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Garnaut Climate Review Secretariat
Level 2, 1 Treasury Place
East Melbourne, Victoria 3002
www.garnautreview.org.au

“Emissions Trading Scheme Discussion Paper”

TRUenergy welcomes the opportunity to provide comment on the Emissions Trading Discussion Paper (Discussion Paper)(submission attached). Please contact Steve Wright (Manager, Sustainability Policy) in the first instance on 03 8628 1183 to discuss any aspect of this submission.

Yours Sincerely,

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Executive summary

In TRUenergy’s view a well designed national emissions trading scheme is the centerpiece of an effective, efficient climate change policy framework. The Discussion Paper outlines many of the features of such a scheme and has clearly built on the learning from two recent Reviews on emissions trading in many respects; one by the States and Territories of Australia and the other by the previous Commonwealth Government of Australia.

Critically, however, the Discussion Paper has not adopted a sound approach to policy design and implementation in regards to permit allocation. The introduction of an ETS will profoundly alter the future structure of the energy supply industry, which is indeed the desired consequence of the policy. Carbon will be priced into the electricity supply cost (irrespective of whether permits are allocated or auctioned), and there will be clear incentives for an energy transformation.

The transformation of the energy sector required is difficult to overstate, and involves large scale replacement of existing coal fired power stations. This transformation requires private capital and the willingness of private players to invest this capital. Without some (limited) permit allocation, existing energy investors will suffer losses in asset values of up to 80%. Energy investors who see an environment where investments are risky will change their investment behavior into the future. A riskier environment means less investment, at exactly the time Australia seeks massive investment.

The logic outlined in the Discussions Paper fails to appreciate that the behaviour of investors (both current and future) will change based on past investment returns. Large investment losses for existing firms in introducing an ETS will create behavioural incentives for affected firms to recuperate capital losses through existing market structures rather than focus on transitioning their asset stock to a lower emissions portfolio. In this environment, electricity prices and the volatility in prices will rise by more than the cost of carbon alone.

A partial allocation of free permits to disproportionately affected owners of existing assets will provide stability to investors in the transition to an ETS, and ensure that firms retain the incentive to transition their asset stock. Full auctioning of permits would cause massive financial distresses and disruption to the energy market in the short term, and higher energy prices in the long term. TRUenergy recommends that the Garnaut Review should reconsider its position on this key design issue.
Background on TRUenergy

TRUenergy is one of Australia’s largest integrated energy businesses. With approximately 1.2 million customer accounts, TRUenergy supplies electricity and gas to residential and business customers across Victoria, South Australia, New South Wales, the ACT, Tasmania and Queensland.

TRUenergy’s $5 billion portfolio of assets includes:

- Yallourn power station and adjacent mine in the Latrobe Valley (1480MW)
- Hallett power station (180MW) in South Australia
- A master hedge agreement with Ecogen that delivers dispatch rights to electricity from Newport and Jeeralang power stations in Victoria (966MW)
- Iona gas storage facility near Port Campbell in Victoria, and
- A number of long term agreements with upstream gas suppliers and renewable energy suppliers (including hydro, wind and biomass).

TRUenergy is constructing Australia’s most efficient gas-fired generation facility, near Wollongong, in NSW. When complete, the Tallawarra intermediate plant will emit 70% less emissions than traditional coal-fired power stations.

TRUenergy also has a 33 per cent interest in the SEAGas pipeline, a 685-kilometre natural gas transmission pipeline between Victoria and South Australia.

As a substantial investor, generator and retailer in the Australian energy sector, TRUenergy recognises its responsibility to take a lead role in the development and implementation of effective carbon reduction solutions. Based on the assumption that an effective national carbon trading scheme will be introduced, our Climate Change Strategy is our blueprint for achieving such reductions, committing us to emissions reductions across our portfolio by 60 per cent by 2050.

