

## Construction

<b>Sector Overview:</b>	<ul style="list-style-type: none"> <li>▪ In 2008 the Construction sector contributed roughly 4% of GDP in South Africa, up from 2% in 2005</li> <li>▪ Construction comprises residential buildings (houses and residential property), non-residential buildings (industrial buildings) and civil works (government infrastructure). Labour intensity in construction makes it an important sector for economic growth</li> <li>▪ In 2008 the building sector (residential and non-residential) accounted for 59% of all construction activity compared to 41% for civil construction</li> <li>▪ Government investment in infrastructure, stadiums and housing has helped shield the sector from the global economic crisis. A public investments programme of approximately R787bn over the three financial years to March 2012 has been announced</li> <li>▪ Construction activities, especially of the civil or public kind (airport upgrades, roads, Gautrain, public housing etc.) are expected to expand in the foreseeable future</li> </ul>
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Risks		Opportunities	
<b>Regulatory</b>	<p>The introduction of mandatory efficiency standards for buildings is considered a realistic short to medium-term option in the country. The Standard for Energy Efficient Buildings (SANS 204) remains under development, with the standard to be incorporated into the National Building Regulations and to introduce mandatory legislation for all new buildings.</p> <p>More stringent building codes are considered an important component of South Africa's mitigation future (see DEA and DST, 2009).</p> <p>Relevant building codes could also be introduced independently at the local municipality level, as part of ongoing energy security and climate mitigation efforts.</p> <p>The introduction of efficiency standards can be expected to raise operational costs for construction activities as new materials and techniques are introduced.</p> <p>Effective monitoring and enforcement, as well as the development of sufficient professional and contractor expertise, will, however, need to be addressed in</p>	<p>Significant potential construction related opportunities exist in the implementation of large-scale heat pump, solar water heater or insulated ceiling rollout, as part of social development and/or climate mitigation efforts.</p> <p>The expansion of low carbon technologies including public transport infrastructure and renewable energy (such as wind, solar and biomass) offers additional areas for Construction sector growth. As of 2008, a total of 6 700 direct construction jobs had been created by the Bombela Concession Company for Gautrain construction (Gautrain, 24 June 2008).</p> <p>Rising electricity prices and organisational attempts to reduce GHG emissions can be expected to provide support for the nascent green buildings industry in the country, and support a variety of technology and material providers, including through the use of recycled materials.</p> <p>To date, a limited number of opportunities in the green building sector have been created in South Africa through the introduction of the Green Star rating tool and formation of the Green Building Council.</p> <p>Finally, the extension of advisory services in energy efficiency</p>	<b>Growth of Existing Markets &amp; Industries</b>

Risks	Opportunities
<p>standard implementation.</p> <p><b>Supply Chain</b></p> <p>An area of concern in this sector relates to potentially increased cement prices as a result of the introduction of national or sector based emission caps on cement production, or through the introduction of carbon pricing.</p> <p>Rising cement costs can be expected to be passed onto downstream users in construction, although these rising input costs can be expected to be passed down further to Construction sector clients.</p> <p>Prices of other basic raw materials such as timber may also be increased through the implementation of carbon related costs in forestry and pulp and paper.</p> <p>Related supply chain risks exist in the currently inadequate ability to secure green building materials and low carbon technologies at sufficient scale in South Africa, although this is also an opportunity for local industry development.</p>	<p>standard compliance by construction companies themselves has been identified as an area of growth opportunity for South Africa (CDP, 2009).</p> <p>Mandatory energy efficiency codes for buildings to assist with the reduction of residential and commercial electrical demand, including at peak times.</p> <p>Managing peak electricity demand will also significantly reduce the long-term requirement for future power station capacity requirements, with associated investment savings.</p> <p>Building codes likely to provide energy cost related savings over the short to medium-term for new building stock, particularly as electricity price increases are implemented. Significant benefits to accrue to the commercial sector in the form of reduced operational costs. Reduced consumption requirements will be applied to infrastructure with an average expected lifespan of 20 to 100 years, hence large-scale savings will also be achieved over a building's lifespan.</p> <p>Prospects for building plan approval under periods of constrained electricity reserve margin enhanced for energy efficient building developments.</p> <p>Energy efficiency standards to assist the national Construction sector to keep pace with international construction activities and trends, which place a strong emphasis on improved efficiencies, green buildings and specialist material usage.</p> <p>Commercial and residential energy efficiency have consistently been found to offer significant negative cost options for South Africa (DEAT, 2007b; ERC, 2008). Net economic gains have been found based on an estimated average cost saving of R1.6 Billion per annum in the commercial and R1.7 Billion in the residential sector (DEAT, 2007c; DEAT, 2007d). Recent modelling suggests a R1 000 saving for every 2.1 tons of carbon dioxide equivalent (CO<sub>2</sub>e)</p> <p><b>Risk Management, Efficiencies &amp; Competitiveness</b></p>

Risks		Opportunities
		<p>removed via commercial efficiency and a R 1000 saving for every 2.2 tons of carbon dioxide (CO<sub>2</sub>) reduced in the residential sector, under a sustainable development approach to climate mitigation (ERC, 2008).</p> <p>Energy efficiency measures such as the retrofitting of existing building stock, including within government buildings, is a strong candidate for external funding and support, with related benefits for construction activities in this area.</p> <p>Government subsidies may also be made available to property developers and contractors that incorporate climate concerns into the design and location of their buildings.</p> <p>Opportunities are presented particularly in the voluntary carbon market in the rollout of solar water heaters, insulated ceilings and other efficiency measures within residential housing, particularly for low-income homes.</p> <p>Other factors being equal, buildings with improved efficiency measures can be expected to attain higher future asset values due to lower long-term running costs, including in heating and cooling, whilst low carbon developments may receive heightened financial and investor backing in the context of rapidly rising electricity prices in the country.</p>

**Country Level Investment, Finance & Technology Transfer**

**Carbon Markets**

**Investor**

<p><b>Summary:</b></p>	<p>The Construction sector faces climate risk through the introduction of more stringent building standards and increased prices for raw materials such as cement and timber. However, the net impact on the sector is likely to be strongly positive, with significant commercial opportunities presented in the development of low carbon technologies, including renewable energy and public transport, and the installation of efficient materials such as insulation.</p> <p>Large-scale economic benefits can be achieved through heightened building stock efficiency, including residential consumer gains, reduced commercial operational costs, heightened buffers against rising electricity prices and reduced peak electricity demand. Industry competitiveness is also supported through keeping pace with major global trends in the sector towards efficient building practices. Opportunities are therefore presented for sustained growth in this labour intensive sector of the economy through climate change mitigation.</p>
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