Print this submission

environmental defender's office new south wales

Submission on *Renewable Energy (New South Wales) Bill 2007*

27 July 2007

The EDO Mission Statement		Contact Us
To empower the community to protect the environment through law, recognising: • **the importance of public participation in environmental decision making in achieving environmental protection** • **the importance of fostering close links with the community** • **that the EDO has an obligation to provide representation in important matters in response to community needs as well as areas the EDO considers to be important for law reform** • **the importance of indigenous involvement in protection of the environment.**		**Environmental Defender's Office Ltd** **Level 1, 89 York St** **SYDNEY NSW 2000** **freecall 1800 626 239** **tel (02) 9262 6989** **fax (02) 9262 6998** **website:** www.edo.org.au/edonsw

For further information on this submission, please contact Rachel Walmsley, on 02 9262 6989.

Submitted to:

NSW Renewable Energy Target
Department of Water and Energy
GPO Box 3889
SYDNEY NSW 2001.

CONTENTS

Executive Summary

The world is observing record investment in new renewable energy capacity. Investment in 2005 was US $38 billion, up from US $30 billion in 2004. **[1]** By 2006 there were at least 85 publicly traded renewable energy companies worldwide with a market capitalisation greater than US $40 million. In contrast to this worldwide impetus, the amount of renewable energy produced in NSW, and indeed Australia, is very low. This is despite the fact that NSW has abundant resources of renewable energy at its disposal, especially solar and wind energy. This represents a significant opportunity, however as noted by commentators, a lack of government intervention has significantly retarded the development of a renewable energy industry in Australia. **[2]**

The Environmental Defender's Office of NSW (**EDO)** welcomes the opportunity to provide comment on the *Renewable Energy (New South Wales) Bill 2007* (hereafter 'Bill'). The EDO is a community legal centre specialising in public interest environmental law. The EDO has 20 years experience in litigating environmental matters and participating in environmental law reform processes. EDO functions include legal advice and representation, law reform and policy work, scientific advice and community legal education.

The EDO strongly supports any regulatory measures implemented to reduce greenhouse gas emissions (GHGs), or to facilitate a shift away from a fossil-fuel dominated energy market. It is now well established that to avoid the severe effects of human-induced climate change, global temperature rises must be maintained within 2°C of pre-industrial levels. **[3]** The NSW Government has committed to stabilising greenhouse gas pollution at 2000 levels by 2025, and cutting them by 60 per cent by 2050. **[4]** However, despite implementing the GGAS scheme, there had been a measurable lack of action by the government in setting renewable energy targets, or in encouraging the establishment of a renewable energy industry in NSW. The Bill is an attempt to address this lack of action by introducing mandatory renewable energy targets. This is a timely, although long overdue, response. However, the targets proposed in the Bill are insufficient, and will do little to reduce total emissions. Furthermore, it is inappropriate to exempt certain industries from sharing the cost burden of the scheme. The targets must be increased, along with contemporaneous measures that limit overall energy consumption.

The EDO makes the following recommendations:

- **Increase target to 25% of electricity consumed by 2020, with further increases thereafter;**
- **Introduce targets for renewable energy generation to be situated in NSW to stimulate industry;**
- **Introduce object into the Act requiring renewable energy sources to be ecologically sustainable;**
- **Remove the exemption allowing bio-material from plantations, sawdust and other wood processing waste to be used as eligible sources;**
- **Exclude hydro-power from the scheme;**
- **Remove the exemption for trade-exposed energy intensive industries;**
- **Introduce penalties at a sufficiently high level to ensure compliance; and**
- **Renewable energy targets should be combined with contemporaneous measures. These include:**
  - Energy efficiency and demand management measures to keep growth in electricity to below 1% per annum;
  - Continued decreases in GGAS targets beyond 2007 and fix the additionality issues with the GGAS design;
  - Removal of perverse incentives encouraging GHG emissions;
  - 'Feed in" laws to allow renewable businesses access to the electricity grid for a set price and provide incentives for the broad-scale introduction of roof-top PV; and
  - More investment and incentives for development and expansion of renewable energy options, to complement increased mandatory renewable energy targets.

This submission makes comments on each of the key areas addressed in the Discussion Paper:

1. Introduction
2. Scheme Description
3. Eligible Renewable Generation
4. Scheme Compliance
5. Scheme Administration
6. Other issues

Part 1: Introduction

Over the past thirty years, energy consumption in Australia has more than doubled from approximately 2700 petajoules to more than 5500 petajoules. **[5]** This total accounts for approximately 57 percent of Australia 's greenhouse emissions. **[6]** Stationary energy emissions contribute the lion's share, 50%, of Australia 's emissions. Greenhouse emissions from NSW's electricity sector have already increased by 31% since 1990. **[7]** It is therefore clear that combating energy use is a vital part of any response to climate change. Indeed, the Brundtland Report, the seminal report on Sustainable Development, declared that energy is the key to sustainable development, and immediate policy measures are required to shift the energy mix towards renewables. **[8]** Agenda 21, one of the key international instruments emerging from the 1992 United Nations Conference on Environment and Development also recognised the crucial role of renewable energy in addressing climate change:

The need to control atmospheric emissions of greenhouse and other gases and substances will increasingly need to be based on efficiency in energy production, transmission, distribution and consumption, and on growing reliance on environmentally sound energy systems, ***particularly new and renewable sources of energy. [9]***

Renewable energy generation therefore constitutes an important part of NSW's response to climate change, and will form a key mechanism to achieving deep cuts in greenhouse gas emissions. The timely development of a renewable energy industry, supported by mandated targets, is essential. More than 40 countries and states around the world have already taken action to adopt sizeable renewable energy targets.

