



Using a sector development agency to mobilize a local green economy

The case of GreenCape in the Western Cape, South Africa

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Context

GreenCape is a development agency that has been a key enabler of green growth and investment at the subnational level in South Africa's Western Cape province. This case study shares how GreenCape was established as a nonprofit organization by the provincial government and how, through its work across government, business, and academia, it has contributed to realizing significant private sector investment and employment in green business, technologies, and manufacturing. The goal of the case study is to illustrate the sector development agency model and the specific approach used by GreenCape, as well as to highlight some of the key factors that have contributed to GreenCape's success. The case study draws on the records and experience of those who were involved from the conception of the organization to the present day, and would be of interest to those in government and business in other regions who are tasked with developing strategies for green growth or low emission development.

GreenCape is referred to in South Africa as a **sector development agency**, defined as an independent organization that bridges the public and private sectors with the goal of enabling growth in a given industry and region.

Key messages

The following factors are central to GreenCape's success in supporting the development of the green economy at subnational level.

- Strong and continued financial and nonfinancial support from its primary funder, the provincial government, which sees GreenCape as a key partner to support the achievement of its Green Economy goals.
- Strong alignment with national, provincial, and local green economy policies and strategies, while remaining an entity separate from government. This establishes GreenCape's credibility as an independent agent of change. This governance structure retains accountability to government funders, but also allows for impact oriented, agile delivery.

The **LEDS GP Subnational Integration Working Group** strives to accelerate climate resilient LEDS by supporting the coordination and vertical integration of climate action between national and subnational governments.
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- Strong links to industry across all sectors of the green economy, and a strategic position that allows access to multiple stakeholders (in business/industry, all tiers of government and civil society). This enables GreenCape rapidly to identify effective points of leverage to remove barriers and initiate or accelerate economic development.
- As a small start-up organization, an initial specific focus on renewable energy helped build its reputation through clear and visible impact. This enabled expansion over a 5 year period into a larger organization with a wider green economy remit. Stable and secure government financial support nurtured the establishment of an expert, reputable organization, along with creating the opportunity over time to grow the mission and diversify funding to ensure organizational sustainability.
- A diverse, multidisciplinary team that takes a robust approach to problem solving, while also being able to adapt strategies rapidly to changing circumstances.
- Maintaining an independent view at all times—supported by technical competence, legal independence, and political neutrality.

Introduction

South Africa is working at national and subnational levels to address and mitigate the impacts of climate change, and to secure a cleaner, renewable energy future. The country's national electricity plan, the Integrated Resource Plan 2010 (IRP)¹ published by the Department of Energy,² set a target of 17.8 GW of electrical energy from renewable resources by 2030. In 2011, the national government established the Renewable Energy Independent Power Producer Programme (REIPPP)³ to secure electricity from private sector producers to assist in realizing this target. The REIPPP is designed not only to reduce the country's reliance on fossil fuels, but also to stimulate a local renewable energy industry (through the procurement of locally manufactured products), and to contribute to socioeconomic development and environmentally sustainable growth.

In 2010, in direct response to the opportunities to be created by the IRP and anticipated REIPPP, and in response to the unreliable supply of nationally produced electricity, the Western Cape Government, one of the nine provincial (subnational) governments of South Africa, established a sector development agency. The agency, called GreenCape, was set up as a nonprofit organization to support businesses operating in the green economy in the Western Cape.

GreenCape has been highly successful in supporting the establishment of the renewable energy sector in the Western Cape and has extended support to other sectors in the green economy. This case study outlines how GreenCape was established, how it is structured, what services it offers, and how it has refined its approach over time. It explores why the GreenCape model is successful and the key lessons learned to enable this success.

