



THE SOUTH AFRICAN RENEWABLES INITIATIVE



Partnering for green growth Summary

South Africa • December 2011

The South African Renewables Initiative (SARi) is a South African government initiative dedicated to enabling the large-scale ramp up of the renewable energy industry in South Africa. Its objective is to establish financing arrangements to allow a critical mass of renewables to be developed, without incurring unacceptable domestic cost burdens. An international partnership of governments and public partners has come together to support this effort and to seek to mobilise the scale of coordinated funding needed to realise this ambition.

This summary paper is drawn from a longer launch document on the South African Renewables initiative. This and other background papers are available to download from www.sarenewablesinitiative.gov.za

THE SOUTH AFRICAN RENEWABLES INITIATIVE

“The South African Renewables Initiative is an ambitious initiative which has the potential of catalysing South Africa’s transition to a greener growth path.”

President Jacob Zuma, President of the Republic of South Africa.

Developing Innovative Funding for Renewable Energy: Setting South Africa onto a green growth path

South Africa is taking steps to develop as a site for renewable energy generation. The current national plan for electricity includes an ambitious 19 gigawatts (GW) of renewables to be added to the grid by 2030.

The South African Renewable Initiative (SARi) has been established by the Government of South Africa to support the rapid and ambitious scaling up of renewables in a manner that will deliver economic, social and environmental benefits without imposing unacceptable costs on the nation’s citizens and economy.

The South African Government is seeking to work together with other international partners to develop a set of innovative blended financial instruments aligned to national plans for green growth. International partnerships will play a key role in enabling the country to deliver, and build on, this ambition for green growth.

The potential opportunities posed by the current plan for renewables development through international cooperation is outlined below.

Potential opportunities

Economic

- **Employment:** 35,000 – 40,000 new jobs created at peak.
- **Decarbonization of South African exports:** green house gas intensity of exports reduced by 20% by 2025.

Financing/ Investment

- **Investment:** directly in the region of \$36 bn investment in renewables capacity by 2030.
- **Public sources:** a blend of low cost loans (up to US\$11 bn), plus insurance products and pay-for-performance grants to cover incremental costs (contributing towards US\$2.3 – 3.1 billion incremental costs, together with South African domestic and consumer funding)

Carbon

- **Renewables generation:** 19GW by 2030, providing 9% of electricity supply.
- **Carbon mitigated:** 575 Mt by 2049 or 27Mt per annum at full ramp-up.
- **Reduction from Business as Usual:** by 2025 would contribute 7% of South Africa’s Cancun agreement target.

[Source: Integrated resource plan, team analysis, expert interviews, SARi model]

Background to the initiative

The South African Renewables Initiative was developed and unveiled as an initial concept at the Cancun Climate Change Summit in 2010, with the vision of working to develop an innovative solution to financing the incremental costs of renewables in South Africa with attendant economic, industrial and climate benefits, supported through international partnership.

The solution proposed was the strategic, large scale and competitive procurement of renewable energy, enabled by domestic institutional de-risking and the provision of low cost loans and risk guarantee instruments from international sources. Combined with modest amounts of domestic private and public funds and international public grants, it was envisaged that this approach would bring down the cost of capital, required to cover the remaining incremental costs.