TRUenergy is a wholly-owned subsidiary of CLP Holdings, which is listed on the Hong Kong Stock Exchange and has a market capitalisation in the vicinity of A$22 billion. CLP operates a vertically integrated electricity generation, transmission, distribution and retail business in Hong Kong, and invests in electricity businesses in Australia, India, China, Taiwan and Thailand.
1 Introduction

In TRUenergy’s view a well designed national emissions trading scheme is the centerpiece of an effective, efficient climate change policy framework. Such a framework would deliver:

- **investor certainty ex ante** – by creating an explicit, market-based price of carbon across all sectors of the economy to determine the new entrant mix of energy generation and abatement technologies;
- **investor certainty ex post** – by adopting a compensation methodology that preserves the existing asset values of those most adversely affected by the introduction of a carbon charge;
- **incentives for research, development and demonstration** – by allocating public funds to the development of zero and low emission technologies with the greatest potential to reduce emissions at least cost in the long run;
- **support for low and zero emission technologies** – by implementing a national mechanism that facilitates commercialization and ultimately deployment in a timely manner; and
- **support for energy efficiency** - implementing non-price based, national mechanisms that addresses specific market failure.

2 Framework to guide ETS design

2.1 The objective of an ETS

TRUenergy supports the objective as stated:

“To provide a transactional space that enables the transmission of permits to economic agents for whom they represent the greatest economic value” (p.12)

However, there ought to be a subsidiary objective to the creation of this “transactional space”. The transition from the current market environment (with no explicit market framework for pricing carbon) to a market environment with ETS is not costless for market participants and the economy generally and nor can it be assumed that it will automatically occur as smoothly as possible. It ought to be an explicit objective of an ETS policy framework that the scheme’s design and implementation minimize economic disruption and structural adjustment.

Other policy objectives, such as energy efficiency and industry development, ought to be pursued via alternate policy instruments (most suitable to achieving those objectives). Compromising ETS to accommodate other objectives is unnecessary.

2.2 Principles to guide the design of an ETS

Adherence to the five principles articulated in the Discussion Paper, scarcity, tradability, credibility, simplicity, and integration are critical to the creation of an efficient market for emissions permits. Principle 3 (‘credibility’) is particularly challenging given the uncertainties inherent in climate change and, as a result, the policy flexibility necessary to
respond to these uncertainties optimally. For example, the views on the optimal emissions cap and trajectory have (and will continue to) alter with developments in the science of climate change. As acknowledged in the Discussion Paper, rules can be changed over time but the process of change itself must be transparent and certain.

As stated in the Discussion Paper a successful market for emissions permits will be observable in terms of low transaction costs, price discoverability, emergence of forward markets, investor confidence and low abatement costs over time.

The link between investor confidence and low abatement costs over time is particularly important. Investors will only risk their capital in low emissions development and deployment opportunities if they expect an adequate return for doing so. While expectations about investment returns are influenced by many factors, policy uncertainty plays a disproportionate role in a market that would not exist but for government policy. Investor confidence in government policy is inversely related to the risk premium used to discount expected returns from prospective development and deployment opportunities.

2.3 Intrinsic design features of an ETS

TRUenergy concurs with the Discussion Paper that choice over intrinsic design features ought to be concerned with efficient operation of the scheme, taking other policy objectives as given.

2.4 Extrinsic design features of an ETS addressing multiple policy objectives

The expression of an emissions limit as the sum of a trajectory of annual targets, as opposed to single annual target at the end of the trajectory period, is more consistent with the nature of the climate change problem. That is, the stock of CO2e in the atmosphere, as opposed to annual release of CO2e is the issue.

The Discussion Paper asserts that "producers in the non-traded sectors, will on average and in general, be able to pass on to households most of the costs associated with their direct and indirect emissions". While this might be the case on average, and TRUenergy notes the absence of modeling on this question in the Discussion Paper, some individual producers in the power sector are disproportionately, adversely impacted and unable to pass on most of the costs associated with their emissions.