How GreenCape was established

Initial motivation and focus on renewable energy

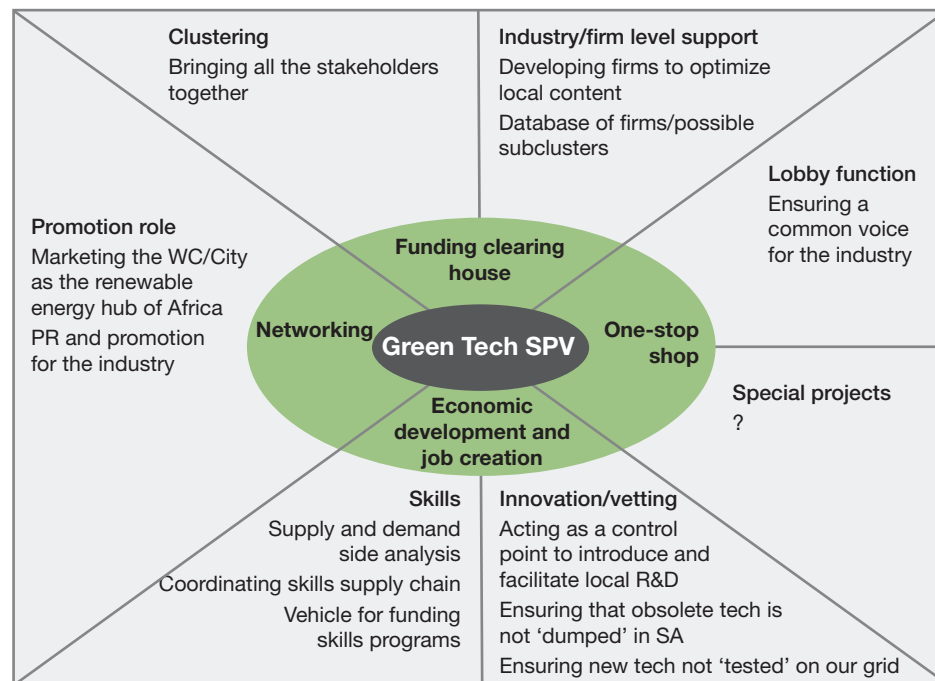
In April 2010, the Western Cape Government Department of Economic Development and Tourism (DEDAT), the subnational department responsible for economic development in the region, highlighted the potential opportunities and challenges that increasing (private sector) investment in renewable energy would provide. The investment and job creation potential in renewable energy was judged to be substantial. Estimates indicated an investment potential of over ZAR 40 billion (US\$567 million) and the opportunity to create nearly 40,000 jobs nationally. Foundational challenges included lack of local manufacturing facilities to access the economic benefits along the full value chain, lack of local skills (particularly in operations and maintenance), and the need for projects to navigate extensive procurement and regulatory processes that were not necessarily aligned.

In August 2010, DEDAT's Trade and Sector Development Programme submitted a motivation for a green economy sector development agency to the provincial Minister of Economic Development. The goal of the entity would be to address the above issues and tap into the opportunities by, among others:

- serving as a neutral source of credible information to government and potential investors in the renewable energy value chain
- providing market and promotional support to attract investment to the Western Cape
- assisting in deepening networks within the private sector
- coordinating industry players in the full value chain of utility scale renewable energy projects

In the original functional diagram for the green economy sector development agency presented to the Minister (Figure 1), the organization is labeled a special purpose vehicle (SPV) to indicate its independence from government. Establishing an independent entity rather than a structure in government was aligned with the clustering approach to economic development that had been adopted by the Western Cape Government in line with its Micro-Economic Development Strategy published in 2006.⁴

Figure 1 Original diagram sent to the Minister of Economic Development outlining the functions of the 'Green Technology Sector Development Agency' (referred to as a special purpose vehicle, SPV)



By November 2010, GreenCape was formally established and launched by the Western Cape Government and the City of Cape Town. Funding for GreenCape was provided through the Trade and Sector Division of the DEDAT, with the City of Cape Town agreeing to provide strategic guidance as an advisory board member. The first priority of the organization was to attract investment and support businesses in the utility scale renewable energy value chain to respond to the REIPPP, but also to support other nascent renewable energy industries (namely solar water heating and waste-to-energy). Over the next few years the organization's focus expanded to other green economy sectors.

Before considering this expansion in focus, it is worth noting the international and local context in which GreenCape was established. Context plays a critical role in whether a sector development agency such as GreenCape is likely to be appropriate and successful in subnational green economy intervention. A confluence of exogenous forces aligned to enable the establishment of GreenCape. In the international macro picture this

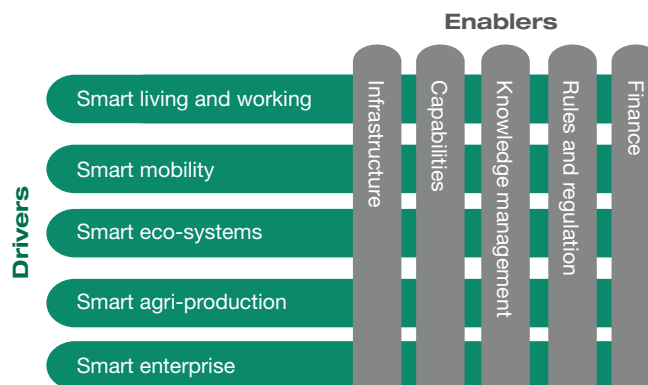
included Durban hosting the 2011 United Nations Climate Change Conference (COP 17), decreasing technology prices, and the slowdown in European financial markets driving cheap equity into renewable energy projects in South Africa. At the country level, the preceding period had seen, among others, new industrial policies, the impending introduction of independent power generation, and changes to waste legislation.

