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28 November 2013

Climate Change Authority
By: Electronic Submission

Dear Climate Change Authority

Ref: Target and Progress Review Draft Report – Synengco Submission

I would like to comment on the draft report referred to above.

RECOMMENDED EMISSIONS REDUCTION GOALS

The Authority is canvassing two options for Australia's emissions reduction goals, which include 2020 targets of 15 per cent or 25 per cent below 2000 levels (refer Chapter 11). Please provide comments.

Establishing appropriate targets is a very delicate issue. The targets are to drive the transition process from unsustainable practices to sustainable practices over a period of time. The target effectively establishes the speed and cost of transition and so is very important to get right. Too slow or too fast could have major implications on industry, the environment and our standard of living. We are all part of an economic ecosystem as well as an environmental ecosystem and change will have an influence on them both. We don't want to destroy our economic ecosystem by changing too fast for a critical element to adapt or destroy our environmental ecosystem by changing too slow.

I would advocate for an optimized approach to establishing targets with consideration of all aspects of the value stream transitions. For example there are some significant technical issues associated with a transition from electrical energy predominately from centralised fossil fuelled generation to a network with higher percentage of renewable energy. Storage technologies may become a critical element to this transition. The forcing of higher renewables levels without the necessary enabling technology could have significant unintended consequences (like aging fossil fuelled power stations having to run at low load and hence very low efficiency) to accommodate the interruptible nature of renewable energy if there is insufficient storage capacity within the network. This may result in even higher cost for energy and not achieving the emissions reductions sort.

It would nice to think that 25% is achievable but a 25% target might turn into a 15% outcome at a major increase in costs compared to a 15% target that was actually achieved. For the above reasons it is advocated that a target be established with due consideration of the whole of system impacts over a transition period.

USE OF INTERNATIONAL EMISSIONS REDUCTIONS

The Authority's draft recommendation is that the Government keep access to genuine and cost effective international emissions reductions available to use in meeting Australia's emissions reduction goals (refer Chapter 13). Please provide comments.

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I agree with this recommendation.

AUSTRALIA'S PROGRESS TOWARDS ITS EMISSIONS REDUCTION GOALS

The Authority has assessed Australia's progress towards reducing and opportunities to further reduce emissions (refer Chapter 12 and Part D). Please provide comments.

My comments fall within two major areas:

1. Much of the expenditure associated with reducing climate impact goes into administering schemes rather than taking positive action to reduce emissions.
2. Opportunities to reduce Australia's environmental footprint which fall outside traditional methodologies are often overlooked.

Energy consumers lack the information to make positive change

It is our personal experience that energy consumers do not take up cost justified technologies to reduce environmental impact. This appears to happen either because they are not able to evaluate the options effectively or there is not a sufficient 'trigger' for them to take the action.

Energy Efficiency Opportunities (EEO) is a good attempt to 'force' the uncovering of cost justified projects for large industries. From a whole of system perspective, however, it is quite wasteful as it will require a large investment in:

- Personnel within energy intensive industries for implementation and compliance; and
- Government personnel for administration.

Although the scheme appears to have the right intention, it is an expensive process which is unlikely to achieve outstanding outcomes. In the same way they comply with their other administrative obligations, industry will do the minimum required to comply and will have no incentive to act in ways which improves industry reputation, bottom line or further consideration for the environment.

That being said, the EEO is still a successful model which, with some redesign using new technologies, could be implemented at a fraction of the cost across a wider group of energy consumers including households.

At Synengco we take pride in our ability to identify opportunities to improve outcomes (*value*) for customers efficiently and effectively. We believe it is possible to improve the process and have increased emissions reductions (*the value*) at a very low cost (efficient and effective).