It will be impossible for NSW to meet its 2050 state target of 60% reduction on 2000 levels, unless the existing reliance on coal and natural gas for electricity is significantly augmented by renewable energy. A realisation of this has prompted the drafting of the Bill which seeks to introduce mandatory targets. However, although the Bill goes some way to establishing a viable renewable energy industry in NSW, it does not go as far as required. The target of 15% of energy consumption by 2020 is grossly insufficient.

The percentage of renewable energy consumption is declining in NSW. Renewable energy constituted 10% of total consumption in 1993 **[10]**, but only 6% of total energy consumption in 2005. **[11]** Furthermore, total energy consumption in NSW is growing at the rate of at least 1.2% per annum. **[12]** The decrease in renewable energy consumption, and the attendant increase in overall energy consumption, is a worrying trend. The Bill is an attempt by the NSW Government to reverse this decline, but the targets proposed may do little to change this. The EDO contends that a 2020 renewable target of 25% easily achievable and needed to ensure that NSW remains on track to achieving a 60% emissions reduction on 2000 levels by 2050.

Part 2 - Scheme Description

2.1 Objects

Object 1: to establish a mandatory NSW Renewable Energy Target relating to all electricity consumed in NSW.

The EDO supports this objective. It is clear that the government must impose mandatory obligations on electricity retailers to source an increased percentage of their electricity from renewable sources as a means of reducing NSW's reliance on fossil-fuels. This has been done in at least 40 countries and is consistent with Ecologically Sustainable Development (ESD).

Implementation of this objective has the potential to be undermined by exemptions contained in the Bill. By exempting certain trade-exposed electricity intensive industries, the scheme will not relate to '*all* electricity consumed in NSW.' This is discussed further below.

Object 2: to increase the consumption of renewable energy in NSW which will reduce the greenhouse gas emissions associated with the production and use of electricity.

The EDO supports measures that seek to reduce GHG emissions through an increased reliance on renewable energy. However, it is important to note that although increasing the percentage consumption of renewable energy will reduce the percentage contribution of non-renewable energy, it may not of itself lead to a reduction in GHG emissions, unless overall electricity consumption stabilises. Furthermore, the lock-in of the target at 7,250 GWh from 2020 to 2030 would see a reduction in the proportion of renewable energy consumed in NSW if consumption continued to rise.

This is illustrated by the following example. The example adopts the Bill's 10% target for 2010 and 15% for 2020 as Scenario A. The alternative proposal of 10% by 2010 and 25% by 2020 is Scenario B. A 2.80% annual growth rate in total consumption of electricity is presumed. **[13]** The example sets a hypothetical figure for total consumption in 2010.

Year	Consumption (million GWh)				
	Total	Renewable Scenario A	Renewable Scenario B	Non Renewable Scenario A	Non Renewable Scenario B
2010	100	10 (10%)	10 (10%)	90	90
2020	132	20 (15%)	33 (25%)	112	99

This example indicates that although renewable energy consumption will increase in each scenario, there will be a corresponding increase in GHG emissions as long as total electricity consumption continues to grow at current rates. This demonstrates that growth in overall electricity consumption must be stabilised in order to achieve emissions reductions. Indeed, modelling undertaken by environment groups shows that if the rate of growth remains below 1 percent, then a 13% reduction in GHG emissions can be achieved by 2020 with a target of 25%. **[14]** A 15% target will deliver considerably less reductions.

As a result of the above, the object as currently expressed is misconstrued. Increasing consumption of renewable energy will not lead to a concomitant reduction in GHG emissions unless there is a minimal, or no, net increase in electricity use. A reduction in GHG emissions can only be achieved through a combination of initiatives. This is discussed in **Part 6.4.**

Object 3: to encourage improvement in the renewable energy industry's capacity to provide renewable energy at a more competitive price.

The EDO supports this objective. It is important that renewable energy is able to compete with fossil fuel derived energy, which benefits from incumbency, subsidies and the externalising of greenhouse pollution, and as a result, traditionally has been available at low cost. Furthermore, it is consistent with the social aspect of ESD to ensure that low income consumers are protected. Modelling below will demonstrate that a move to renewable energy will lead to minimal increases in prices.

