May 2014
The WRC operates in terms of the Water Research Act (Act 34 of 1971) and its mandate is to support water research and development as well as the building of a sustainable water research capacity in South Africa.

TECHNICAL BRIEF

Water and the economy

The role of water in the green economy.

The Water Research Commission (WRC) has published a discussion paper on the role of water and the water sector in the green economy within the context of the New Growth Path.

Background

The benefits of the green economy (GE) and the need for more sustainable ways of operating have been topical in South Africa. The GE is prioritised as one of the key economic drivers in the Medium Term Strategic Framework 2009-2014, Outcome 4, Outcome 10, and in the New Growth Path announced by Cabinet in October 2010.

All government departments need to develop implementation plans and align their programmes with the job creation imperative. A number of priority programmes were identified that effectively provide practical interventions for the environment sector contribution.

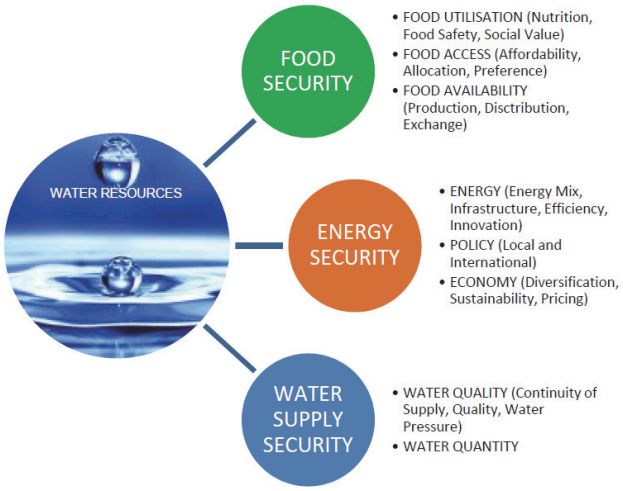
If implemented, the programmes will have a significant contribution towards mainstreaming GE approaches within South Africa to the benefit of the environment, economy and society, promoting growth while reducing pollution and greenhouse gas emissions, minimising waste and inefficient use of natural resources, maintaining biodiversity and strengthening energy security.

Water and the green economy

The WRC discussion paper looks to explore whether a GE, from a water sector perspective, will effectively assist in achieving the national development and job creation objectives as outlined in the National Growth Path. The outcome of this study can guide the activities of departments and municipalities in pursuance of a green agenda and its national obligations in terms of the National Growth Path.

What is clear from current research is that the present costs and future benefits of a GE on the water sector are not clearly understood.

While water is a finite resource it is also a catalyst for economy growth. Various studies and common sense has shown



that water is a key ingredient in industrial processes, the agriculture sector, good health etc.

Economic growth and development depends largely on water quality and availability, which are affected by competing demands between people, industry, food security, the environment, development etc. The interrelationship between these aspects must be considered in strategic planning, particularly when there is a paradigm shift in economic growth.

The GE is seen by many departments as an opportunity to meet growth projections and, in turn, reduce poverty and create much needed jobs. The South African government has shown support for a GE as an alternative vision for growth and development, which takes into account sustainable development and stimulating the triple bottom line approach to growth by responsibly advancing economic, environmental and social well-being.

However, the question remains: What is the role of water in the GE in the context of sustainable and economic growth in South Africa? Can the water sector truly achieve economic growth by adopting a green approach?

Critical analysis of the green economy for the water sector

The GE in the water sector remains elusive in part because, in the absence of standard definitions and data, strikingly little is known about its nature, size, and growth at the critical regional and local levels. It cannot be overemphasised the importance of agreeing on the definition/principles/outcomes of the GE for the water sector. This clarity is needed if the contribution of the water sector to the growth of the GE is to be measured and monitored.

In the absence of defining current green initiatives in the water sector it is difficult to determine the true sustainability of such green initiatives.

In order to measure the success and contribution of GE initiatives by the water sector it is imperative to 1) have a common understanding of the GE and 2) be able to quantify/measure/size the existing GE in the water sector. Further, in quantifying the number of green jobs created it is important to establish the following:

- Are new jobs being created?
- Are we significantly changing the work or worker requirements of existing jobs?
- Are we simply increasing the demand for workers in existing jobs?

These distinctions are essential for locating, describing, and forecasting potential workforce consequences of the GE and in quantifying the size of the existing GE. The need for better indicators and means of progress towards the GE must become a priority for the water sector.