Expanding the focus to the wider green economy

In November 2010, the South African national government also launched the New Growth Path framework⁵— an economic development policy aimed at growth enhancement, employment creation, and equity. The green economy was identified as one of five priority areas for job creation through public and private sector investment. The national Economic Development Department has a mandate to coordinate the progress of the New Growth Path and oversee the work of state entities engaging in economic development. The Economic Development Department is thus responsible for coordination of the associated Green Economy Accord,⁶ which was signed in 2011. The Green Economy Accord is an agreement between government, business, and labor, committing each to tangible targets in achieving low carbon economic development.

At the subnational level, the Western Cape Government developed its Green Economy Strategy Framework⁷ in 2012 (formally launched in July 2013). The core ambition of the Green Economy Strategy Framework was “To position the Western Cape as the lowest carbon province in South Africa and the leading green economic hub of the African continent.” The strategy framework “is made up of 5 drivers of the green economy (in the Western Cape) that are market-focused and principally private sector driven, and supported by 5 enablers that are either the domain of the public sector or the product of a collaborative effort” (Figure 2).

Figure 2 Green Economy Strategy Framework (WGC 2013)⁸



An interdepartmental green economy management structure was set up within the Western Cape Government. This was headed by a Green Economy Committee consisting of the heads of department of key provincial government departments: Economic Development and Tourism; Environmental Affairs and Development Planning; Transport and Public Works; Agriculture; and the Office of the Premier, represented by the Special Advisor to the Premier for Economic Development. GreenCape was considered a key partner to support the achievement of the Strategic Framework’s goals. This opened up alternative funding to GreenCape, allowing it to take on board more focused projects addressing barriers to the uptake of green technologies in the economy, identified primarily through interactions with the growing renewable energy industry, as well as strategic projects to support the Western Cape Government to achieve the goals of the Green Economy Strategic Framework. At the same time, the success of the GreenCape delivery model led to additional funding being allocated to GreenCape by DEDAT’s Trade and Sector Development Programme to extend its clustering activities. The clustering work is driven by GreenCape’s sector desks, which act as the primary point of liaison with green economy businesses to facilitate their development.

In March 2013, GreenCape thus expanded its sector desks to energy efficiency, the built environment, and water, and later, in 2014, to agriculture and green finance. The focus on energy efficiency and the built environment emanated from an understanding of the relative maturity of the market and where GreenCape’s approach would have impact. Water was identified as a possible constraint to economic development. Agriculture is a key sector of the Western Cape economy, significant in terms of its contribution to GDP, export earnings, and labor absorption. However, it also contributes substantially to the provincial carbon footprint, primarily due to the reliance on carbon intensive, centrally generated, grid based electricity and the use of fossil based liquid fuels. Knowledge of and access to finance, as well as tailoring of finance to the particularities of green technologies, were repeatedly cited by a range of stakeholders as key barriers to investment in green technologies.

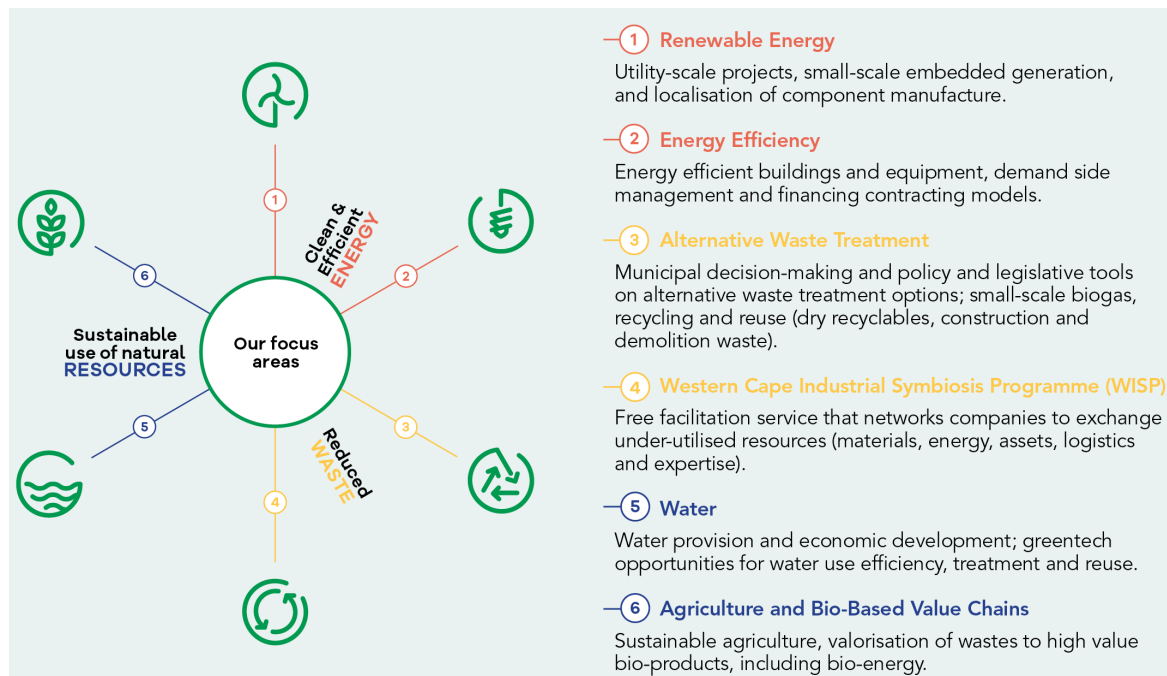
Given the initial intention specifically to attract to the Western Cape investment in manufacturing of technologies that support green economic development, an industrial area 40 km (25 miles) north of Cape Town—Atlantis—has been earmarked by the Western Cape Government and the City of Cape Town as a Special Economic Zone (SEZ) for green technology. Since 2014, GreenCape has served in a project management capacity to develop this SEZ.