Further objects

It is rather surprising that ESD is not mentioned among the objectives. It has been said that it is impossible to develop energy policy without reference to ESD. **[15]** Consequently, the EDO calls for an object of "ensuring that renewable energy sources are ecologically sustainable" to be added to the Act. Indeed, the Commonwealth MRET scheme includes an explicit object "to ensure renewable energy sources are ecologically sustainable." **[16]**

This is a key recognition that some 'renewable' sources have deleterious impacts on the environment. It is therefore important not to substitute one form of environmental damage (GHG emissions) for another (unsustainable 'renewable' sources). As the Centre for Renewable Energy has observed, the sustainability of renewable energy projects cannot be taken for granted as illustrated by the Franklin Hydro Scheme in Tasmania and the Three Gorges Hydro Scheme in China. **[17]**

The EDO has concerns with several of the renewable energy sources proposed by the Bill. This will be discussed in **Part 3.1.**

2.2. Scheme Design Principles

2.2.1. Technology neutral

The Discussion Paper indicates that the renewable energy sources permitted under the scheme are to be treated equally. The EDO agrees that all ecologically sustainable sources of renewable energy should be on an equal footing under the scheme. All these sources provide a clean, greenhouse-fee alternative. However, the EDO has concerns about use of hydro power, wood waste and municipal waste. This will be discussed below.

2.2.2. Market-based

The EDO supports the creation of a renewable energy market. One of the central tenets of ESD is that environmental goals should be pursued using market mechanisms through improved valuation, pricing and incentives. A robust renewable energy trading scheme that provides incentives for the increased production of renewable energy through a market-based mechanism is therefore an obvious means of implementing ESD. However, the effectiveness of the scheme depends on setting meaningful targets. The targets proposed are too low to achieve significant gains.

2.2.3. Consistency with VRET

The EDO supports the intention to make the NRET consistent with the Victorian Scheme. A coordinated national approach to renewable energy will ensure greater gains as GHG emissions do not observe geographic boundaries. GHG emissions generated in Victoria impact on NSW and vice versa.

Since the NSW scheme deals with the consumption of electricity in NSW, the scheme includes renewable energy that is generated anywhere in the National Electricity Market but ultimately consumed in NSW. However, one potential problem with focussing on consumption means that there are no targets for renewable *generation* in NSW. This may hinder the development of a renewable energy industry in NSW if liable entities purchase the majority of their renewable energy from other states. An equivalent target is therefore needed for renewable energy generation in NSW.

The Act will allow entities to switch between the NSW and Victorian schemes. The circumstances under which this may occur will be set out in the scheme rules of which no detail is yet available. The concern with allowing switching is that liable entities may jump between schemes depending on which scheme has a less stringent level of regulation, monitoring and enforcement. Furthermore, Victoria has a lower target than NSW (10% by 2016) so there may be an incentive to switch to the VRET as fewer certificates would be required.

2.2.4. Consistency with MRET

The Discussion Paper mentions that the NSW scheme is to be consistent with the MRET. The aim is to build on the existing operational experience and familiarity of the electricity and renewable energy industries which will reduce the start-up time and costs for participants. **[18]**

Although the EDO supports national consistency in renewable energy schemes, it is important to ensure that the NSW scheme does not suffer from the significant failings of MRET. That scheme has been largely ineffectual and has lead to a significant fall in the value of Renewable Energy Certificates (RECs), resulting in the stagnation of the renewable energy industry. This is mainly due to a lack of political will by the Federal Government, an unwillingness to increase the target, and the use of a volumetric target rather than a percentage-based one. **[19]**

The recent report by the Prime Minister's Task Group on emissions trading has called for the abolition of renewable energy schemes. It states that all schemes that set mandatory targets for particular technologies should be "wound up over time and new ones forestalled." **[20]** Furthermore, the Federal Government has refused to extend the life of the MRET because it finds that the "cumulative economic

cost" of the scheme cannot be justified. **[21]** These developments constitute a significant threat to NRET if the Federal Government legislates inconsistently with it.

2.2.5. Complements greenhouse emissions trading schemes

The NRET scheme is intended to complement the existing NSW GGAS scheme and any future national or state-based emissions trading scheme. Although these schemes share common goals, they are different. Renewable schemes set targets for renewable energy consumption, while emissions trading schemes set targets for GHG emissions reductions. However, it is important that these schemes operate in tandem. As has been demonstrated above, the success of a renewable energy scheme is dependent on contemporaneous measures to reduce emissions through incentives and market mechanisms.

The GGAS scheme has gone some way to bringing about emissions reductions by setting decreasing yearly reduction targets. However, the scheme sets no further per capita reductions between 2007-2021. [**22]** Therefore the GGAS target will actually lead to an *increase* in emissions as the population continues to grow. **[23]** There are also many other serious problems with GGAS, as outlined in the latest report from the University of New South Wales', *The NSW Greenhouse Gas Abatement Scheme: An analysis of the NGAC Registry for the 2003, 2004 and 2005 Compliance Periods,* which concludes that:

*It is entirely possible for the Scheme to be apparently delivering emissions reductions while physical emissions continue to rise. **[24]***

Implementing a renewable energy target will have minimal benefits as long as GHG emissions continue to rise. On the other hand, an increased renewable energy target coupled with further reductions under the GGAS scheme will have measurable benefits.