2.5 Exogenous factors affecting the implementation of an Australian ETS

The Discussion Paper refers to the importance of the credibility of institutions and that the "faith participants have in the enduring nature of the institutional behaviour will fundamentally influence all aspects of the ETS". Integral to this is how existing generation asset owners are treated with regard to the erosion of the value of their assets as a result of the introduction of ETS. Private decisions to invest in new generation capacity will be based, at least partially, on the financial outcomes of past investment decisions (which are potentially influenced by institutional behaviour).
3  An Australian ETS prior to establishment of an international agreement on greenhouse gas mitigation

3.1  Introduction

The first best mitigation policy response would be a comprehensive global agreement which established: the broadest possible coverage of carbon sources; one market (and one market price) for emissions permits; coordinated and targeted complimentary policy measures to overcome other market failures (in addition to the carbon externality); ultimately serving to minimize the long term costs of achieving the policy goal.

This is clearly not the geopolitical environment that an Australian ETS will be established in.

3.2  Current context for an Australian ETS: international agreement and Australia’s strategy

Australia ought to adopt a leadership position in the development of an international agreement(s), avoiding impoverishment of its economy (for no environmental gain).

3.3  Establishing the emissions limit

Setting an emissions limit

Government should set the emissions limit for Australia. This emissions limit should be expressed as a trajectory of annual emissions targets over time, which define long term budgets.

Trajectories

Four trajectories should be specified upon establishment of the ETS. The first up to 2012 will be based on Australia’s Kyoto commitments. The other three for the post-2012 period reflect increasing levels of ambition. Movement between them should be based on determining the comparability of Australia’s response to international effort.

The Review will provide advice to government on trajectories and interim targets for an Australian ETS. This will be informed by economic modeling currently underway and further analysis, and presented in the full reports.

Changes to the emissions limit

Deciding to move from one trajectory to another should only be made on the basis of international policy developments and/or agreements (which should allow for new information and developments of an economic or scientific kind).

Conditions which would lead to a movement from one trajectory to a more stringent trajectory would be specified in advance.

Once on one trajectory, Government provides five years notice before movement to another. Any gap between the domestic trajectory and international commitments during this period would be reconciled by the independent authority purchasing international permits.
In theory, an approach to setting Australia’s emissions budget and cap trajectory, contingent on international agreement, is both environmentally and economically responsible. However, TRUenergy has a practical concern with the approach outlined in the Discussion Paper because it is likely to lead to an initial energy price shock, while sufficiently low emission technologies remain unavailable.

A series of trajectories that defines a firm long term emissions cap/budget for Australia out to 2050 (albeit conditional on international agreement) will be reflected in the price of carbon in 2010, as participants seek to ‘price in’ long term abatement options. While the purpose of a forward price is to provide a signal about the future cost of abatement, price shocks in the initial phase of an ETS, are unlikely to improve economic or environmental outcomes.

In the initial phase of an ETS, the abatement options are known and do not change above critical carbon price thresholds, for example the price at which brown coal fired power stations are replaced by gas power stations. Higher prices of carbon do not generate additional abatement in this time period. Higher forward prices of carbon will stimulate additional deployment of low emissions technology, but pricing in long term abatement options to the initial phase of the emissions trading will create upward price pressure for little gain.

One way to address this problem is to use an interim price cap to avert the price shock effect (or at least mitigate its extent). This price cap would endure for say 10 years or until sufficiently low emission technology was available for deployment and the incumbent generation stock had been substantially transformed.

Another way to address this issue is to build an initial period into the ETS design which is not linked (to the subsequent period, via banking of permits etc) analogous to the trial period concept adopted by the European Union. By having an initial period with a low emissions cap, price shocks (effectively a response to an expectation of tighter budgets and caps in the future) will be avoided. This approach is consistent with having a long term emissions budget beyond the initial period.

### 3.4 To whom does the ETS apply?

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<tr>
<th>Coverage</th>
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<tr>
<td>Gases: Six greenhouse gases as defined by the Kyoto protocol.</td>
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<tr>
<td>Sectors: Stationary energy, industrial processes, fugitives, transport and waste from scheme outset. Agriculture and forestry to be included as soon as practicable.</td>
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TRUenergy supports the broadest practicable coverage of an ETS, across the range of greenhouse gases and emissions sources in the economy. Sectors and gases only ought to be excluded if/while the costs of distortions in abatement allocation decisions associated with their exclusion exceed the costs of measurement and verification.

