/MWh, with prices trending down over the year.

The ICRC estimates a cost of $3.50 per MWh consumed by ACT consumers for the EEIS in 2023[20]. This is based on information provided by the Tier 1 retailer, ACTEW AGL. As the 2023 target was 14.6%, we can infer that the cost per MWh of eligible energy savings was $23.97. This is slightly lower than the fee paid by Tier 2 retailers of $27.40 (which does not directly result in any energy reduction).

ECOSA estimates the cost to achieve a GJ of energy savings as $13.85[21]. This is equivalent to $49.86/MWh, which is notably higher than the other schemes.

Open Electricity estimates the emissions intensity of electricity in the most recent financial year to be 0.61tCO2e/MWh for NSW and 0.237t/MWh for SA[22]. The ACT is embedded in the NSW region. However, it has a 100 per cent renewables equivalent policy. Given this would result in an infinite abatement cost for the scheme, this report uses the NSW figure. This may understate the abatement cost as ACT has some medium scale embedded solar so its effective emissions intensity is likely lower than NSW.

The results are shown in Table 3 below. For comparison, the cost/MWh of renewables from the LRET and SRES schemes are also included. Arguably, 1MW of new renewable supply has the same impact as 1MW of demand reduction from an emissions perspective. As these are national schemes, no conversion to $/tCO2e has been included. The South Australia REPS abatement cost is high both due to the higher cost of achieving energy savings in that scheme and also to the low emissions intensity of the South Australia electricity region. However,

[19] Prices quoted in this paragraph are all as at 21 Feb. 25, as per Northmore Gordon
[20] ICRC, Retail electricity price investigation 2024-27, Final Report, May 2024
[21] ESCOSA, Retailer Energy Productivity Scheme – Annual Report 2023, August 2024
[22] https://openelectricity.org.au/

South Australia REPS also includes gas. 1GJ of energy savings from reticulated gas would have higher emissions reduction, and so a lower abatement cost, around $28/tCO2e.

Table 3: Indicative abatement costs of energy efficiency RCSs

Scheme	Cost $/MWh	tCO2e avoided	Cost $/CO2e
ACT EEIS	23.97	0.61	39.30
NSW ESS	14.00	0.61	22.95
South Australia REPS	49.86	0.237	210.38
LGC	46.23	Varies	
SRES	40	Varies	
South Australia REPS (gas)	13.85 ($/GJ)	0.5153	26.88
Victoria	57.87 (implied)[23]	1	108.50

Various sources, Newgrange calculations

These results are simplified and do not account for the following:

- **Losses.** While the emissions associated with electricity production take place at the point of generation, the energy savings activities happen "behind the meter". There are electrical losses entailed in transporting the electricity from generation to end use. Accordingly, 1MWh of energy savings avoids slightly more than 1MWh of electricity generation and accordingly avoids more carbon emissions. Losses vary with factors such as distance and temperature, but around ten per cent is a reasonable working assumption. This entails a ten per cent reduction in the estimated abatement cost. A similar argument can be made in the case of gas, albeit for different reasons. In the case of gas, the combustion occurs at the point of consumption, but some natural gas will have leaked on its way from the well to the customer and methane is a powerful greenhouse gas.
- **Additionality**. As noted above, the most recent review of the ACT EEIS estimated only between 52 and 62 per cent of the energy savings from the activities carried out were additional - i.e. they would not have happened without the scheme[24]. While this figure is specific to the ACT scheme, realistically some percentage of all the schemes would have happened anyway. Adjusting for additionality would significantly increase the abatement cost.
- **Rebound effect**. Energy efficiency reduces the cost of the amenity customers seek from their energy consumption. It's standard economics to note that when the cost of a good or service falls, consumers use more of it. So, if insulation makes it easier to heat or cool a home, the homeowner may choose a more comfortable temperature and so use some extra energy. Alternatively, if they don't change their thermostats, they will save money, which can be spent on other activities that use energy or generate emissions. The effect may be large or small. A UK paper estimates 10-30 per cent is common, noting that the higher end of this estimate is likely only for specific activities[25]. To the extent there is a rebound effect, the abatement cost of energy efficiency will be higher than implied by certificate costs.