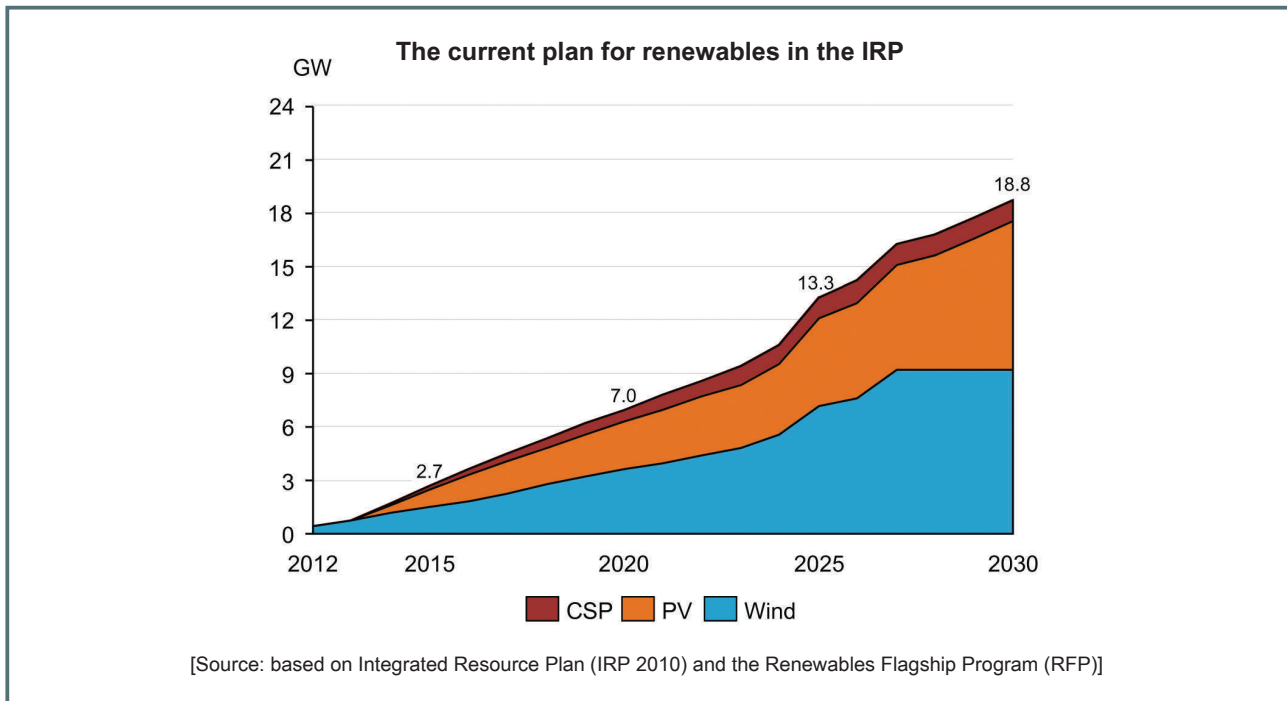
South Africa is in the process of developing its own financing arrangements in the area of climate and green growth, and the South African Renewables Initiative is part of those wider developments. The South African Government, led by the Department of Trade and Industry and the Department of Energy has worked to develop the SARi concept towards implementation, over the past year.

The launch of SARi as an international partnership, in Durban in December 2011 marks the end of the planning and design phase and the beginning of the next phase of turning plans into actions, and actions into positive development and climate outcomes.



Renewables for energy security, jobs and environment

The Integrated Resource Plan (IRP) is South Africa's strategic planning framework for electricity in the energy sector. The current plan, adopted in 2011, includes an ambitious ramp up of renewables – to almost 19 Gigawatts (GW) (made up largely of Wind, Solar PV and Concentrated Solar Power) to be added to the grid by 2030.



Achieving an ambitious scale-up of renewables as envisaged in the IRP would deliver four key economic benefits to South Africa:

- Industrial development:** Creating and sustaining employment by localising parts of the global value chain of renewables, notably manufacturing, construction, operations and servicing but also potentially research and product development and developing the skills and value chains to supply these industries.
- Medium-term energy security:** Renewables, if developed in the next ten years could add several percentage points to energy reserves, helping to addressing the medium-term risk of economic and social dislocation as a result of reduced energy supply deficits.
- Export competitiveness:** 60% of South Africa's electricity supply is used by industry, and these energy users, while concerned about controlling costs, are also increasingly vulnerable to international measures which may be taken to control the trade of products associated with high carbon emissions. Greening South Africa's energy supplies would help to secure the on-going competitiveness of energy-intensive exports.
- Green growth:** A burgeoning renewables industry will help to build business and policy awareness of the potential of the green economy. This can help to catalyse green investments in other areas of the economy.

Generating these benefits from renewables cannot be achieved through a gradual build-up of scale but only through a strategic ramp-up, which enables the build-up of capacity to be both cost-optimised and aligned towards strategic technology choices, rather than a fragmented development of the industry.

The aim is not simply to develop a discrete volume of renewable capacity but to develop South Africa as a regional, if not continental, export and service hub.

This requires coordinated domestic action across energy, industry, finance and other domains, and concerted international support.

Delivering on ambition

Attracting investment

Renewable energy projects are, by their nature, capital intensive, since they include long-term infrastructure investments with fuel costs that are low to zero. Achieving South Africa’s economic, climate and energy goals for renewables depends on attracting international and domestic investment into the sector, including strategic technology partners interested in producing renewables technology in South Africa as a base for export. It is estimated that approximately US\$36 billion of new investment will be needed to roll-out renewables as envisaged in the IRP, with additional investment in manufacturing.