Intelligent Efficiency is a term used to describe a whole of system approach to energy efficiency. The American Council for an Energy-Efficient Economy (www.aceee.org) claim the potential financial savings from such as system could be as high as $50 billion/year and could make a 12% to 24% impact on energy consumption (and similar impact on emissions reduction). Through our systems thinking methodology we have proven the Intelligent Efficiency approach with numerous high value examples in the electricity sector. We also

believe our approach can be applied across wider industries and we are sponsoring multiple research activities within Queensland University of Technology around whole of system energy efficiency for different industries.

Our approach increases the energy efficiency outcomes and reduces the costs of running such systems meaning that more cost effective energy efficiency opportunities are found. This systematic capturing of opportunities also provides a deeper insight into the value streams and relationship between value and energy consumption so that initiatives such as direct action can be better targeted and made more effective.

The methodology would not have to displace current initiatives but would substantially reduce their administration costs if they were to continue and allow more funds to be invested in reducing emissions.

- **National Greenhouse and Energy Reporting** - Emissions calculations could be simpler and more accurate with less reliance on variable accuracy measurements.
- **Direct action** - Very easy to develop a Marginal Abatement Cost Curve for each energy consumer. It then would be easy to identify which projects are already cost justified and should be implemented. It would also be easy to identify those projects requiring external incentives to work, across all energy consumers, which would create the greatest abatement at a whole of system level (Australia).
- **Energy Efficiency Opportunities and Generator Efficiency Standards** - Effort and compliance costs for both business and Government could be significantly reduced.
- **Greenhouse Gas Emissions Intensity Standard, Greenhouse Challenge, Energy Audits, Minimum Energy Performance Standards** - Would be simpler and more accurate at targeting improvement opportunities.

The concept is also consistent with the ClimateWorks factors influencing energy efficiency and would give energy consumers the ability to change quickly with changes to the ecosystem (new technologies, price of energy, a price for carbon, a change in urgency etc).

BOX 7.2: CLIMATEWORKS AUSTRALIA SPECIAL REPORT ON FACTORS INFLUENCING LARGE INDUSTRIAL ENERGY EFFICIENCY

In July 2013, ClimateWorks published a report on the factors that influence large industrial energy efficiency. This research involved in-depth interviews with 47 large industrial companies that account for 70 per cent of Australia's industrial energy use.

The report identified the key drivers of energy efficiency as higher energy prices, the carbon price, the EEO program and organisational changes:

- **Higher energy prices** – 87 per cent of respondents identified energy prices as an important driver of energy efficiency; companies with higher energy intensities reported that prices are a strong driver.
- **Carbon price** – While 81 per cent of respondents reported the carbon price having an impact, its financial impact has been relatively small. Respondents reported it focused their attention on energy and carbon management, and influenced their strategic approach to energy management; for example, consideration of fuel-switching opportunities.

- **EEO** - 80 per cent of respondents stated the EEO program was a key influence; in particular, that it provided a structure for energy management. Respondents mentioned that the program had catalysed energy efficiency and changed cultural attitudes to energy efficiency. The EEO had a greater influence on respondents from companies within sectors with higher profitability and growth profiles. This could mean that companies that are not under financial stress may respond more readily to compliance and reputational drivers.
- **Organisational factors** - Respondents with better internal practices in certain key areas demonstrate higher implementation of energy efficiency activity. For example, companies with energy data management, staffing and processes realised more potential for energy savings (by up to 275 per cent) than those without.

The report also investigated barriers to further uptake of energy efficiency, and found that access to internal capital, the long payback periods of energy efficiency projects and opportunity cost of alternative investments were the most prominent barriers. These would need to be overcome for a higher rate of energy efficiency to be achieved.

I encourage the Climate Change Authority to consider the opportunity that is presented by intelligent efficiency to effect change. A good point to learn a bit more about the concept is http://aceee.org/research-report/e13j . The challenge is to provide the execution of such concepts in a consistent and auditable manner to allow the deep insight into the associated energy related value streams. We have experience and proven outcomes in this area that we would be happy to share.

Yours sincerely

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