Of course, other abatement activities and policies may also be subject to additionality or rebound factors.

The NSW PDRS certificates (PRC in in Figure 1) were trading at $2.52 at the time of writing. These are not comparable to other schemes as they represent peak demand reduction. Given this may be achieved by load shifting rather than energy savings per se, it's not meaningful to estimate an abatement cost, although load shifting from high price periods to low price periods is also likely to correspond to a shift from higher emissions intensity to lower emissions intensity. This represents a peak demand reduction cost of $25.20/kWh at peak demand times, or $25,200/MWh. Given this exceeds the wholesale market price cap, which is a proxy for the value

[23] An implied $/MWh value for the VEU can be found by multiplying the price by the deemed energy intensity for the most recent year (0.5334tCO2e/MWh, assuming that the change on 1 February has not yet flowed through to market prices).
[24] Frontier Economics, Review of the Energy Efficiency Improvement Scheme, March 2024, p9
[25] Stephen Sorrell, The Rebound Effect: An Assessment of the Evidence for Economy-wide Energy Savings from Improved Energy Efficiency, October 2007

of reliability, it's questionable whether this represents good value. The scheme is fairly new however, and costs may decline over time.

It's arguably premature to put an abatement cost on the renewable fuels schemes, as certificate prices are yet to be established. However, some guidance on what governments *expect* certificates to cost can be established from the consultations.

The NSW RFS has a tax effective penalty price of $25/GJ. This should be considered the upper bound of a certificate cost, but of course the expectation is that it will trade significantly lower.

The WA RHT consultation, posited that by 2030, the cost of the scheme would be $20.82m and that this would deliver 0.72PJ of hydrogen for use in GPG. This implies a $/GJ of $28.92.

The Victorian IRGG Directions Paper does not provide a $/GJ figure. However, it posits two scenarios for scheme bill impacts depending on whether natural gas prices are $12/GJ or $20/GJ. From these figures it can be inferred that they are assuming the cost of renewable gas (presumably biomethane given the commentary in the paper) will be $21.44/GJ. In other words, the premium - presumably reflected in the scheme costs - will be $1.44 or $9.44 depending on the scenario. The CO2 emissions factor of natural gas is 0.5153t CO2/GJ. Assuming that each GJ of renewable gas in the schemes displaces 1GJ of natural gas and imputing no emissions or losses to the production and transport of the renewable gas, the following potential abatement costs can be inferred:

Table 3a: Potential abatement costs of Renewable fuels RCSs

	$/GJ	$tCO2e
NSW RFS	25 (upper bound)	48.52
WA HT	28.92	56.12
Victoria IRGG	1.44-9.44	2.79-18.32

These are all of course purely indicative, and the actual price (assuming each of the schemes goes ahead) will depend on detailed design choices, natural gas prices and other factors not considered.

5. Bill impacts of RCSs

The other key metric for retailer certificate schemes is their impact on consumer bills. In principle there are two cost elements that are relevant: the cost of acquiring sufficient certificates for compliance and the administrative cost to retailers of managing against their liabilities. The latter is hard to identify separately from general retailer administrative costs and is likely to be a fraction of the cost of acquiring certificates. Accordingly this section focuses on the former.

In the case of electricity retailers, a figure for the current bill impacts of each energy efficiency scheme can be derived from regulators' decisions on regulated price caps and benchmarks. While the regulators' methodology can sometimes be contentious it's beyond the scope of this report to critique them. At the margins of course, each additional RCS increases the risk that a regulated price cap is set too high or too low, given regulators are obliged to estimate ex ante how much certificates will cost (and depending on timing even estimate retailers' liabilities).

For the two energy efficiency schemes that include gas retailers in liable entities, a bill impact can be inferred using the electricity figures. The results are summarised in Table 4 below.