2.3. Target design

Currently, renewable energy constitutes 6% of NSW's energy consumption. **[25]** Of this, hydro power comprises 4% with 2% from other sources. The Renewable Energy Bill proposes a NSW target of 10% of consumption by 2010, and 20% by 2020.

Consistent with previous submissions, the EDO supports the use of a percentage rather than a volumetric target. **[26]** Setting a volumetric target rather than a percentage target has been a significant failing of the MRET scheme. On MRET's inception, the figure of 9500 gigawatt hours or additional renewable energy generation was set. This was to represent an additional 2% increase in the share of Australia 's renewable electricity as compared to 1997 levels. However, as a result of greater than expected growth in electricity consumption, the target will only just keep pace with this increase. **[27]** A percentage is therefore preferable as it builds in the flexibility to adjust the percentage in response to increased growth in the demand for electricity, and maintains the market share of renewables. We are therefore supportive of this approach being adopted in the Bill.

The EDO however has significant concerns with the level of the targets proposed. A target of 10 percent of consumption by 2010, and 15 percent by 2020 is extremely low, and will do little to reduce GHG emissions, or to stimulate investment in renewable energy. Furthermore, although the government has committed to its greenhouse target, the Discussion Paper makes no mention of the overarching state target of reducing emissions by 60% of 1990 levels by 2050. There is no indication provided as to how these renewable energy targets will contribute to achievement of this goal. The EDO submits that the renewable energy target should be set at a level that will progress NSW towards this goal. As demonstrated by modelling discussed above, a renewable energy target of 25% by 2020, coupled with minimal increases in total energy consumption, will place NSW broadly on track to achieve its 2050 target.

A comparison of NSW's target with those of other countries and states reveals the insufficiency of the targets proposed. For example, Austria has a target of 78 % by 2010, Denmark - 28% by 2010, California - 33% by 2020, New York - 24% by 2013 and South Australia - 20% by 2014.

The EDO calls for a 25% target for NSW by 2020, with increasing targets thereafter. This is still significantly lower than the target in most European countries. Furthermore, NSW has a substantial capacity to produce renewable energy. NSW has a plentiful supply of renewable resources, such as wind, solar and bio-energy. These targets are therefore readily achievable.

An increased target will have measurable benefits for NSW. Modelling undertaken by several non-government groups has predicted that the following benefits will flow from a 25% renewable energy target that is combined with energy efficiency measures:

- 4,000 new jobs;
- $9 billion in new investment;
- 4,000 MW new renewable energy capacity;
- 13% reduction in GHG emissions from electricity sector on current levels by 2020; and
- Enough renewable energy to power every household in NSW. **[28]**

Furthermore, the economic impacts of a 25% target on consumers will be minimal. The Discussion Paper indicates that the cost to an average household as a result of the targets proposed will be less than $1 per annum in 2008, rising to around $31.80 per annum in 2022. **[29]** After 2020, the price is expected to fall dramatically following the end of MRET. The average cost per annum over life of scheme is an additional 30 cents per week. Modelling undertaken by several groups indicates that if the target is increased to 25% by 2020, the average household will pay an increase $1.25 per week or $65 per year. **[30]** Increased energy efficiency measures will reduce price further. The EDO believes that the increases expected are not inequitable, especially considering the expected financial consequences of climate change. **[31]** Indeed, current projections for business as usual use could see average household bills increase by $234 per year. [**32]** Hence, an increased renewable target may actually translate to cheaper electricity in the long run.

2.4. Key dates

The EDO believes that the scheme should commence as soon as possible. The sooner that a viable renewable energy industry is created the sooner that GHG emissions can be reduced. The EDO therefore supports a 2008 commencement date.

The Discussion Paper reveals that the scheme will end in 2030. No reason is provided for this, although presumably the scheme contemplates that a workable national emissions trading scheme will have been established by this time. The Bill should include a provision allowing the scheme to be extended beyond 2030.

The EDO submits that the scheme should continue to operate beyond 2020, and for the target to increase incrementally until greenhouse gases are decreased to a level that enables NSW to can meet its 2050 targets.

2.5. Scheme Review

The EDO supports a 5 yearly review of the scheme. However, there should be an initial 2 year review to determine if the scheme is functioning efficiently, whether the administrative body is adequately enforcing the scheme, and whether the target is sufficient to keep pace with increases in overall electricity consumption.

There should be a review of the target on a regular basis to determine whether it needs to be revised, having regard to changes in energy demand.

2.6. Interaction with other schemes

The scheme will place obligations on liable entities over and above their existing obligations under MRET and GGAS. Furthermore, the scheme prevents entities from using the same MWh of renewable energy for both MRET and NRET. This prevents 'double dipping'. The EDO is supportive of this approach. Considerations of equity dictate that liable entities should not be doubly rewarded for the same activity. Furthermore, preventing 'double dipping' will enable further growth in the renewable energy industry in NSW by ensuring that the target leads to renewable energy consumption in addition to the current baseline.

Part 3 - Eligible Renewable Generation

3.1. Eligibility

The EDO supports and encourages the use of all renewable sources of energy, provided that they are ecologically sustainable and have minimal environmental impacts.