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<th>Domestic offsets</th>
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<td>Domestic offsets should be accepted without limits, but will have a small role, given broad coverage.</td>
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As referred to in the Discussion Paper, the principle referred to above ought to be applied to offsets (which would serve to indirectly cover excluded sectors and gases). While in theory domestic offsets from agriculture and forestry ought to be eligible under an ETS as soon measurement and verification systems are deemed sufficient, restrictions in terms of linking with other ETS schemes (such as the EU ETS) that might follow ought to be weighed up in this decision.

**Point of obligation**

Set at point of emissions where practical. Where transaction costs are lower than the cost of distortions that may arise, upstream or downstream may be appropriate.

The source of emissions ought to define the point of obligation under an ETS in all sectors (and for all gases) unless transactions costs are lower and/or emissions coverage and measurement reliability are higher at some other point in the industry value chain.

### 3.5 Releasing permits into the market

**Permit issuance (or release)**

Permits released according to emissions reduction trajectory. All permits auctioned at regular intervals. (Note, some permits may be used in lieu of cash in providing transitional assistance to traded-exposed, emissions intensive firms at risk.)

The preference for full auctioning appears to rely on two conclusions drawn in the Discussion Paper:

1. "The most important point is that the impact of an ETS on the price of goods and services is independent of the approach adopted by governments for allocating permits ... ; [and]

2. Free allocation would be highly complex, generate high transaction costs and require value-based judgments". (pp. 32-33)

The first conclusion holds true for an allocative conception of efficiency but not necessarily for a dynamic conception of efficiency.

Allocative efficiency is concerned with allocating resources to produce the goods and services that are valued most by society. Social welfare is maximized when production and consumption decisions take into account their opportunity cost to society. The creation of a price for carbon enhances social welfare since it is intended to reallocate resources from high to low emissions intensity assets, which is valued by society given the impacts on climate change.

This conception of efficiency is static, in that it is concerned with the optimality of decisions at a given point in time. Allocative efficiency is not concerned with sunk costs, and assumes that rational decision-makers will make new investment decisions based on present costs and prices, and treat costs incurred in the past (by themselves or other investors) as entirely irrelevant.

Dynamic efficiency is concerned with whether social welfare over time is maximised. That is to say, it considers various investment and savings pathways, and identifies which of
these are optimal over time. For example, at any point in time, it is possible that the decisions of investors are marked by too little or too much investment.

The notion of dynamic efficiency lends importance, amongst other things, to the preservation of investment incentives. It takes into account the fact that investors adjust their behaviour in response to past events, as past experience can set their expectations about future returns from investment. For example, the stranding of assets through changes to policy may have an impact on present decisions to incur investment costs, particularly if costs are sunk and there is an expectation that there may be further changes to policy.

The second conclusion, does not only apply to the method of permit allocation, as far as scheme design features are concerned. For example the establishment of an ETS necessitates a great deal of complexity in the process of its development, for example, in calculating the economic costs of different emissions cap trajectories. Value judgments are also inevitable, for example, in valuing the benefits of avoiding climate change impacts for future generations.

In TRUenergy’s view, the notion of dynamic efficiency requires that policy-makers pay urgent attention to how the issue of sunk costs is treated in any decision to change policy. Diagram 1 is illustrative of the potential impacts of ETS on fossil-fuel generators (particularly brown coal) and the process that leads to dynamic inefficiency.

Free allocation of permits to parties suffering disproportionate loss of asset value (to offset this loss) is critical to maximizing the dynamic efficiency of an ETS. The ‘potential complexity and value judgments’ required to design such a method of permit allocation is not a valid argument for ignoring dynamic efficiency aspects of an ETS.
Without some form of permit allocation to disproportionately affected companies, the economy will bear additional costs in the transition to a low carbon future

- **Short Term 0-24 Months**
  - Shortage of electricity contracts as CO2 risk unknown.
  - Companies selling contracts will be locking in bankruptcy.
  - Refinancing of existing assets increasingly difficult.
  - Lenders may step-in to protect asset value.

