**NATURAL GAS: BUILDING A CLEANER ENERGY FUTURE**

South Africa has a great opportunity to secure a sustainable energy future, reducing its dependence on coal by using more environmentally friendly options available in this country, such as natural gas.

A plentiful supply of natural gas – the cleanest of all fossil fuels – may exist in parts of the shale rock formations deep beneath the surface of the Karoo Basin. The Karoo’s natural gas potential could provide South Africa with a stable, alternative energy source for power generation that is 40% more energy efficient and emits about half the CO₂ of coal, but only if we can preserve the unique character of the area as well.

**Resources for South Africa; resources for the World**

The global picture is clear – energy powers our modern world. And as the world’s population increases, the demand for energy will continue to rise. World energy demand is expected to double by 2050, and in some countries, even triple. Natural gas has an essential and growing role to play in building a cleaner, more affordable and more secure energy future, especially in South Africa.

Natural gas is an important component of a sustainable global energy mix and is vital for meeting increased demand for clean electricity. In other words, it’s not just a “transition” fuel, it’s a “destination” fuel. According to the International Energy Agency (IEA), 90% of South Africa’s electricity generation is derived from coal with a net result of high carbon emissions.

At present, the National Planning Commission estimates that only 80% of South Africans have access to electricity, whilst the prices remain high. The government’s objective is that by 2030, at least 95% of South Africans have access to electricity.

Substituting gas for coal will reduce carbon intensity and greenhouse gas emissions in SA. South Africa’s CO₂ reduction target is one of the most ambitious amongst developing countries with the commitment made at Copenhagen to reduce greenhouse gas emissions by 34% by 2020 and by 42% by 2025. Diversification of the energy mix is required to achieve these targets and natural gas could be instrumental both in meeting growing energy demand and contributing to these emissions reduction targets. Natural gas could provide South Africa with a stable, sustainable alternative energy source to coal for power generation, one that is 40% more energy efficient and emits about half less CO₂.

The economic benefits of natural gas are clear: not only is the construction of a gas-fired power plant less than half the cost of a coal-fired plant and easier to build than any other source of electricity, natural gas could also provide South Africa with a stable, sustainable alternative energy source, supporting economic growth, bringing much needed employment and economic opportunity in the Karoo.

**Natural gas in the Karoo**

The natural gas in the Karoo is trapped in densely-packed shale formations baked hard by heat and pressure over millions of years. Only recently has technology advanced for shale gas resources to be developed economically. It now forms a significant percentage of the world’s gas supplies with extensive development in the United States in particular.

We firmly believe the opportunity exists for South Africa to develop these cleaner burning resources in a way that delivers economic, environmental and energy benefits responsibly and sustainably, protecting the environment and the character of the Karoo region.

Apart from our continuing personal engagements with the communities in the Karoo, we invite you to stay in touch with us via our website http://www.shell.co.za/karoo. Here you will learn more about additional Shell commitments, especially with regard to water management and hydraulic fracturing. We welcome your views.

Shell has applied to explore the area to determine if commercial natural gas resources exist in the Karoo. If we are granted licenses, exploration would involve drilling up to 24 wells over three years. Any possible development is at least nine years away and an indication of the caution and deliberate care that will be taken in pursuing this program.

To learn more, please visit http://www.shell.co.za/karoo
The World in 2050

- 9 billion people; up to 75% living in cities – 2 billion more than today
- 2 billion vehicles - 800 million at the moment
- 3-4 times as rich as today as population in developing countries shifts from poverty to middle class
- Need more than double the energy needed today
- Energy from renewable sources will be 5-10 times as much as it is today

To learn more, please visit http://www.shell.co.za/karoo