GreenCape’s expanding focus and range of activities from 2011 to 2015 is illustrated in Figure 3. This shows that GreenCape works across three broad thematic areas—energy, waste, and resources—with a focus on renewable energy, energy efficiency/built environment, alternative waste treatment, industrial symbiosis, water, and bio-based value chains. Figure 4 provides a snapshot of the specific work areas within each focus area in 2016.

Figure 3 GreenCape’s evolving focus areas (2011–15)

	2011-12	2013	2014	2015
ENERGY	Renewable energy	Smart grid case studies	Smart meter standard	Energy game changer Design lab
	Solar water heaters			
	Skills development			
		Solar PV rules & tariffs		
				ESCO model support to WCG & industry
				LNG EIA in Atlantis
WASTE	Waste to energy	WISP	NISP & Africa IS support	Construction & demolition waste
		Policy & regulatory tool	Decision support tool for municipalities	Informal recycling sector
RESOURCES		Water sector desk	Water constraints to economic development in Saldanha	WRC water project with UCT
		Biofuels feasibility in Western Cape		Regional resource flow model
			Agri sector desk	GreenAgri portal
OTHER		Green building sector desk	Green building materials catalog	World Bank market connect
		Multiple intern programs	Green finance desk	
			Atlantis SEZ project management office	
			International Cleantech Network: only African member	

Figure 4 GreenCape's focus areas 2016



Based on market analysis carried out by GreenCape in 2014, the green economy was confirmed to have significant growth and investment potential for the Western Cape in particular, with the identified opportunities in the energy, water, waste, built environment, and agriculture sectors representing a possible ZAR 10 billion (US\$655 million) annual new market opportunity in the Western Cape by 2020. Within this timeframe, these opportunities were also estimated to have the potential to create more than 10,000 new direct jobs—most of which are low skilled. With national average unemployment at approximately 25%, job creation and an inclusive economy present a social imperative and a high priority at all government levels.

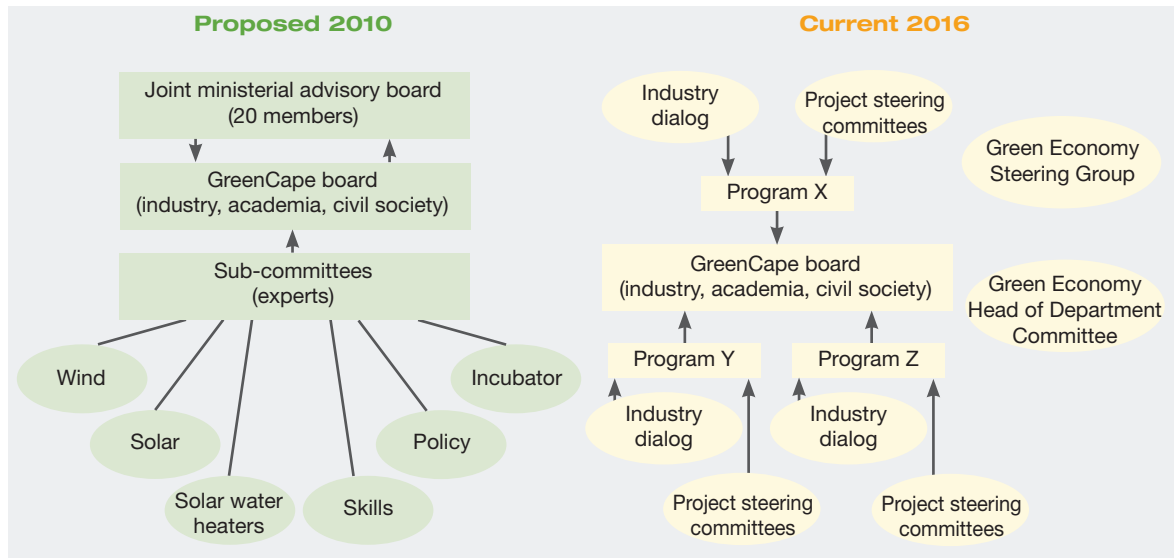
GreenCape's structure, management, and funding