Table 4: Bill impacts of energy efficiency RCSs ($/MWh or $/GJ)

	Electricity ($/MWh)	gas ($/GJ)
NSW Energy Savings Scheme (ESS)	2.71	n/a
NSW Peak Demand Reduction Scheme (PDRS)	0.71	n/a
Victoria Energy Upgrades Scheme (VEU)	13.26	$1.34
South Australia Retailer Energy Productivity Scheme (REPS)	4.57	$0.51
ACT Energy Efficiency Improvement Scheme	**3.5**	**n/a**

Note that unlike the abatement cost calculations, which used latest spot prices for the tradeable schemes, the figures above are based on estimated annual average prices across the period for which the regulated price has been set. In the case of the renewable fuel schemes there are no current certificate costs to base an estimate on, as discussed in the previous section. Additionally each scheme will start small and scale up to an eventual plateau, and so the bill impact will increase over time, but start very low. The consultations for the WA RHT and the Victorian IRGG both include estimated bill impacts at points in time, albeit these are expressed in percentage terms, so their bill impact in dollars is hard to gauge as it depends on unpublished assumptions on what bills will be at that time.

6. Recommendations

Harmonisation

One way to improve the efficiency of RCSs is via harmonisation of schemes that are targeting the same types of activity. The most effective way to harmonise across jurisdictions would be to roll them into a national scheme. However, this is unlikely to happen as individual jurisdictions would lose control of targets and a national target may end up being fulfilled disproportionately in one jurisdiction. For example, the LRET saw proportionately more renewables built in one of the smaller jurisdictions (from an electricity market perspective), South Australia. Additionally the WA government took steps to ensure that state built its share of projects to avoid the poor optics of WA consumers funding projects in eastern states and not getting any benefit. Such an outcome is less likely in the case of energy efficiency, where opportunities are spread out across Australia than a renewable fuels scheme, where certificate creation may come from a small number of large projects.

However, there is still plenty of scope for jurisdictional schemes to be maintained while converging scheme design and parameters as far as possible. For energy efficiency RCSs a key first step would be to align the core metrics to energy efficiency and convert the non-certificate schemes to certificate schemes. Some form of mutual recognition of accreditation of certificate creators and of activities would be the best next step. This would reduce compliance and administration costs across the board.

Reducing administrative costs and increasing scheme flexibility

The two main drags on the efficiency of the schemes are the administrative cost and rigidities in a scheme that inhibit finding the lowest cost solutions. Some administration is inevitable, given the importance of scheme integrity. However, streamlining administration as far as possible can reduce costs and barriers for both retailers and activity providers. Increasing participation by activity providers increases competition and is likely to lead to more of the discount inherent in certificate prices (or generic activity costs for the non-certification schemes) being passed on to consumers. This will be of increasing value as schemes evolve towards activities that are more complex and will require co-payment from consumers, instead of the low hanging fruit of low cost items that can be provided for free.

The situation is somewhat different for renewable fuel schemes. It's likely that activities will be at large scale and so administration is less likely to be a material barrier (although scheme efficiency is always worth pursuing). Both types of RCS, however, benefit from flexibility. This can take several forms, including:

- Use of certificates and allowing secondary trading, to allow for gains from liquidity
- Banking and borrowing of a proportion of an overall liability to partially decouple certificate creation profiles from target profiles
- Inclusion of a drawback mechanism for retailers that have overpurchased on behalf of a customer
- Avoidance of retrospective liabilities
- Maximising the number of qualifying activities (providing the activities can deliver against the scheme's metric). For renewable fuel schemes this could entail maximizing the range of renewable gases that can qualify and minimising any restrictions on use cases.

RF schemes will particularly benefit from flexibility as they are new and there will be uncertainty over how quickly qualifying projects will be able to start generating certificates in the earlier years. Even for the mature energy efficiency schemes, flexibility is especially useful at inflection points when different activities take over as the best way to generate certificates.