- **Short-Medium Term 0-36 Months**
  - Companies lack capacity to maintain opex & capex on existing plant leading to more forced outages.
  - Companies lack the capacity to fund new plant, causing investment delays and exacerbating already long lead-times for new plant owing to unprecedented global demand for equipment.

- **Medium Term 36-60 Months**
  - Energy security is undermined by decreasing reliability standards and higher investment costs.
  - ‘Riskiness’ of Australia power sector increases as international and domestic investors and lenders recall large value losses with introduction of ETS.

**Potential Costs**

- Electricity prices may become more volatile due to:
  - (a) fewer contracts
  - (b) need to repay capital over shorter life

- Increased level of forced outages increases prices.

- Requirement to purchase permits creates significant working capital issues.

- Increased discount rates: with $100B of investment needed in the energy sector, each 1% increase in discount rate costs $1B

**Source:** TRUenergy
3.6 International links

Opportunities for international linkage of the Australian ETS should be sought in a judicious and calibrated manner.

There are clear advantages to linking the Australian ETS to other emissions market and/or offset mechanisms, provided the environmental quality of the supply of abatement being linked to is at least as high as that under the Australian ETS (or is appropriately discounted). Policy-makers ought to aim to link the Australian ETS to the cheapest sources of abatement, irrespective of where they occurs in the world, provided they meet a sufficiently rigorous standard of emissions monitoring, verification and ultimately environmental ‘additionality’ testing).

Whether or not the abatement is derived from by a voluntary offset mechanism (for example the Clean Development Mechanism) or from an enforceable emissions market (for example the European Union Emissions Trading Scheme) is of secondary importance in TRUenergy’s view. To limit linking of the Australian ETS to markets in countries with binding caps only, represents a missed opportunity for Australia and the country in question.

TRUenergy notes that, although there is room for improvement, the CDM represents the largest and most developed offset market to date. Concerns about forestry and land use in developing countries need not prevent Australia linking directly to CDM. The EUETS has effectively ‘carved out’ the questionable forms of abatement (such as land use/forestry etc) in linking to CDM. Moreover, there may be more effective ways to effectively capture such abatement sources, outside of an ETS (or market mechanism) and avoiding the contamination of permits markets with less than firm abatement.

Concerns about diluting the incentive for developing nations to adopt binding emissions caps can also be addressed by capping the supply of CDM into an ETS as part of the rules for linking.

3.7 Flexibility in meeting targets

Price controls

Not supported.

As outlined in the Discussion Paper, TRUenergy acknowledges the ‘distortionary’ impact of installing long term price ceilings and price floor mechanisms in an ETS.

However, in TRUenergy’s view the use of a price ceiling in the initial years of an ETS, over some defined transition period, may be advantageous to the market participants and the economy without compromising environmental objectives overall. This is most likely to be the case if policy-makers opt for a relatively stringent cap from day one of the scheme (relative to the availability of low emission technologies). If for any given period the cap requires an average CO2e intensity to be met beyond that which the market is capable of delivering, the price of carbon and energy must adjust accordingly. While this might be an ‘efficient’ short term market response to scarcity of permits, it may result in a severe
energy price shock and with very little additional abatement (until sufficiently low emission technologies are available).

A price ceiling mechanism can be useful in managing this price shock in the short term, especially if policy-makers are uncertain about the relationship between caps and carbon prices.

TRUenergy acknowledges the compromise that a price ceiling may cause for two-way linking with other schemes while the price ceiling is in place. This trade-off will need to be assessed and it may mean that a one-way link is established for the interim period (for example allowing the import of only CDM credits into the Australian ETS).

Another way of averting the potential for an energy price shock is to set a relatively low emissions cap for an interim period, one that is based on the availability of low emission technologies and a commensurate price of carbon (for example a price that enables efficient gas-fired generation for intermediate and base load requirements).

Inter-temporality

Unlimited hoarding allowed. Official lending of permits by the independent authority to the private sector allowed, but may be subject to limits, in terms of quantity and time, determined by the independent authority.