The private sector is generally well developed in South Africa but its participation in the energy sector, and in particular in power generation, has been limited to date.

Over recent years there has been significant progress in the institutional developments and energy sector reforms needed to attract renewables investment to South Africa. This is evidenced by the launch of the first independent power production procurement for 3,725 MW of renewable energy capacity in 2011. 300 potential bidders responded in the initial application phase.

Overcoming the incremental cost challenge

Implementing the IRP plan will mean that almost 9% of electricity will come from renewables by 2030.

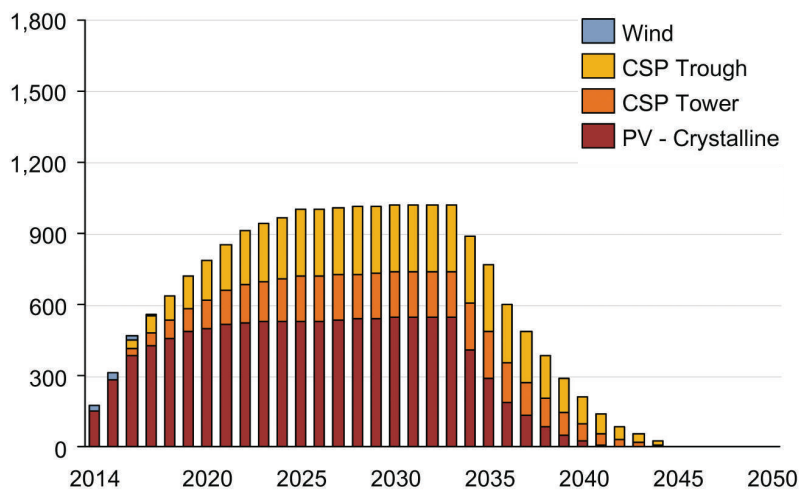
While the cost of renewable energy has been falling, it remains higher than the alternatives; particularly coal. Currently 90% of the country’s electricity is generated from abundant supplies of cheap coal. The incremental cost between renewables and the underlying cost of electricity poses a major challenge to the successful implementation of clean energy technologies.

Best estimates are that the incremental cost of implementing the IRP for renewables compared to other energy alternatives could amount to a present value in the region of US\$8.0 – 8.9 billion, over the lifetime of the power procurement contracts that would be signed up to 2030. These costs would have to be passed on to energy consumers, if they are not offset in other ways.

Incremental cost

Each vintage of renewable energy procured has an incremental cost profile, above the baseline cost of electricity which relates to the technology, the maturity of the technology, the length of the contract and the change in the underlying baseline cost of other electricity sources over that time.