Not everything is a nail…

…And a hammer is not the only tool available. There is an unfortunate tendency to treat the apparent success of the RCSs as a justification for using them as a means to any and all policy goals. Politically, this is attractive for two reasons. Firstly, it is typically easier to amend existing legislation or regulations than to introduce a new law for a new policy. Depending on the governance structure and the amendments sought, some changes may not even need legislative approval and thus need not go through Parliament. Secondly, because the costs are recovered from energy consumers, there is no need to find funding for it.

Political expedience is not in itself good policy, however. The point of these schemes and what makes the best designed schemes successful is that they harness the power of competition to deliver the lowest cost methods of meeting a single clear, policy metric. By definition, the specific outcomes cannot and should not be predetermined. If governments have a very clear idea of the activities they want to see, then a different policy such as a grants or loans scheme where the government can control who the funds are disbursed to and for what activities is more appropriate. For example Victoria's solar homes specifically targets households with income below a certain threshold[26].

Refocus on the key metric

As set out in section 2 above, RCSs work by harnessing competition to deliver a simple, clear goal, be it more renewables, less electricity consumption, or less demand at peak times. Recent developments have seen a broadening of activities in some of the energy efficiency RCSs, such as the addition of tariff changes and VPP participation to the list of eligible activities to the REPS. Victoria appears to be contemplating expanding the VEU to include demand management[27]. The inclusion of activities that do not support the main objective of the scheme – energy reduction - and that can't be measured using the chosen metric (MWh of energy saved – or in the case of Victoria, CO2e avoided through MWh saved) distorts the scheme and undermines its efficiency. The two goals are not directly commensurable and so "converting" peak demand reduction, or other energy productivity activity into energy savings entails arbitrary assumptions about the relative value of each goal. Notably, the extension of the South Australia REPS to cover various energy productivity activities alongside traditional energy efficient activity has not driven a reduction in the marginal scheme cost.

By contrast, NSW has set up a separate scheme for peak demand reduction, ensuring that both this scheme and the preexisting ESS can each target the appropriate metric. Even allowing for the additional administrative costs of a second scheme, this is likely a more efficient approach. Administrative burdens can be minimised by

[26] Solar homes Victoria website, accessed 13 February 2025
[27] Victorian Energy Upgrades Strategic Review, Discussion Paper, February 2025, p9

combining accreditation and audit processes, noting that providers of energy efficiency activity are also likely to be able to provide demand management solutions too.

Check the "beneficiary pays" logic (still) holds as schemes evolve

A key message from policy makers is that the energy efficiency RCSs benefit all energy consumers, not just those that participate. The logic of this argument is that reducing demand reduces energy prices in two ways. Firstly lower demand reduces the need for augmentation of the transmission and distribution networks, so network charges are lower (although there is also a lower level of consumption over which to spread the costs). Secondly, reducing demand without affecting supply should mean that the wholesale market clears, on average, at a lower price, so the wholesale component of bills should be lower. Conceptually this argument is sound for electricity, although it's worth noting that network augmentation investment is lumpy and only occurs when demand on each specific part of the network reaches a certain threshold. So there is not a linear relationship of $x saved per kWh avoided.

The argument is less clear for gas. While electricity demand is expected to grow due to electrification and other factors, gas distribution networks have likely reached their peak demand, and are expected to face falling customer numbers and demand in the future (there may be specific investment requirements at transmission level as gas sources change and potentially new gas powered generation is required, but this will occur independently of efficiency outcomes). This is especially the case for Victoria and the ACT where there is specific government policy aimed at winding down gas use, although demand is also expected to fall in NSW and South Australia. But their sunk costs are still being recovered from customers and their ongoing capex drivers are primarily safety and integrity, rather than demand. As things stand, reducing gas demand via energy efficiency or electrification will not materially reduce costs, and will actually increase unit costs for the remaining customers. On the wholesale side, gas is linked to international markets, and international prices are the main driver of wholesale costs, so reducing demand is unlikely to have any impact.

