

SAWEA comments on the National Climate Change Response Green Paper 2010

Section from the Green Paper	Comment
<p>1 INTRODUCTION</p> <p>Against this national context, Government accepts the conclusions of the Intergovernmental Panel on Climate Change in its 4th Assessment Report that warming of the climate system is unequivocal and that it is very likely that the increase in anthropogenic greenhouse gas concentrations is responsible for much of this warming trend since the mid twentieth century.</p> <p>With this, Government regards climate change as one of the greatest threats to sustainable development. Government also believes that climate change, if unmitigated, also has the potential to undo or undermine many of the positive advances made in meeting South Africa's own development goals and the Millennium Development Goals.</p>	<p>SAWEA submits that the approach is entirely correct and that the IPCC reports are the correct basis for a response to climate change and further shares the profound concern about anthropogenic climate change and its effects.</p> <p>SAWEA points out that the over-use of fossil fuels is generally accepted to be at the heart of anthropogenic climate change and thus has to be balanced to a far greater extent by the use of renewable energy, of which wind power is the most economical that can be deployed at scale.</p>
<p>2. Objectives</p>	<p>SAWEA supports the objectives of the NCCRGP</p>
<p>3. Principles</p>	<p>SAWEA supports the principles of the NCCRGP</p>
<p>4. THE SOUTH AFRICAN CLIMATE CHANGE RESPONSE STRATEGY South Africa will implement the following strategies in order to achieve its climate change response objective –</p> <p>Acknowledging that, with the energy intensive nature of the South African economy, the mitigation of greenhouse gases is generally not going to be easy or cheap and that Government must support and facilitate the mitigation plans of, in particular, the energy, transport and industrial sectors.</p>	<p>SAWEA submits that the general approach is very sound and confines its response to the paragraph relating to the energy-intensive nature of the SA economy quoted on the left:</p> <p>SAWEA is of the view that direct Power Purchase Agreements between energy intensive industry and wind developers should be encouraged to the greatest extent possible. This would mean that the cost of renewable energy is not borne only by the consumer. The energy intensive industries face caps and penalties under the Power Conservation Programme (“PCP”) and should be incentivised to choose renewable energy over, for instance, diesel generators onsite. For this to happen wheeling of power over the Eskom grid should be possible, but the regulatory basis for this is highly uncertain at this time with the well-established “willing buyer willing seller” principle being undermined by statements in the IRP that no generation licence would be granted to anyone who is not part of the IRP. This means that any natural safety net for inaccuracies in the projections of the the IRP is statutorily prohibited and</p>

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	<p>that energy intensive industries will again choose to make up their energy deficit through fossil fuels.</p> <p>More generally SAWEA submits that wind power is comparative in price to new coal power. The REFIT for wind is ZAR 1.25/kWh. A potential benefit of ZAR 0.07 – 0.20 can be subtracted from this as it is available under the Clean Development Mechanism of the Kyoto Protocol as effectively an internationally funded subsidy for clean power.</p> <p>The tariff required to make new Eskom coal fired plants like Kusile and Medupi feasible is generally accepted to be in the order of ZAR 0.90/kWh.</p>
<p>5.1 Key Adaptation Sector – Water</p>	<p>Eskom, at present, consumes approximately 1,350 litres per MWh. The water consumed by an equivalent 80 TWh of conventional power is equivalent to the water required every year by a city of 280,000+ people. Under current plans communities and agriculture will be competing directly for water with coal-fired and nuclear power stations.</p> <p>Wind farms do not use water so increasing amounts of wind energy instead of coal-fired and nuclear power generation reduces the strain on the nation's water resource. When compared to Eskom's 1,350 litres per MWh water usage, estimates show that 30,000 MW of installed wind power capacity, a figure central to a 25% renewable energy target by 2025, would save in excess of 80 Billion litres of water each year.</p> <p>¹ FAO Report 29 – 264,000 litres of water per capita for South Africa Barclays Capital Global Carbon Index Guide</p>
<p>5.2 Key Adaptation Sector – Agriculture</p>	<p>Many South African farmers are struggling to remain profitable due to the effects of climate change such as droughts and/or floods, added to the rising costs of materials and equipment. Moreover, farming is under other pressures like the rising cost of liquid fuels that impacts dramatically on the production cost of food.</p> <p>Wind farms and agriculture are largely complimentary bringing mutual benefits. Government can encourage and facilitate wind energy projects on agricultural land in order to benefit the agricultural industry and increase production.</p> <p>Wind turbines and associated infrastructure occupy between 1% to 5% of the land that they are built on leaving 95-99% which continues being used for agriculture. Farmers receive a significant additional revenue stream from rent fees which</p>