The following renewable energy sources are not ecologically sustainable and should not be eligible energy sources under the proposed scheme:

- wood waste (except sawdust or sawmill waste);
- municipal solid waste combustion;
- hydro-electricity from large dams; and
- nuclear energy.

Wood Waste

The Bill lists wood waste as an eligible renewable source. However, native forest bio-material is excluded. 'Native forest material' is defined in the Bill as bio-material compromising any tree or species indigenous to Australia *other than* bio-material obtained from plantations, sawdust and other sawmill and wood processing waste. This means that wood-waste from sawmilling and trees from plantations may be used for energy generation under the scheme.

Although the EDO supports the general exclusion of native forest material in the Bill, we oppose the

exemption allowing sawdust and sawmill waste and wood from plantation forests to be used for renewable energy generation. There are three reasons for this.

Firstly, although it is of course preferable that wood waste from sawmilling be burnt for electricity rather than transferred to landfill, the burning of wood is not a clean technology and contributes to particulate pollution. The scheme should be focussed on the development on clean technologies for the production of energy.

Secondly, it is important to note that the removal of trees is the removal of a 'carbon sink', regardless of whether the trees are indigenous to Australia or found in plantations. As a result, there are significant GHG emissions associated with the clearing of vegetation. This defeats the purpose of a renewable energy source. It is counter-intuitive to include as renewable energy a source that leads to the release of GHGs when the fuel is obtained.

Thirdly, allowing wood waste under the scheme provides an economic incentive to produce more wood waste rather than encouraging efficiency in sawmilling. Furthermore, there is an incentive to fell smaller trees that would not normally be cleared in a logging operation for fuel under the scheme. This would significantly increase the impact of logging in our native forests.

The EDO therefore supports the exclusion of native forest material from the scheme but submits that the exemptions for plantations, sawdust and other wood processing waste be removed.

Municipal Waste

The Bill currently only allows the biomass-based components of municipal wastes to be included under the scheme. The EDO supports this as biomass elements of waste do not lead to toxic gas emissions. Non-biomass elements of waste should remain excluded from the scheme.

The EDO believes that all components of municipal solid waste should not be considered a renewable energy source as there are significant environmental concerns relating to the by-products of burning waste. This has been known to lead to toxic gas emissions, which is a significant environmental and health risk. **[33]** Furthermore, promoting the burning of waste detracts from waste management programs that aim to minimise the production of waste and promote recycling under the *Waste Avoidance and Resource Recovery Act 2001.*

Hydro Power

The EDO, consistent with environment groups and academics **[34]**, has significant concerns about the inclusion of hydro-electric power as an eligible renewable energy source under the Bill. The environmental consequences of hydro-electric projects are well known. They affect riparian ecosystems, divert environmental flows, flood wilderness areas and upset the dynamics of hydrological systems. **[35]**

Including hydro power in the scheme is likely to be a minimal problem in relation to *future* hydro-electric dams or increased capacity of existing dams, because the majority of potential sites for hydro-electricity are already exploited and the current drought means that increased flows are unlikely. However, the EDO has reservations about including existing hydro-electric power in the renewable energy baseline. Although it is true that electricity generated from hydro-electric projects generates no GHG emissions, the EDO contends that the ecological impacts of these projects effectively cancels out their greenhouse benefits. As a result, *existing* hydro power should not be included in the baseline levels.

Excluding hydro power is also likely to significantly stimulate the renewable energy industry in NSW. Hydro power currently contributes 4% of NSW's renewable energy, whilst non-hydro provides 2%. As the targets proposed are 10% by 2010 and 25% by 2020, this means that relatively little investment in renewable energy will take place, as obligations are minimal. Excluding hydro power will make the targets meaningful, as NSW would have 3 years to increase from 2% to 10% renewable energy consumption, and 13 years to increase to 15%. Of course, if a target of 25% by 2020 is adopted as suggested, this would lead to significant investment in renewables, and would make the industry a viable market player, whilst also reducing GHG emissions.

Our arguments against hydro-power are succinctly summarised by Professor Bradbrook and Professor Wawryk from the University of Adelaide :

*It can be argued that large hydro power should be excluded from these schemes because it is already competitive with fossil fuels and has a comparatively high market share in relation to other renewables. It is also arguable that hydro-power has the potential to negatively impact on the environment, so it should be placed outside the definition of a renewable energy source. **[36]***

As a result, the EDO does not support the inclusion of hydro power as an eligible renewable energy source in the Bill.

Nuclear Energy

Section 24 of the Bill states that the regulations may specify additional renewable energy sources for eligibility under the scheme. The EDO supports the development and advancement of innovative renewable energy sources. However, consistent with our comments above, we believe that any future identified sources must be ecologically sustainable. In this context, the EDO is strongly opposed to the suggestion from some quarters that nuclear energy presents a clean and viable alternative to fossil fuel energy. Nuclear energy, although non-carbon emitting, has significant deleterious impacts on the environment and society in general. These include the landscape effects of uranium mining, the accumulation of long-lived radioactive wastes and significant safety issues. **[37]**

The EDO calls for nuclear energy to be added to Section 23, which sets out the forms of energy that are not eligible renewable energy sources under the scheme.