Further, if energy efficiency RCSs are subsidising electrification, i.e. switching from gas to electricity appliances, then they result in *increased* electricity demand. It follows that if RCS activities that reduce demand are credited for reducing bills for non-participating customers, then those that increase electricity demand are responsible for increasing bills for non-participants. This does not mean that electrification, or subsidies to support it is poor policy. It doesn't even mean that electrification activity should not qualify for energy efficiency RCSs, providing such activities are consistent with the key metric of either lower overall energy use or lower overall emissions. It does mean that including such activities in energy efficiency RCSs undermines the benefits case for non-participants. As such, it may weaken the "social licence" for such schemes. It also raises the question of whether the fairest way to fund electrification subsidies is via an RCS given that electricity bills are typically more regressive than the tax system.

As discussed above, the "beneficiary pays" argument does not appear compelling for renewable fuel schemes.

Recognise the way that the energy sector is changing

The energy efficiency schemes were set up at a time when demand had been growing strongly, and the value of finding ways to limit this demand growth were obvious. Subsequently, demand growth has moderated and grid demand has declined in several states and territories. There are multiple reasons for this, including presumably the schemes themselves. One is the rise of rooftop PV. This allows the consumer who owns the rooftop to draw less energy from the grid. This reduces their exposure (indirect liability) to the costs of RCSs, where liability for such schemes is allocated by retailer load. Rooftop PV does not however entail lower energy use overall. Whether this results in a fair allocation of RCS costs between solar haves and have nots merits consideration.

Emerging technologies may require careful consideration in scheme design. Battery storage deployment is increasing both behind the meter (on consumer premises) and in front of the meter. As a storage technology, batteries draw energy from the grid (or from co-located generation such as rooftop solar) when prices are low and release it back to the grid when prices are high. Accordingly, their commercial viability is driven by arbitrage opportunities (noting that some batteries also earn revenue from other services as well). Depending on the location of a battery, and the way liabilities are defined it may be liable for (or exposed to) RCS certificates when it draws energy from the grid, even though that doesn't represent its net consumption. Batteries have very good

round trip efficiency so their net consumption is very low. It is arguably distortionary to the market and disincentives efficient battery deployment to expose batteries to RCS costs based on their gross consumption. In principle the consumption of grid -connected batteries can be excluded by using net settlement data to determine liabilities (NSW schemes currently use gross) but this would not address the issue of behind the meter batteries where they draw from the grid.

EV consumption can contribute to increased demand in the future which will also contribute to retailers' liabilities for RCSs. Given governments are relying on EV uptake to help decarbonise private road transport as part of meeting net zero targets, they should consider whether this additional cost is consistent with their overall policy goals.

Don't believe the hype

More is not always better, and while the schemes have undoubtedly saved costs, policymakers should not put undue weight on the specific estimates. These are predicated on the deemed savings equalling the actual savings, and with the exception of the recent ACT review, there is no adjustment for savings that do not meet the additionality requirement.

Moreover, increasing targets does not equate to increased benefits. Otherwise, governments could increase targets indefinitely in order to deliver ever greater benefits to consumers. A number of market dynamics will impact the net benefit from incrementally greater targets.

- Activity providers will need to search harder to find energy efficiency opportunities and the marginal cost of achieving a kWh of energy efficiency will rise. This will especially be true where low cost solutions reach saturation.
- This rising cost could be partially offset by economies of scale, but it's unclear how material this will be. And this may also be offset by supply chain bottlenecks, such as limits on the number of qualified tradespeople to carry out installations.
- As noted earlier the energy system savings may be limited if aggressive demand reductions mean that there is no further augmentation costs to avoid.

It is of course impossible to tell where the optimal level of targets lies.