TRUenergy considers unlimited banking integral to market participants’ ability to price and manage their carbon exposure efficiently over time and considers there to be no potential downside in incorporating this feature into an ETS.

While in, the theory, some may argue for a symmetrical approach to lending and allowing market participants to determine the optimal shape of the forward price curve, TRUenergy agrees with the concerns and limitations proposed in the discussion paper (despite sources of bias toward banking and away from lending).

First, any significant borrowing capacity under ETS will only work positively if the scheme (and its emissions caps) is credible for the long term, beyond the foreseeable government/political cycles. If market participants doubted the longevity of government commitment to emissions caps and their expected tightening (rather than loosening over time) there could be a perverse incentive to borrow.

Second, it is imperative to the long term environmental integrity of the scheme that the independent authority overseeing lending practices ensure that loans of permits were made only to credit-worthy borrowers, that were backed by security and that contracts were enforced. If a scheme’s lending practices are perceived to be otherwise its credibility with market participants, and therefore its efficiency, would be severely damaged. The schemes credibility with the international community would also be damaged because of the fear that long term emission levels run the risk of in fact being uncapped.

Another practical issue with borrowing is the ability of market participants to form expectations about the extent of borrowing as part of their forecasting of forward permit prices. Because the extent of borrowing will be tempered by government intervention (which is not the case with banking) the criteria for limiting borrowing ought to be as
3.8 Avoiding distortions in trade-exposed, emissions-intensive industries

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<th>Treatment of TEEIs</th>
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<td>Some industries rely significantly on emissions-intensive production processes, and are substantially unable to pass costs of emissions through to customers because price of commodity or good is determined on international markets. Transitional financial assistance (possibly in the form of free permits) should be provided to account for distortions arising from major trading competitors not adopting emissions limits (or pricing).</td>
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The effects of an ETS on international competitiveness are an important aspect of ETS efficiency overall and transitional assistance to TEEI is correctly considered on efficiency grounds only.

As identified in the Discussion Paper, an independent assessment of the 'efficiency' case for transitional assistance to TEEIs is critical to the process. If there was a global carbon signal all TEEIs would have an incentive to compete on the basis of their technical level of energy (or carbon) efficiency (because they could under cut each other by lowering their cost structure etc). In the absence of a global carbon charge any assistance mechanism ought to avoid 'shielding' a TEEII from a carbon signal and therefore the incentive for this competition. If, for example, free permits are allocated to a TEEII on the basis of static business-as-usual levels of technical energy (or carbon) efficiency each period, the firm(s) in question is effectively being subsidized to remain at that technical level (because to improve its technical efficiency would be to lower its entitlements to permit in the next period).

The ‘energy efficiency factor’ referred in the Discussion Paper (and an appropriate rate of adjustment in this factor) is critical to avoiding the 'shielding' referred to above.

3.9 Governance

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<td>Policy framework set directly by government.</td>
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<td>Scheme administered by independent authority.</td>
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The separation of 'setting the policy framework and objectives'; and 'administrative enforcement of the policy framework and objectives'; lies at the heart of good governance. TRUenergy supports, in principle, the concept of an independent authority performing the role of scheme administrator. As for the policy setting role, it is critical that political intervention is minimized and in particular, that one government jurisdiction cannot act unilaterally to influence policy-making (directly or indirectly) after there is national agreement to policy. The history of the National Electricity Market in Australia is an example of this type of interference (for example regulated retail and wholesale price capping arrangements in some jurisdictions).
Compliance and penalty

Penalty to be set as a compliance mechanism. Penalty does not replace obligation to acquit permits; a ‘make-good’ provision would apply. Alternatively, the use of revenue from a financial penalty could be used to purchase abatement.

A penalty’s primary function under ETS is to ensure compliance with the emissions cap and therefore the environmental integrity. Following from this, either a make-good provision or using penalty proceeds to purchase equivalent abatement ought to apply (to be consistent with the objective of environmental integrity).

TRUenergy agrees with the Discussion Paper, that a penalty should not be used as a quasi carbon price cap or cost ‘safety valve’ for the scheme. Market participants are expected to act rationally and to optimize between their cost of abatement and the policy incentive to comply with their emissions cap.