Part 4 - Scheme Compliance

4.1. Relevant Entities

Liable entities under the scheme will include all licensed retail suppliers and all bodies and persons who acquire electricity through the National Electricity Market. The EDO supports the inclusion of these entities in the scheme as they are responsible for a substantial percentage of electricity consumption in NSW.

4.2. Exemptions

The Discussion Paper states that regulations will exempt trade-exposed electricity intensive industries from the scheme. **[38]** The EDO is strongly opposed to the exemption of these industries from the scheme. These industries are significant consumers of electricity, accounting for a large percentage of total electricity consumption. Indeed, consumption by the aluminium smelting, metals and manufacturing industries comprised 37.3% of Australia 's total energy consumption in 2004-05. **[39]**

The rationale given for exempting these industries is that the NSW renewable energy target "should not disadvantage the competitiveness of these industries." The Discussion Paper therefore presupposes that making these industries liable under the scheme will have negative impacts on the NSW economy. The EDO disagrees with this contention. A robust renewable energy industry has the ability to provide a significant boost to NSW's economy, rather than signal a death knell for its trade-exposed industries. Increasing the competitiveness of *renewable energy* should therefore be the focus of the scheme rather than maintaining the competitiveness of fossil fuel dependent industries. Considerable inequity for residential consumers and non-trade exposed energy intensive industries will result from these exemptions. This will, in turn, reduce the capacity of NSW to increase NRET target to a more appropriate level, as the costs will be spread across a smaller base of electricity consumers.

Trade-exposed energy intensive industries have had significant forewarning of the need to move away from a reliance on fossil fuel generated energy. It is inappropriate for the NSW Government to send signals indicating that these highly polluting industries can continue with business as usual. It is of utmost importance that they begin to transition to a carbon constrained future. Without the inclusion of energy-intensive trade-exposed industries, the scheme is likely to be ineffectual in leading to real reductions in GHG emissions. This is a significant impediment to the potential success of the scheme.

4.3. Penalties for Non-compliance

The EDO has consistently advocated for stringent, enforceable and robust penalty regimes in the context of emissions trading. **[40]** An effective penalty in the Bill will help to ensure that the renewable energy targets are met. Penalties should be sufficiently high so as to deter companies from non-compliance. Low penalties are relatively ineffective for large industries, where it may be more cost-effective to write-off any fines as simply a cost of doing business.

The Discussion Paper concedes that if the penalty is lower than the marginal cost of compliance, then it would be cheaper to pay the penalty rather than to comply. **[41]** It further states that "retailers will be required to surrender sufficient renewable energy certificates each year to meet their target or pay a stiff penalty for non-compliance." The penalty proposed is $43/MWh, and is said to provide a suitably high incentive for compliance. However, the modelling of the permit price provided shows that this penalty is insufficient. The permit price is expected to fluctuate between $41 and $46 from 2008-2022. **[42]** A penalty of $43/MWh will provide little incentive to comply as the permit price is likely to be equal to, or marginally above, the penalty price. The EDO submits that the penalty should be significantly higher (up to 20%) than the permit price. The penalty should be adjusted periodically corresponding to the permit price. Furthermore, penalties collected should be put into a renewable energy fund to finance further renewable energy programs.

The scheme must also include a 'make good' provision for companies to compensate for breaches in successive compliance periods. The addition of a make good provision adds additional weight to the financial incentive of compliance provided by the penalty. This will ensure that entities who do not meet their targets will have additional renewable energy targets for the next year. If this is not done, then

targets will not be met.

4.4. Certificate creation and lifetime

The EDO has no concerns with the process of certificate creation.

4.5. Banking and borrowing

The EDO is opposed to the indefinite banking of certificates. Such an approach would encourage stagnation in action where entities have met their minimum obligations. Banking should be limited to a 5 year period.

The Discussion Paper finds that borrowing allowances from future compliance periods provides compliance flexibility and help "smooth out" volatility of certificate prices. However, the potential downsides of borrowing are that "there is a greater risk of future non-compliance if the relevant entity cannot repay the borrowed allowances." **[43]** As a result, borrowing is not permitted under the scheme unlike MRET where 10% of allowances may be borrowed. The E DO supports a prohibition on borrowing. The risk of companies not meeting their debts in future years has the potential to undermine the environmental outcomes of the scheme. Companies will have the flexibility to purchase certificates from other entities if they anticipate not meeting their obligations.

4.6. Transfer and voluntary certificate surrender

The EDO supports the provision allowing non-relevant entities to purchase and voluntarily surrender certificates. This allows non-government and philanthropic organisations to retire certificates so they cannot be used by an entity to meet its annual obligations. The voluntary surrender of certificates would therefore lead to further increases in renewable energy consumption.