Appendix A: Recommendations to the strategic review of the VEU

The context for the review is that the Government's aggressive assumptions regarding emissions intensity translated into a very rapid increase in effective targets over the period 2021-2025. Unsurprisingly this has resulted in a significant increase in the price of a VEEC. At the time of writing the spot price for VEECs is $108.50, representing a notional tonne of CO2e avoided. The Victorian Government's central estimate of the social cost of carbon for 2025 is $112/tCO2e and was $106 for 2024[28]. Accordingly it is unclear that as an abatement policy, the VEU represents value for money. It is fortunate that excess certificates were created in previous years, as the rate of certificate creation is below target and liable entities are only meeting their obligations through the use of older certificates.

As a consequence Victorians are paying significantly more on their bills for the VEU than for equivalent schemes elsewhere. This is not because activities are inherently more expensive in Victoria, but because of the ambition level inherent in the targets.

The preferred interim targets for 2026 and 2027 at least recognise these challenges. They maintain the same deemed emissions intensity and reduce the target from 7.3m tonnes of abatement to 5m and then 6m. This is still higher than the recent certificate creation rate (4.7m in 2023 and 4.9m in 2024[29]). The Government's VEU Strategic Review Discussion Paper ("the Discussion Paper") highlights a number of areas for reform under consideration and this section provides a response to many of these areas.

Change the metric

As the section on abatement costs illustrate, only South Australia REPS has a higher effective abatement cost, and this is because South Australia has already achieved a very low emissions intensity for electricity production. It matters less there that it is a relatively inefficient form of abatement because the key metric is energy savings. The ACT has already made the switch from an emissions reduction metric to an energy saved metric in recognition that its 100 renewable energy target made an emissions reduction metric less relevant.

Reframing the scheme around energy savings would take away the risk and complexity of attempting to estimate future emissions factors in an uncertain environment. It would also remove the misestimates inherent in using a single emissions factor based on a ten year average where some activities are deemed to have a four-five year life while others are deemed to have twenty years.

Note that fuel-switching activities could still qualify for certificates, given there are electric alternatives for heating, hot water and gas that are more energy efficient than their gas equivalents. So, if the Victorian government was still minded to include these activities in the VEU (noting the comments below) this would be no barrier to changing the metric.

Do not mix and match different goals

As Victoria's electricity system evolves, demand management and load shifting can play an increasingly useful part in maintaining reliability and keeping overall costs down. Fortunately, existing market design creates incentives for retailers to develop service offerings that elicit such behavioural changes from customers – where the customers are willing and able to do so. These include wholesale pass through tariffs, time of use tariffs, EV charging solutions, virtual power plants (VPPs) and other approaches. Network businesses are also exploring ways to do the same, with a view to managing their own costs. In this light, the government should consider carefully the case for introducing a retailer certificate scheme to achieve the same goals, and if there is a robust case to do so, then it would be better to introduce a separate scheme as in NSW. It is inappropriate to simply assume the same market failures apply and that the same policy response is the best fit as in the case of energy efficiency.

[28] DEECA, Victorian Energy Upgrades 2026-27 Targets Regulatory Impact Statement, November 2024
[29] ESCV, VEU data dashboard, accessed 21/2/25

Consider the consequence of including gas-to-electricity activities on the broader benefits of the scheme

The VEU 2026-27 targets regulatory impact statement (RIS) states that "programs like VEU which lower demand placed on the grid can reduce the cost of the transition and increase the pace of the transition without compromising reliability"[30]. This is only true to the extent that qualifying activities do lower demand. Gas-to-electricity activities *increase* grid demand, notwithstanding that they support the Gas Substitution Roadmap. While it's tempting for the government to use the VEU to support gas-to-electricity substitution rather than take it on budget, it should carefully consider how this may undermine the case that the VEU benefits all electricity users, not just participants.

Additionality remains crucial to the integrity of the scheme

A high level of additionality is also critical to the overall benefit of the scheme. To the extent that activities where going to happen anyway, then the impact of the scheme is purely distributional. Additionality cannot be guaranteed, but the government can avoid including activities that will definitely occur in any case. So, while there may be a policy case for providing support for mandatory upgrades under minimum rental standards, for example, there is not a good policy case for doing so via the VEU.