Advisory board

GreenCape's initial establishment as independent, expert entity was informed by an advisory board established by the then Members of the Executive Council for Finance, Economic Development and Tourism, and for Local Government, Environmental Affairs and Development Planning. This board became GreenCape's Joint Ministerial Advisory Board, which included approximately 20 members, all well known in business, academia, and civil society in the Western Cape green economy (Figure 5). This advisory structure helped shape the structure, governance, and focus of the entity in its early days.

The proposed structure was used effectively for the first few years, and over time evolved to include subcommittees (Project Steering Committees) for particular activities and direct expert engagement to assist in program and organization strategy (Figure 5). The changed structure allows GreenCape access to a broad range of stakeholders and expert inputs, commensurate with its wide remit, while retaining the efficiency of smaller, thematically connected advisory groups for programs and projects. At provincial government level, the need for the Joint Ministerial Advisory Board decreased and it was eventually absorbed into the provincial Green Economy Steering Group, which advises the Green Economy Committee described above. This in effect removes green economy steering and strategy from the ministerial level and embeds it at the functional bureaucratic level, led by the interdepartmental Green Economy Committee consisting of the heads of department of key provincial government departments.

Figure 5 The governance structure proposed for GreenCape in 2010 and the structure that evolved by 2016 in response to the expanded focus on the wider green economy



Board of Directors

GreenCape is governed by a Board of Directors. The board consists of three members representing business, academia, and civil society. The board members are all eminent individuals from key organizations in their respective spheres who are active in the green economy. A representative of the Western Cape Government's DEDAT sits on the board as an observer. A second member of the Western Cape Government (from the Office of the Premier) joins to constitute the Audit Committee.

The Board of Directors is ultimately responsible for general oversight, financial management, policy, strategic direction, and new funding opportunities, and has final authority to sign off on business plans. The board also appoints the Chief Executive Officer.

Operational control

The Chief Executive Officer is responsible for the day to day management of the organization, assisted by a Chief Financial Officer. GreenCape has a set of corporate governance rules and requirements. For historical reasons, and because the Western Cape Government remains the primary funder of GreenCape, these are aligned with the governance requirements for the Western Cape provincial government, which are in turn informed by national government acts and policies for general and fiscal governance.

Organizational structure and size

Each of the GreenCape programs (Energy, Water, Waste, Industrial Symbiosis, Bioeconomy, Green Finance, Skills, and the proposed Special Economic Zone) has a program manager. Program managers are responsible for strategic direction and focus areas, business plans, and overall project and budget management for their programs, and serve as line managers for staff working in these programs.

Since its establishment in November 2010, GreenCape has expanded from three staff members with a focus on renewable energy to a staff of over 40 with an extensive coverage of the green economy.

Staff

A key decision made within GreenCape, particularly when the organization's remit expanded in 2013, was to build expertise rather than to contract it in (except for highly specialized work). Recognizing that a large amount of

the work the organization would be embarking on would be new in the South African context, the focus was on hiring young, talented people with an aptitude for and an inclination towards critical enquiry. These young, highly competent graduates are supported by the organizational approach (see above) of using steering committees to shape the direction of projects, and drawing on external expertise from industry and academia when required.

Recruitment was also specifically driven from the skills and capabilities required, rather than specifying particular disciplinary backgrounds. That said, the nature of the work required and attracted those from disciplines with strong quantitative analytical skills.

External input and oversight

In terms of strategy and delivery, GreenCape uses a number of operational oversight mechanisms. The most common is steering committees, which meet with varying frequency (some monthly, some quarterly) depending on the nature of the activity. These committees typically represent the funder, civil society, and academia. Business is typically represented by industry associations or market leaders identified by the other steering committee members. Alternatively, business representatives are consulted on specific topics. There are cases where business is deliberately excluded, typically when it is anticipated that the work will result in government procurement. In such cases, businesses would still be consulted for inputs, but separately until a consistent, aggregate picture of the issue has been developed.

Prioritization and decision making at GreenCape

As an entity that operates in a fast moving and evolving space, decision making and prioritization are vitally important and interlinked. Figure 6 illustrates the decision making and prioritization approach used by GreenCape to identify specific interventions in its various focus areas. This approach allows GreenCape's selected interventions as a sector development agency to remain relevant to its industry membership, while also being consistent with its mandate and aligned with the (green economy) aspirations of government/other funders.