Part 5 - Scheme Administration

5.1. Scheme Administrator

The EDO supports the establishment of a newly created administrator to monitor and implement the scheme. The Discussion Paper proposes using the Victorian administrator to also monitor the NSW Scheme. Using the Victorian Essential Service Commission as the administrator of a NSW scheme may be problematic. The Victorian Scheme has different targets from NSW and its enforcement and powers of investigation are limited by distance. It may be more appropriate for a NSW body to administer the scheme such as IPART, or a newly created body.

Part 6 - Other issues

6.1. Public Participation in Scheme

Public participation is a crucial aspect of environmental law. It has long been understood that the involvement of the community improves environmental decision making, and therefore leads to improved environmental outcomes.

An examination of the Bill ostensibly reveals requirements for public notification. The Bill provides for the creation of four different registers- the register or registered persons, the register of accredited power stations, the register of renewable energy certificates and the register of applications for accredited power stations. However, it is not explicitly stated in the Bill that these are to be publicly accessible. The Bill should be amended to make this clear.

The Bill also requires the Scheme Administrator to publish a yearly list of entities that have had a renewable energy shortfall for that year. The EDO supports this requirement as it is consistent with ensuring that the scheme is accountable and transparent. This will also provide further incentive for entities to comply, as their public image may be tainted if they default on their obligations.

Although the Bill contains requirements for a public register, there is no capacity for members of the public to enforce the provisions of the Act. The Bill allows any "affected person" to challenge a decision of the administrator under the scheme. No definition is provided. The EDO recommends that the Bill be amended to introduce an open standing provision allowing any person to bring proceedings to remedy a breach of the Act.

6.2. Impediments to establishment of renewable energy industry

There are several identifiable impediments to the establishment of renewable energy industry in NSW that must be addressed in order to ensure that the industry becomes a genuine market player.

Firstly, renewable energy technologies face difficulty in competing in a competitive environment where

fossil fuel generators enjoy many advantages and subsidies, including their failure to internalise the cost of their greenhouse pollution. Indeed, total fossil fuel subsidies totalled $9 billion in 2003. **[44]** These subsidies reduce the cost of producing or consuming fossil fuels. This in turn encourages greater use of fossil fuels and therefore greater greenhouse gas emissions. **[45]** These perverse incentives mean that the establishment of a viable renewable energy industry faces inherent difficulties. The Institute for Sustainable Futures finds that the removal of these perverse incentives provides an attractive "no regrets" abatement option. **[46]** This must occur to enable real reductions in GHG emissions and a concomitant increase in renewable energy consumption.

Secondly, there are significant expenses associated with developing infrastructure and establishing renewable power plants from the ground up. The Bill should therefore operate in conjunction with financial incentives that assist new entrants into the renewable industry.

Thirdly, planning regulations are often in place that do not support or encourage the installation of renewable technologies. Development consent is needed to build power plants, conduct activities, etc.

Lastly, renewable energy generators face barriers to grid access in the National Electricity Market. **[47]** A lack of access prevents these generators from competing in the market. This must be addressed by reforming the National Electricity Market, in particular, by including environmental objectives in the law and, specifically, by removing the suite of barriers to renewable and distributed generation. This can also be addressed by adopting "feed in" laws like those in Germany, Denmark and Spain. **[48]** This involves letting independent producers of renewable energy "feed" their electricity into the power grid against the payment of a standard fee.

The impediments identified above must be addressed to ensure that renewable energy becomes a viable industry.

6.3. Complementary measures

It has been noted throughout this submission that although the establishment of mandatory renewable energy targets for NSW is a much needed step, this alone will not lead to significant reductions in NSW's GHG emissions. It is important that the proposed Act operates in an overall policy context designed to reduce greenhouse gas emissions to 60% of 1990 levels by 2050. The increased generation and consumption of electricity from renewable sources must be combined with regulatory measures, incentives and associated mechanisms that reduce the amount of electricity sourced from non-renewable sources. If this does not happen, increasing the renewable energy target will be ineffective to counter burgeoning emissions.

A multi-pronged response is necessary. As observed by The Climate Institute, "a mix of policies is the most cost effective policy response to reducing greenhouse pollution from the electricity sector." **[49]** It is therefore essential that other measures are also implemented as a matter of urgency to address climate change. The EDO recommends that the following measures should be adopted in conjunction with the Bill:

1. Energy efficiency and demand management measures to keep growth in electricity to below 1%;
2. Continued decreases in per capita GGAS targets beyond 2007;
3. Removal of perverse incentives encouraging GHG emissions;
4. 'Feed in" laws to allow renewable businesses access to the electricity grid for a set price; and
5. More investment and incentives for development and expansion of renewable energy options.