TRUenergy supports the use of a price capping or two phased approach to setting emissions limits as outlined in section 3.3. Practical implementation of such a cost ‘safety valve’ requires a separate device to a penalty, to avoid perceptions associated with a ‘stigma’ of paying to pollute, which is entirely inconsistent with the intention of a cost ‘safety valve’. A separate device effectively sanctions the rational behaviour as being law abiding. Note that development of a two phased approach to the emissions trajectory without banking between phases will provide one mechanism to achieve such an outcome.

4 Optimal design features of an emissions trading scheme under global agreement

As stated in the Discussion Paper emergence of an effective global agreement on emissions reduction would realize the central objective of Australian mitigation policy. The conditions and triggers for moving the Australian ETS to tighter emissions budgets and cap trajectories are of course critical because they will be designed in advance of global agreement and policy-makers will have to anticipate what effective global agreement looks like. The risk for Australia lies in it pursing what occurs like a path to effective global agreement, based on its contingent approach, only to discover that global agreement is not effective or enduring. Careful definition of conditions and triggers can minimize this risk.

5 Impacts on economic activity and income distribution

5.1 The carbon price and the economy

While the forward permit price could be influenced downward by many factors referred to in the Discussion Paper (hoarding of permits, unexpected energy efficiency opportunities and/or breakthroughs in low emission technology etc) the over-riding net influence would be upward by great degree under the proposed approach. This is because of the emissions budget and cap trajectories are defined for the long term (2050) and to achieve substantial cuts in emissions (unattainable with today’s known technology).
5.2 The case of stationary energy

The impact of ETS on individual asset owners/firms operating in the stationary energy sector in Australia will vary to the extreme. Some entities (particularly brown coal-fired generators) will be unviable and bankrupt, while others (such renewable energy generators) will experience windfall gains from the energy price uplift.

Internal modeling by TRUenergy and modeling commissioned by the National Generators Forum (undertaken by CRA International) indicates losses in the order of 80 per cent for existing brown coal generation (such as the Yallourn power station). Losses are measured as the difference in net revenue earned by the generator without ETS; and with ETS (in net present terms and assuming emissions reduction targets of between 5 and 60 per cent by 2050 on 2000 levels).

As a consequence the short term incentives for economic behaviour by generators will be distorted by losses of this magnitude, particularly, if all major generators in a particular region face similarly large losses. The rational desire to recover lost asset value over a severely truncated investment time frame is likely to increase energy price level and volatility dramatically in the short term (in the absence of some form of loss offset, such as free permit allocation).

5.3 Adjustment in other sectors

TRUenergy concurs with the issues raised in the Discussion Paper with regard to abatement from energy efficiency and appropriate policy for this sector.

The incentives provided by an ETS stimulate greater levels of cost-effective energy efficiency in the economy. The business case (payback period) on all energy efficiency investment projects/proposals, by definition, improves with an increase in the price of energy, and the price of energy, by definition, increases with a cost of carbon.

TRUenergy supports a national energy efficiency strategy and associated policy mechanism (in addition to ETS) to achieve greater levels of cost-effective energy efficiency. However, it is critically important to economic efficiency that additional energy efficiency policy measures be reviewed and evaluated according to the following criteria.

1. Do they target specific market failure, not already targeted by ETS (negative carbon externality), related to information failures (such as split incentives etc)?

2. Are they complementary to ETS and other government policies and therefore avoid distorting outcomes under otherwise efficient policy tools?

3. Are they broad in their coverage across jurisdictions, sectors, products etc (as far as practicable)?

4. Are they administratively simple and effective as far as the policy mechanism designed to achieve the policy outcome, is concerned?