Further, given that water is a key ingredient in GE initiatives of other sectors, such as the renewable energy sector, the agricultural sector and the manufacturing sector, it is imperative that the method used to size the GE with regards to the contribution from the water sector takes into account the far-reaching implications of water in national growth and job creation objectives.

Currently, no national or local database exists on the spatial geography of the GE and its sub-industries. While this remains the responsibility of the Department of Environmental Affairs and the Department of Finance, the water sector will benefit from creating such a database specific to the GE initiatives in the sector.

If the true sustainability of the GE is to be tested, accurate information on the economic value connected to supply and demand in competitive markets, rather than just voluntary business philanthropy is required. There must be a clear understanding on whether the GE is creating new jobs and not moving people from one sector to another at a greater cost.

Implications for water sector policies

Going forward, the success in terms of progress towards a GE for the water sector would be judged by its ability to transform current policies that take the following into account:

- Recognition of the value of the benefits provided by good water management and costs (negative value) of not doing so
- Evidence of increased investment in the water supply and sanitation sector that gives consideration to the environment
- The formal definition of rights to use water and its allocation to users and the environment
- Legislation recognition of the important role that ecosystem services can play in supporting an economy
- Investment in the development of institutional capacity to manage water resources on a sustainable basis
- The removal of policies that discourage ecosystem conservation and/or have perverse effects on water use and investment
- Progress towards arrangements that reflect the full costs of resource use in ways that do not compromise the needs of disadvantaged people in a community; and
- Addressing ecosystem degradation by increasing efforts

for restoring and protecting ecosystems critical to supply of water quantity and quality.

This approach will have a dire impact on existing water sector policies, such as the existing tariff structure, the water allocation process, transfer schemes and national growth and development objectives.

Many countries have implemented various mechanisms to support a sector-based approach. The water sector is encouraged to research the implications of the GE on existing policies.

The study underway by the WRC to determine the water footprint of various sectors and activities will be critical to determine the water allocation going forward. This will influence policy decisions and impact on sector partners.

Finally, the move towards a GE could create new industries which will require additional policy and regulatory guidance from the water sector.

Skills development and capacity building

At the heart of GE activities is technology. The GE in developing countries is highly dependent on the transfer of applicable technologies. Technology transfer, however, is not only a process of supplying capital equipment from one entity to another, but also includes the transfer of skills and know-how for operation and maintaining the hardware, and understanding the technology so that further independent innovation is possible by the recipient. Thus, understanding the development and application of various green technologies can help to depict the potential workforce implications of GE activities.

In the Department of Water Affairs study on the Water for Growth and Development, skills development and lack of technical skills in the water sector were highlighted as one of the main concerns in moving the sector forward. Hence, institutions may be burdened by a further technical skills crisis if the green agenda does not take cognisance of the skills shortage in the sector.

The skills base of the existing water sector must be tested against the skills required to implement green projects, initiatives and processes.

Financial incentives

Almost all the success stories of the GE are hinged on rebates, incentives, rewards and grants. The water sector would need to consider the long-term financial implications of green initiatives on existing schemes, such as the free basic water allowance. The sector would also need to agree on incentivised approaches to get the public and the private sector to buy into a green approach.

Community acceptance of the green approach
Central to the success of GE in the water sector is public and community acceptance. The installation of water meters in Phiri, Soweto, created green jobs but it was not accepted by the local community.

Similarly, the De Hoop Dam in Steelpoort, Limpopo, was met with great resistance from the land-based communities. The delays in the project has increased the cost of water from the dam which raises the question of whether the project created green jobs and contributed to the GE.

International NGOs have raised concerns that rather than reducing pollution and consumption, protecting the territorial rights of land-based peoples, and promoting local initiatives that steward resources for future generations, the approach is doing the opposite: promoting monoculture tree plantations, trade in pollution credits, and the establishment of speculative markets in biodiversity in forests, all of which threaten to displace land-based communities.

The main concern raised by NGOs and communities is that GE does not question the current economy based on extraction and fossil fuels, nor the patterns of consumption and industrial production, but extends this economy into new areas, feeding the myth that economic growth can be infinite.

Further reading:
To order the report, ***Discussion paper on the role of water and the water sector in the green economy within the context of the New Growth Path*** (**Report No. KV 307/13**) contact Publications at Tel: (012) 330-0340, Email: orders@wrc.org.za or Visit: www.wrc.org.za to download a free copy.