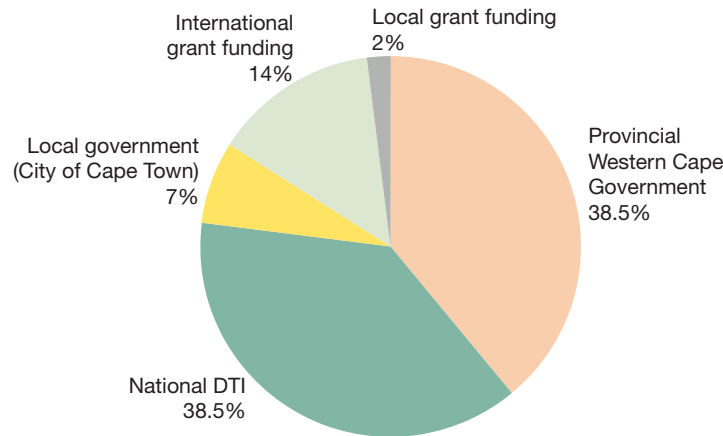
Funding

GreenCape's funding has increased steadily since its establishment in November 2010. The initial seed funding of less than ZAR 400,000 (US\$28,000) was provided through the Trade and Sector Development Programme of the DEDAT. A step change increase in funding occurred in 2013 when the interdepartmentally managed Green Economy funds were added to the increased funds from Trade and Sector Development. In 2014, additional national government funding was successfully obtained from the national Department of Trade and Industry (DTI) for the project management and delivery of the application for Atlantis to be declared an SEZ. The City of Cape Town commenced with funding of GreenCape in 2015 for specific areas of work (primarily related to energy security and waste diversion from landfill through industrial symbiosis and integration of the informal sector). GreenCape has also been successful through the years in obtaining grant funding from a number of international development agencies for specific projects, typically with national scope and impact. (These funds have typically been linked to climate mitigation actions, but increasingly have an expectation of benefit for the country providing the funding due to South Africa's perceived relative level of development.) By 2016, GreenCape's funding has increased multifold and has diversified from one funder to five, split as shown in Figure 7.

Figure 6 Approach to identifying and selecting focus areas



Figure 7 GreenCape's funding split in 2016



Organizational sustainability is a key priority. With increasing pressures on government funding at all levels (municipal, provincial, and national), GreenCape anticipates needing to diversify its funding base in the years to come. However, due to its now well established reputation for comprehensive green economy expertise, access to an extensive stakeholder network (spanning business, government at all levels, and academia), and track record of practical delivery in the green economy, GreenCape appears to be well placed to access both solicited and unsolicited local and international funding opportunities.

GreenCape's business support activities

GreenCape's business support activities build on the green economy enabling work done in each of the focus areas (see Figures 3 and 4). These activities are centred on supporting businesses and investors to remove barriers to business growth and market entry. To this end GreenCape provides:

- free, credible, and impartial market intelligence on the green economy (focusing on renewable energy, energy services, waste, water, and agriculture)
- an advocacy platform to remove barriers to green economy business opportunities
- access to networks of key players in government, industry, finance, and academia
- skills development in the renewable energy sector and in Atlantis (the area of the proposed green technology SEZ)
- industrial symbiosis support—a free facilitation service to enable businesses to benefit from exchanging underutilized resources, with associated economic and environmental benefits
- strategic green economy projects and targeted projects to remove particular barriers to the uptake of green technologies.⁹



Employees from iSOLAR learning practical skills at the South African Renewable Energy Business Incubator (SAREBI), Atlantis. iSOLAR receives incubation support as part of SAREBI's work providing nonfinancial assistance to entrepreneurs in the renewable energy industry.

Boxes 1–5 highlight some of this work, with further case studies in the Appendix at ledsgp.org/resource/greencape.

Box 1 Free, credible, impartial market intelligence

Through close working relationships with businesses, investors, government, and academia, **GreenCape's sector desks** are in a unique position to collect, create, and disseminate market intelligence on the green economy. They achieve this in a number of ways: through GreenCape's annual Market Intelligence Reports; ad hoc communication with members, and face to face engagement at meetings and events.

GreenCape's Market Intelligence Reports¹⁰ focus on renewable energy, services including energy efficiency and embedded (on-site) generation, waste, water, and sustainable agriculture. They inform investors of opportunities and barriers in the current landscape, highlighting relevant funding and information to assist in navigating regulatory processes. The 2016 reports were downloaded over 22,000 times within 2 months of publication.