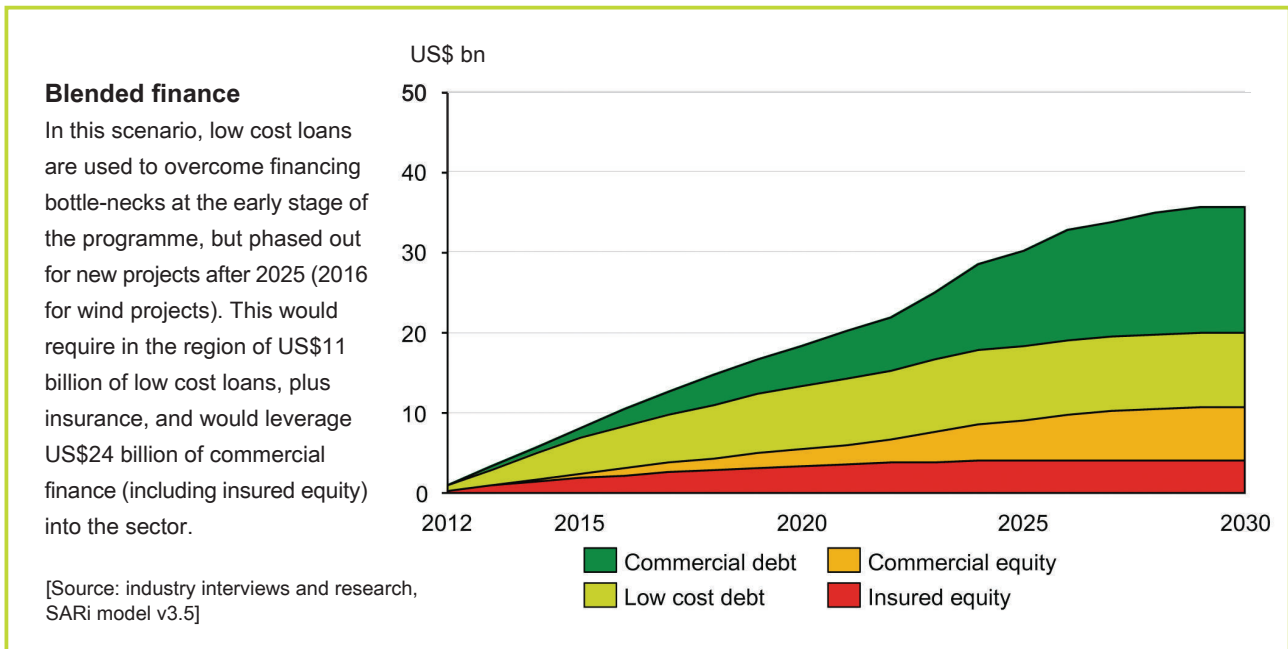
Funding gap, US\$m



[Source: team analysis; SARi model v3.5]