Importantly, these and other design considerations may have a material impact on what the most appropriate level of targets should be. Accordingly, key design choices should be settled first to ensure that an achievable target level can be determined.

Avoid introducing further complexity

The scheme is already relatively complex. Activity specifications are revised annually and published in a document exceeding 150 pages. Each activity requires multiple parameters to be defined. Of course industry participants invest time into understanding these matters, but increasing the administrative and compliance burden only increases barriers to participation as an activity provider. Small suppliers of energy efficiency solutions (whether retailers of relevant products or tradespeople installing products or improving a building envelope) may find it difficult to participate, and to the extent they are competing against larger participants who have registered as Accredited Persons (APs) then they face a cost disadvantage. This may allow activity providers to retain more of the discount arising from certificate creation, as they are competing against other suppliers with no access to the discount. Accordingly, rather than increasing the compliance burden by attempting to monitor margins directly, or requiring onerous disclosure of the value of discounts (which will ultimately vary with certificate prices in any case) the government should prioritise ways to simplify participation in the scheme without compromising integrity. The more suppliers are able to access the scheme, the more competitive the market for energy efficiency solution in Victoria will be, and the greater the discount passed on to consumers.

It also follows that other design elements under consideration that would increase complexity, such as sub-targets, sub-metrics, and time of day calculations, should be avoided. Sub-targets based on customer characteristics, such as income levels or other indicators of vulnerability, while well-intentioned, would also create inappropriate privacy risks. Accredited Persons would need to elicit this information from consumers which they have no other justification for obtaining, and it simply increases the consequences arising from a data leak. There are other better ways to assist vulnerable customers.

There is no case to impose greater product/service quality requirements on accredited persons either, which would also create an additional barrier to participation. As the Discussion Paper notes, "the installation of energy efficient upgrades already occurs in a highly regulated environment"[31] with multiple state regulators having oversight.

[30] VEU strategic review consultation, p18
[31] Ibid, p15

Maximise flexibility and streamlining as far as possible

The Discussion Paper acknowledges feedback that "greater flexibility and less prescriptiveness could support the program's adaptability"[32].

Given the current state of the market, with VEEC prices at record levels, and certificate creation occurring at a rate below annual targets, it is timely to consider ways to improve the flexibility of the scheme. Limited "borrowing" should be added to the existing "banking" provisions to help liable entities manage through periods of supply scarcity. This approach was used in the RET without undermining the price signals that scheme achieved.

Product registration and activity accreditation (for project-based certificate creation for example) is one area that could benefit from streamlining. The Discussion Paper's suggestions of expanding the use of third-party certifications, changes to ESC administrative processes and improving the online portal can all assist at the margins in minimising administration burdens and should be implemented.

As discussed above, harmonisation with other schemes where possible would also assist. This could include mutual recognition of APs (or other schemes' equivalent) and activity registration, as well as comparison of different approaches to find the most effective and least cost. For example, some participants have found the NSW project-based activity process is more efficient than that for the VEU.

Finally, the identification of exempt entities would be simpler if it was based on a register of relevant meter numbers (NMIs) rather than a business address which can be challenging to match up with meters for businesses with multiple meters. The broader issue of whether such entities should continue to be exempt as the target expands is also worth considering.

[32] Ibid, p22

Appendix B: Recommendations to the REPS Issues Paper

The REPS targets currently only run to 2025. Accordingly, the South Australian Government is consulting on appropriate targets and other associated elements of the scheme for 2026-30, when the scheme is currently due to expire. The Issues Paper notes that "a comprehensive review of REPS will be undertaken by the end of 2029[33]" but the current process represents a missed opportunity to consider the scheme holistically. The 2021-25 period was the first period of the REPS, implemented to replace the REES and given three full years of data are available, and yet the Issues Paper does not present or analyse this data to allow for an evaluation of the performance of the scheme to date.