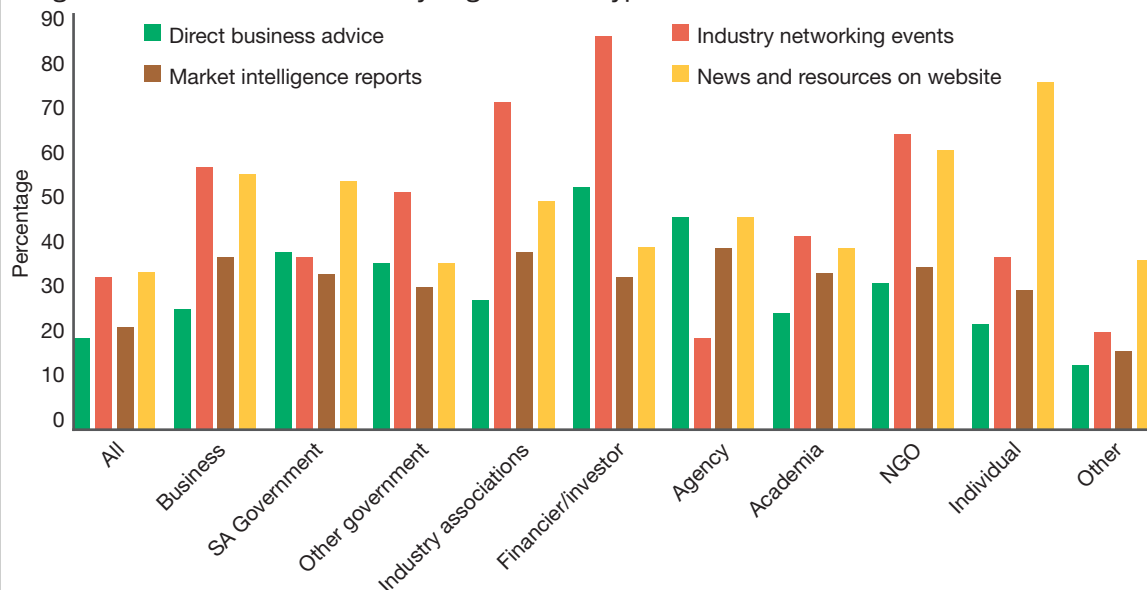
Sector desk communications: Intelligence is also disseminated by sector, through the sector desk's close relationship with GreenCape's members. Industry news and opportunities are circulated to members, typically via email newsfeeds and announcements.

Online platforms for knowledge sharing: One example is the GreenAgri portal¹¹ developed by the agriculture sector desk with the provincial Department of Agriculture. The portal is a knowledge platform that focuses on sustainable agriculture. It shares news, information, tools, and other resources with farmers, farmer unions, academics, and businesses.

Networking events: Every quarter, GreenCape hosts events to share learning and provide a central venue to connect its members from industry, government, and academia. The events are also open to the general public. Internally, GreenCape has employed a mix of skills across engineering, finance, science, and economics, which aids its ability to provide crucial crosslinks and develop its facilitation role.

Member and stakeholder survey: GreenCape's 2015 stakeholder survey included GreenCape members (600+) and nearly 6,500 contacts. With nearly 800 responses (10%), GreenCape was able to gauge which services its stakeholders accessed, how they were rated, and which stakeholders wanted more of. Figure 8 shows services accessed by different types of organization. Networking events, and news and resources on the website, were the most accessed services. The lower rating for market intelligence reports is expected to be attributable to the reports being produced only once a year.

Figure 8 Services accessed by organisation type



Box 2 Policy and regulatory advocacy and support

GreenCape has leveraged its position at the nexus of business, government, and academia to provide direct policy and regulatory support. In this capacity, GreenCape acts as a central authority on green related issues in the region to influence key decision makers in government. In addition, GreenCape is able to bring all relevant stakeholders into one room, adding significant value in the policymaking process.

Waste management tool: In 2013–14, the waste sector desk developed tools to assist the private and public sectors in identifying appropriate waste management technologies and to meet policy and legislative requirements. In conjunction with local government (through the South African Local Government Association, SALGA), the South African National Energy Development Institute (SANEDI), and GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit), GreenCape launched a web based version of the policy and regulatory tool which is hosted on the website of the national Department of Environmental Affairs.¹²

Municipal tariff modelling: GreenCape played a thought partner role with the Stellenbosch Municipality, carrying out a study on various models for selling electricity and how the municipality's revenue would be altered as a result. (Selling bulk electricity to residents is a significant revenue stream for municipalities to enable them to provide other services, especially to poorer communities.) As a consequence of the study findings, GreenCape assisted the municipality in drafting small scale embedded generation policies, regulations, bylaws, and tariffs. GreenCape's support has enabled the municipality to submit a tariff to the National Energy Regulator of South Africa (NERSA) for approval. GreenCape continues to provide similar support to other municipalities with a view to assisting all municipalities in the Western Cape to have tariffs in place to enable embedded generation, while at the same time ensuring the financial sustainability of the municipality. This example illustrates the comprehensive assistance that GreenCape provides by explaining the energy landscape, providing scenarios going forward, carrying out technical studies, and assisting with actualizing green related policy and regulations.