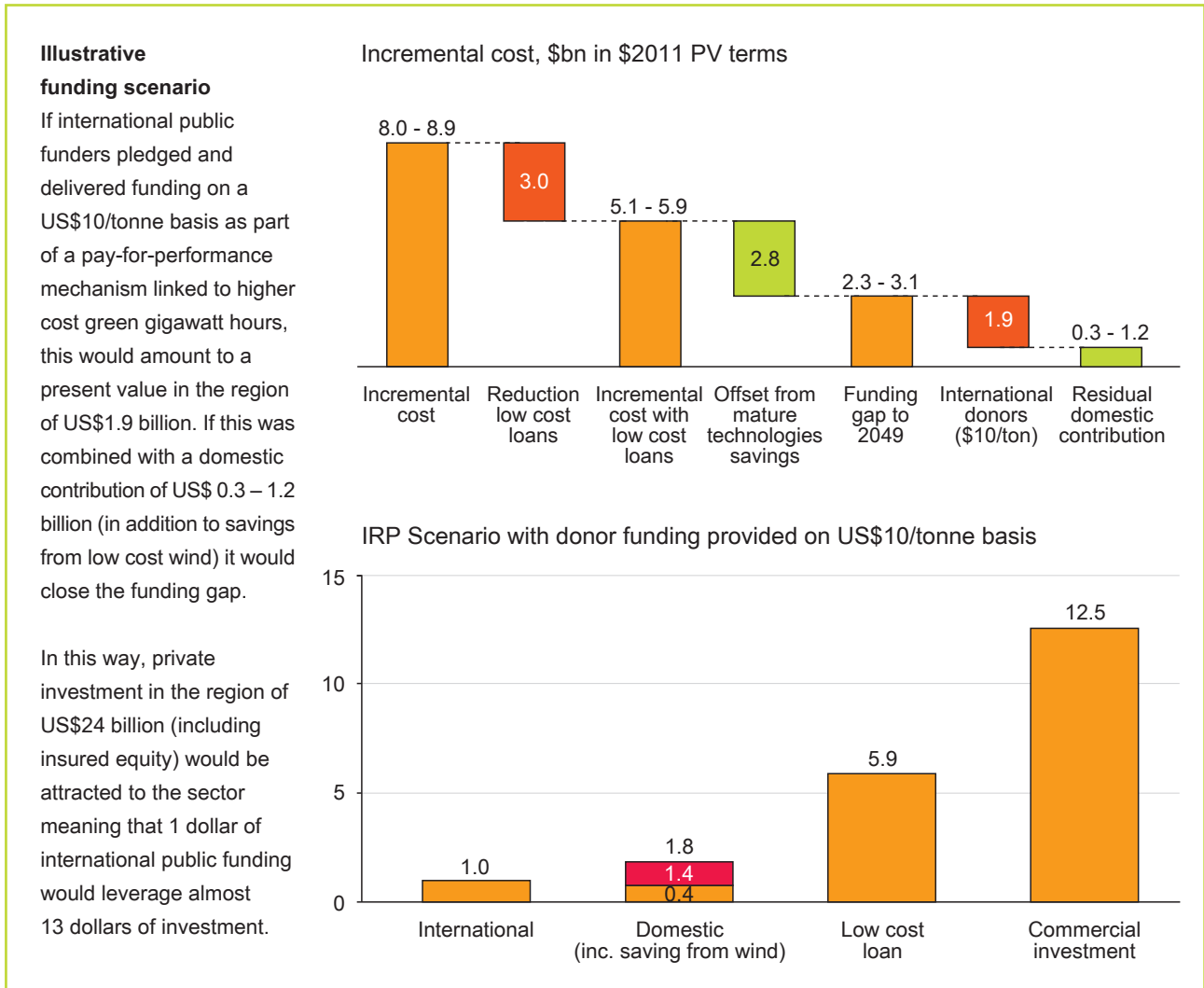
Bringing down the cost of capital

High incremental costs are related to high capital costs. Pioneering renewable energy projects in developing countries, face high capital costs due to a combination of technology and country risk. Bringing these down through sound domestic policies and through the provision of low cost loans and other financial instruments will reduce the incremental cost burden.



Performance based funding

It is envisaged that a performance-based funding mechanism for green electricity could be combined with low-cost loans and other financial instruments, to close the gap between the South Africa’s ambition for renewables and the level achievable without additional revenues.



Supporting coordination

Developing a financial mechanism that bridges industrial, economic and short-term energy security goals, while contributing to South Africa’s carbon reduction commitment, will support the institutional developments needed for renewables, and for other policy measures needed for development of the broader green economy.

SARi will provide not only a means of supporting scaled up renewables development and ambition in South Africa, but also as a source for sharing learning and inspiration with other ambitious national initiatives and emerging international frameworks. Such exchange of learning with other innovative and ambitious initiatives, on common challenges and successful approaches will be crucial to SARi as it develops.

International partnership

South Africa already benefits from many joint activities with international public partners in the energy field, including multilateral and bilateral loans, capacity building and catalytic programmes seeking to overcome barriers to renewables development.

To date, however, these activities have been largely bilateral, and they have not been integrative of energy, industrial and economic and climate policies. Neither have these partnerships been of a scale that can deliver a critical mass of renewables and the associated benefits.

The design analysis undertaken under the South African Renewables Initiative indicates that South Africa could initiate an ambitious ramp up of renewables at an acceptable cost to all parties. This requires coordinated and scaled-up funding, likely to blend both low cost loans and under financial risk mitigation instruments as well as pay-for-performance grants to offset part of the incremental cost.

The South African Renewables Initiative therefore brings together many of South Africa's existing partners into a systematic and more ambitious partnership to drive renewables development in South Africa.

The role of the partnership will be to enable international collaboration between the Government South Africa, other governments and regional and international public bodies in order to:

- a) Design, establish and secure appropriate funding to catalyse renewable energy development as well as associated industrial development.
- b) Increase implementation of industrial, energy, climate-change and economic development policies domestically.
- c) Demonstrate and share learning from an innovative large-scale collaboration to mobilise investment into renewable energy technology and clean technology infrastructure to promote green growth.
- d) Permit public partnerships to leverage funding in a manner supports South Africa's efforts to move towards a greener economy that offers sustainable social development and upliftment.

Mobilising and coordinating resources at scale will also depend on drawing in additional partners, beyond the initial founders, to contribute and invest.

The South African Government will involve all relevant ministries and institutions in the partnership. Key departments include the Department of Trade and Industry, the Department of Energy, the National Treasury, the Department of Public Enterprises, the Department of Environmental Affairs, the Department of Economic Development, the Department of Science and Industry, and The Presidency, as well as the Development Bank of South Africa and the Industrial Development Corporation.

Leadership for low carbon transformation

The South African Renewables Initiative is a work-in-progress, and it is hoped will be a growing partnership, drawing in partners that are committed to working with South Africa to support her ambitions for green growth through renewables.

The initiative's launch in Durban in December 2011 in the context of the 17th Conference of the Parties marks the end of an intensive period of design, engagement and planning. At the same time, it initiates an equally intensive process of turning plans into actions, and actions into positive development and climate outcomes.

SARi is an initiative that supports the integration of energy, climate, industrial and economic and public financing policies and practices. A cross-departmental process has been developed to enable the effective alignment on the initiative between departments that have the requisite specialist skills and policy mandates.

The challenge of sequencing, planning and integrating policies, financing and development of infrastructure is by no means unique to South Africa. Other countries are facing the same challenge of leading and coordinating change across multiple domains.

SARi will provide not only a means of initiating action in South Africa, but aims to serve as a lighthouse initiative that serves as a source for shared learning and inspiration with other ambitious national initiatives and emerging international frameworks. Such exchange of learning with other ambitious initiatives will be crucial to SARi as it develops.

For more information:

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