Already numerous energy efficiency measures exist or are being pursued, via various Commonwealth and jurisdiction policy processes:

- Victorian Energy Efficiency Target.
• South Australian Residential Energy Efficiency Scheme.
• NSW Greenhouse Gas Abatement Scheme (DSA component).
• COAG National Framework for Energy Efficiency.
• Commonwealth Greenhouse Friendly Program.
• Commonwealth Energy Efficiency Opportunities Act.
• Queensland Smart Energy Savings Program.
• COAG sub-groups established for considering a consolidated national approach to energy efficiency measures.
• Strategic Review of Climate Change Policies (including energy efficiency policies) established by the Hon Lindsay Tanner, Minister for Finance and Deregulation and Senator the Hon Penny Wong.

Moreover, private bodies, such as the Energy Retailers Association of Australia, have commissioned independent studies into various energy efficiency policy options.

Energy efficiency policy is 'part and parcel' of climate change policy and it is critical that it be deliberated in this broader context as opposed to a continuation of the multiplicity of fragmented and disparate existing measures and policy processes.

5.4 Impact on technology development

Complementary technology policy is essential to achieving climate change policy goals at least cost. A well designed ETS deploys existing abatement technology and pulls forward emerging abatement technology. However because ETS does not address market failure associated with knowledge creation and information failure, it will be insufficient to pull forward an optimal level/rate of emerging and new abatement technology. A comprehensive, research, development, demonstration and commercialization policy framework is required to address these market failures.

There are two channels via which government technology policy can induce technological change (ITC):

• the stimulation of greater investment in R&D leads to discovery of environmentally efficient technologies at lower cost – direct government funding of R&D, for example, effectively subsidizes the sunk cost component of investment, allowing a greater proportion of innovators’ total costs to be recouped post deployment; and

• the stimulation of greater commercialization and ‘learning-by-doing’ leads to discovery of ways to further reduce the costs of new technology – demonstration funding, for example, effectively subsidizes the cost of commercializing new technologies, allowing a greater proportion of innovators’ total costs to be recouped post deployment.

Note, that both these channels of ITC are warranted on market failure grounds because innovators of zero/low emission technologies are unable to recoup the subsidized cost in
the market place (due to the information good characteristics of R&D and commercialization). Numerous studies attest to the importance (and evidence) of both R&D and learning-by-doing in reducing energy technology-related areas. To be optimal, government support for zero/low emission technologies ought to be designed to target these channels specifically.

What ever the specific policy tools used, they ought to harness private incentives to guide funding allocations to different emerging and new abatement technologies so that those with the best prospects to reduce emissions at least cost, and on the scale required, are supported (in proportion to their prospects). Government is not well placed to ‘pick winners’ because it does not have an informational advantage over the private sector, and it is very vulnerable to technology capture.

5.5 Compensation for changes to income distribution

TRUenergy concurs with the issues raised in the Discussion Paper with regard to assistance to households and communities. It is imperative that existing regulation of final energy prices in some jurisdictions be dismantled prior to implementation of an ETS in 2010. Governments may be tempted to extend such regulation in an effort to ‘protect’ households and communities from the cost of carbon, but this would amount to ‘false economy’ and distort ETS outcomes to the detriment of consumers in the long term.

TRUenergy does not concur with the issues raised in the Discussion Paper with regard to compensation to the non-traded sector. Dynamic efficiency concerns are relevant to the impact of an ETS and compensation to the non-traded sector (in particular the disproportionately, adversely affected electricity generators) is not only a question of income distribution (see section 3.5 above).

5.6 Permit sales and public finance

TRUenergy concurs with the issues raised in the Discussion Paper with regard to the use of permit auction proceeds. After equity claims from low income households have been satisfied, allocation of these funds ought to be guided by reducing the overall cost of ETS to the Australian community generally over the long term. Correcting for market failures in the areas of technology research, development, demonstration and commercialization is a substantial part of achieving this.

5.7 Macro-economic adjustments associated with introduction of the ETS

TRUenergy concurs with the issues raised in the Discussion Paper with regard to inflation.

6 Australian ETS model for discussion: summary [conclusion]

While TRUenergy supports many of the conclusions and argument in the Discussion Paper, it does not support full auctioning of permits. An ETS design and implementation that ignored the impacts on dynamic efficiency is unlikely to be least cost in the long term and is therefore not in the interests of the community.