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	<p>can cross-subsidise farming, see the farmer through climatically difficult years and indirectly lowers the production costs for food.</p> <p>For these reasons wind farms on agricultural land should be welcomed. In reality however there are considerable hurdles like the Ministerial consent required under Act 70 of 1970 for the lease of a portion of land</p>
<p>5.3 Key Adaptation Sector - Human Health</p>	<p>There is documented evidence of considerable health effects caused by the generation of coal-based electricity, both through upstream activities like mining, direct pollution and knock-on effects like acid rain and acid mine water.</p> <p>An increased use of wind energy will alleviate these problems.</p> <p>Moreover, the results of climate change could be catastrophic for human health in the long term and these should be avoided to the greatest extent possible by an aggressive transition to clean energy</p>
<p>5.4 Key Mitigation Sector – Energy</p> <p>Paras 1-3</p> <p>The main fuel of power generation is coal</p>	<p>SAWEA submits that South Africa clearly has a superb wind regime and abundant land. This makes the South African wind industry potentially one of the largest worldwide. There is opportunity for local value add and manufacturing if certain thresholds of critical mass can be reached.</p> <p>A final energy mix is likely to include coal even in the medium term but it is submitted that as much wind power as economically and environmentally possible should be constructed</p>
<p>5.4 Key Mitigation Sector – Energy</p> <p>Para 5.</p> <p>There has been a significant amount of activity in the wind and solar industries with tremendous potential for local manufacturing and job creation.</p> <p>Over the longer-term Concentrated Solar Power (CSP) options, with their potential to provide base load, have the potential to be a much larger component of the energy supply mix.</p>	<p>Agree.</p> <p><i>The Capacity Credit of Wind Generation in South Africa</i> study commissioned by the Department of Energy, Eskom and GTZ, and carried out by DIG Silent, showed that with geographic diversification of wind farms the capacity credit of wind generation in South Africa can be expected to be around 25%. This means that wind energy can also contribute to base load when considered as part of the overall generation mix.</p>

SAWEA comments on the National Climate Change Response Green Paper 2010

<p>5.4 Key Mitigation Sector – Energy Para 7, bullet point 5</p> <p>Fortunately South Africa has a, largely untapped, abundance of renewable energy sources, most notably solar energy. This presents new economic opportunities and potential competitive advantage.</p>	<p>South Africa is also notably blessed with untapped, abundant <u>wind resource</u>.</p>
<p>5.4 Key Mitigation Sector – Energy Point 5.4.4</p> <p>Establish a business environment that facilitates the development of a local renewable energy technology manufacturing, implementation and export industry and that maximises its job creation potential</p>	<p>To do it is essential to note that the targets set for renewables need to be at a significant level for the manufacturers and suppliers to the wind turbine manufacturing industry to find the South African market attractive enough to set up business.</p>
<p>5.4 Key Mitigation Sector – Energy Point 5.4.8</p>	<p>In here is mentioned skills development for some specific renewable energy and energy efficiency technologies. This should be widened to include renewable energy skills development programmes to support the growing national renewable energy industry and not limited to the programmes mentioned in this paragraph.</p>
<p>5.4 Key Mitigation Sector - Energy</p>	<p>The advantages of using wind energy are not clearly identified in this section. These include but are not limited to: the relative low installation cost (which are actually on par with cost for conventional power when the price of carbon is included), no water usage (as per our comment above), relatively short lead times, potential for base load (as per the above comment) and the potential creation of jobs. All of which are being mentioned as important factors for successful climate change mitigation.</p>
<p>5.5 Key Mitigation Sector – Industry <i>Mining and Mineral Resources</i></p>	<p>Given the intensive energy usage by mining and manufacturing and the PCP mentioned above in paragraph 4, the importance of a functional wheeling regime of wind power is again stressed.</p>
<p>8.2 Human Resources</p> <p>8.2.2 Include Climate Change elements in the review of the National Skills Development Strategy and ensure that all</p>	<p>Agree but also integrate renewable energy skills development programmes to support the growing national renewable energy</p>

SAWEA comments on the National Climate Change Response Green Paper 2010

<p>Sector Education and Training Authorities (SETAs) integrate climate change in priority skills development programmes, in the formal, informal and non-formal sectors of the South African education system.</p>	
<p>8.2.7 Encourage tertiary institutions of learning to conduct climate change research</p>	<p>Agree but also integrate renewable energy skills development programmes to support the growing national renewable energy industry.</p>