References

1. Renewable Energy Policy Network for the 21 st Century, *Renewables- Global Status Report 2006 Update* at 2.
2. A Bradbrook & A Wawryk, "Government initiatives promoting renewable energy for electricity generation in Australia " (2002) 25(1) *University of New South Wales Law Journal* 124 at 124.
3. Dr Barry Pittock, "Scientific issues in decision-making context" (2004), Cana Conference.
4. "NSW to set greenhouse gas targets", *Sydney Morning Herald,* November 9 th 2006.
5. ABARE, *Energy Update 2006* at 2. (13 July 2007).
6. A Bradbrook & A Wawryk, "Government initiatives promoting renewable energy for electricity generation in Australia " (2002) 25(1) *University of New South Wales Law Journal* 124 at 125
7. Australian Government, *Australia 's National Greenhouse Accounts - State and Territory Greenhouse Gas Inventories 2004,* 2006, pp. 16-17.
8. The World Commission on Environment and Development, *Our Common Future* (1987) at 14.
9. *Agenda 21,* Clause 9.9.
10. ABARE- Table G2- Energy consumption in New South Wales, by fuel type - physical units
11. NSW Renewable Energy Target- *Renewable Energy (New South Wales) Bill 2007* and Supporting Information at 8.
12. ABARE, *Energy Update 2006* at 4. (13 July 2007).
13. *The Great Opportunity : 25% Renewable Energy for NSW* - October 2006 at 13. (13 July 2007).
14. *Ibid* at 8.
15. R Lyster, "The implications of electricity restructuring for a sustainable energy framework: what's law got to

do with it?" (2003) 20 *Environment and Planning Law Journal* 359 at 359.
16. Section 3, Renewable Energy (Electricity) Act 2000 (Cth).
17. H Outhred *et al,* "The sustainability of renewable energy projects;- Wind Energy"- A discussion paper for the ACRE Energy Policy Group, July 2002 at 1.
18. n 10 at 6.
19. K McCrossin, "A critical analysis of the extent to which international environmental law has influenced Commonwealth legislation and policies, and New South Wales legislation, with respect to climate change" (200&) 12 *Local Government Law Journal* 230 at 233.
20. Prime Ministerial Task Group on Emissions Trading, *Report of the Task Group on Emissions Trading* 2007. (13 July 2007).
21. K McCrossin, "A critical analysis of the extent to which international environmental law has influenced Commonwealth legislation and policies, and New South Wales legislation, with respect to climate change" (200&) 12 *Local Government Law Journal* 230 at 234.
22. www.greenhousegas.nsw.gov.au/overview/ scheme_overview/overview.asp
23. K McCrossin, "A critical analysis of the extent to which international environmental law has influenced Commonwealth legislation and policies, and New South Wales legislation, with respect to climate change" (200&) 12 *Local Government Law Journal* 230 at 237.
24. Centre for Energy and Environmental Markets, University of New South Wales, *The NSW Greenhouse Gas Abatement Scheme: An analysis of the NGAC Registry for the 2003, 2004 and 2005 Compliance Periods,* May 2007, p. 9.
25. n 10 at 8.
26. Environmental Defender's Office (NSW), " Submission for the review of the mandatory renewable energy target under the *Renewable Energy (Electricity) Act 2000* " 2003 at 3.
27. *The Great Opportunity : 25% Renewable Energy for NSW* - October 2006 at 1. (13 July 2007).
28. *Ibid.*
29. Page 27
30. *A Bright Future: 25% Renewable Energy for Australia by 2020* - April 2007 at 4. (13 July 2007).
31. *Stern Review on the economic impacts of climate change*, 2006. (13 July 2007).
32. n 28 at 4.
33. Environmental Defender's Office (NSW), "Submission for the review of the mandatory renewable energy target under the *Renewable Energy (Electricity) Act 2000*" 2003 at 5.
34. A Bradbrook & A Wawryk, "Government initiatives promoting renewable energy for electricity generation in Australia " (2002) 25(1) *University of New South Wales Law Journal* 124 at 156.
35. www.ieahydro.org/reports/Hydrofut.pdf (13 July 2007).
36. A Bradbrook & A Wawryk, "Government initiatives promoting renewable energy for electricity generation in Australia " (2002) 25(1) *University of New South Wales Law Journal* 124 at 156.
37. R Lyster & A Bradbrook, *Energy Law and the Environment,* Cambridge Press (2006) at pp 26-27.
38. n 10 at 15.
39. CSIRO, *The Heat is on- the future of energy in Australia*, 2006 at 26. (13 July 2007).
40. For example, see *Submission regarding the Possible Design for a National Greenhouse Gas Emissions Trading Scheme* December 2006. It is available to be accessed at http://www.edo.org.au/edonsw/site/pdf/nets_anedosub061221.pdf (13 July 2007).
41. n 10 at 17.
42. *Ibid* at 26.
43. *Ibid* at 18.
44. R Lyster, "The implications of electricity restructuring for a sustainable energy framework: what's law got to do with it?" (2003) 20 *Environment and Planning Law Journal* 359 at 363.
45. Institute for Sustainable Futures, *Subsidies that encourage fossil fuel use in Australia,* 2003 at 6. (13 July 2007).
46. *Ibid* at 36.
47. S. Crawford and J. Angel, *Green or Black? Renewable Energy Policy in Australia* (Total Environment Centre, 2002) at 4.
48. R Lyster, "The implications of electricity restructuring for a sustainable energy framework: what's law got to do with it?" (2003) 20 *Environment and Planning Law Journal* 359 at 382.
49. www.aph.gov.au/house/committee/isr/ renewables/submissions/sub43.pdf (13 July 2007).