In general, the goals of the South Australian government with respect to the REPS call into question whether an RCS is the best available mechanism to achieve these goals. As explained earlier in this paper, RCSs work best when policymakers are prepared to let the market uncover the lowest cost eligible activities to achieve the scheme's key metric. Yet the Issues Paper refers to the importance of "maintaining the right overall mix"[34] of activities and the introduction of transition factors or multipliers, was designed to "allow a period for businesses to adjust to delivering the South Australian government's preferred mix of REPS activities"[35]. The government's desire to determine the outcomes of the scheme has also resulted in the introduction of "energy productivity" activities including time of use tariff uptake and participation in a VPP that do not deliver any energy savings but qualify for deemed savings as if they did. The government also has goals in terms of who gets the direct benefits from the scheme that it expresses through its priority population and household sub-targets.

These elements of the scheme make it less efficient and undermine its integrity, and therefore the "beneficiary pays" rationale that all energy consumers in South Australia benefit from it. There is an administrative cost to running an RCS, which makes it a potentially less efficient tool for delivering *specific* outcomes than other policy options. It is also more regressive than funding programs on budget.

The other missing element of the Issues Paper is an environmental scan of how the energy sector is changing, and how other relevant policies have changed since the initial round of REPS targets were set. This would inform consideration of whether the drivers for introducing the policy are still as strong as they were, and whether it remains fit for purpose. Potentially relevant developments and trends include:

- the expected commissioning of Project Energy Connect linking South Australia with NSW for the first time;
- the emergence of minimum demand as a concern as much as maximum demand for grid reliability and security;
- continuing exit from the market of local peaking generation, and the entry of large battery storage systems
- state level policies to support and manage CER, including the South Australia VPP, flexible exports, support for smart EV charging, community batteries and the Energy Masters pilot program
- national policies to support household efficiency including the Home Energy Upgrades Fund
- the tightening of the Safeguard Mechanism for large energy users and emitters, which creates an incentive for energy efficiency for liable parties
- uncertainty about the future of reticulated gas, with the NSW and WA gas distribution networks seeking accelerated depreciation to manage stranded asset risk even though they are not in jurisdictions with gas phase out policies.

These and other factors prompt questions around whether governments should take a more multifaceted and nuanced approach to energy management than RCSs allow for, and whether the emergence of additional support policies is complementary to the REPS or erodes the additionality of the scheme.

[33] DEM, Retailer Energy Productivity Scheme (2026-2030) Issues Paper, February 2025, p4
[34] Ibid, p16
[35] Ibid, p17

To the extent the government is not inclined to consider the scheme more holistically, the best advice under the circumstances is a “do no harm” approach. This would entail:

- A conservative approach to target-setting, noting that the optimal level will be affected by other scheme parameters such as exclusions and changes to activities and multipliers.
- Designated purchases should exclude consumption by batteries charging, given that this does not represent net consumption and batteries are generally intended to assist in the energy transition. Ideally this would include behind-the-meter battery (BTM) charging by customers, but this may be difficult to achieve without sub-metering. It’s likely that BTM batteries are mostly charged from rooftop PV in any case.
- No further sub targets should be introduced and consideration should be given to removing the existing sub-targets – if the government is confident that the scheme continues to deliver energy cost reductions for all customers, then everyone benefits in any case, and there is no need to direct activity to particular cohorts.
- Existing multipliers should be removed (or transitioned out if necessary) and no new multipliers should be included
- Obligation thresholds should not be reduced – none of the potential changes to the scheme canvassed make it easier for small retailers to participate
- Energy credits should be restored to 20 per cent of a retailer’s total annual target and kept at this level for the period under consideration in order to maximise scheme flexibility. Based on past outcomes the scheme is unlikely to be cancelled in 2030, and if it is, it will be because it has outlived its usefulness, in which case it is of little importance if some retailers have an outstanding credit, but the closure process could include a runoff year where such retailers have to make good if necessary.

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