Employees of Reliance Compost, South Africa's biggest composter. Reliance produces 100% certified organic compost from landscaping waste, among other resources.

Box 3 Access to networks of key players in government, industry, finance, and academia

GreenCape has developed a key network of actors in the green economy across the private sector in the form of stand alone entities and industry associations, and in the public sector (at local, provincial, and national levels), as well as establishing mutually beneficial relationships with academia. GreenCape is the only African member of the International Cleantech Network (ICN),¹³ a network of cleantech cluster organizations.

Proposed Atlantis Special Economic Zone: The flagship example of GreenCape leveraging relationships to remove barriers to business is the proposed Special Economic Zone in Atlantis. In 2011, using relationships with the City of Cape Town, the Western Cape Government, and subject matter experts, GreenCape helped to set up a green technology industrial development zone. This required an ability to navigate a network of key stakeholders provincially and nationally. GreenCape remains a central figure in actualizing the zone and has worked closely with the City to accelerate the acquisition of land; with the national DTI to have the land designated as an SEZ (in progress); and with Wesgro, the regional investment promotion agency, to attract further investors to the proposed zone. A number of substantial foreign investment in manufacturing facilities in Atlantis serve as examples of the collaboration between GreenCape and the investment promotion agencies at provincial and national levels that has been in effect since GreenCape's inception. GreenCape remains the single entity involved in all aspects of the SEZ in capacities of project management, investment facilitation, networking, and providing strategic direction.

“GreenCape has done a sterling job to date on the Atlantis SEZ development and we value the relationship and commend your efforts as outstanding.”

**Bernd Oellermann,
DTI (National)**

Green Finance Desk (GFD): The GFD was established in 2014 to facilitate access between funding and the market. In practice, this is highlighted by the creation of an online database together with a local and an international partner—the South African National Energy Development Institute (SANEDI)

“Always a pleasure engaging with GreenCape. The organisation fills an interesting niche area in the Green Economy landscape in South Africa, of practical translation of evidence into action.”

**Linda Godfrey
Council for Scientific and
Industrial Research**

and the GIZ, respectively. The Green Finance Database Tool¹⁴ documents a comprehensive list of funding sources and the eligibility requirements for this funding. Businesses that seek funding often make requests via GreenCape's sector desks or programs, which then send leads to the GFD. Businesses are provided details of potential investors either directly or using the online tool.

World Bank's Market Connect project: The GFD also aims directly to reduce barriers to doing business, most notably in its work with the World Bank's Market Connect project. This

project uses GreenCape's experience in the green economy in South Africa to develop prototypes that can be used to aid the development of small and growing businesses in the green economy.

Box 4 Skills development partnerships

GreenCape recognized the importance of relevant skills development for the growing renewable energy industry early on, and from 2011 has had an in-house skills expert seconded under the Western Cape Bavaria Partnership Agreement.

SARETEC (South African Renewable Energy Technology Centre):

GreenCape was able to work with a range of local and international partners to take advantage of funding from the National Skills Fund in order to build SARETEC—the first renewable energy technology centre in South

Africa. GreenCape was primarily involved in the development of the business plan, training schemes, equipment lists, and advisory board. A number of new curricula for renewable energy technicians have been developed and put through local and international approval bodies. Training of technicians for wind and solar infrastructure has commenced.



Rooftop solar photovoltaic panels being installed by SolaFuture on the Takealot.com building in the Cape Town central business district. The system will generate 780,000 kWh per annum, enough energy to power 100 medium sized houses.

Box 5 Free facilitation service to enable businesses to benefit from exchanging underutilized resources, with associated economic and environmental benefits

GreenCape's history of listening and engaging with both industry concerns as well as government needs and aspirations (including limited remaining landfill capacity, the social imperative of job creation, and goals for a low carbon economy) is illustrated by the development of the **Western Cape Industrial Symbiosis Programme (WISP)**. The program is based on the UK's NISP (National Industrial Symbiosis Programme), a free facilitation service that enables businesses to benefit from exchanging underutilized resources, with associated economic and environmental benefits. WISP has been extremely successful as a business and government benefit program, returning ZAR 4 in business benefits for every ZAR 1 invested in the program, and nearing the equivalent cost of landfill disposal per ton of waste diverted from landfill via industrial symbiosis.

With international funding, the Western Cape program has catalysed the establishment of industrial symbiosis programs in two other provinces of South Africa, and leads a knowledge sharing activity with other African countries leading to the establishment of at least one other program in another African country. The program also initiated extensive stakeholder discussions involving national government departments (responsible for Economic Development; Trade and Industry; Environmental Affairs; and Science and Technology) as well as subnational government departments (primarily for economic development), catalysing the inclusion of industrial symbiosis as a waste management and economic development strategy in South African industrial policy.

Defining targets and success

At its inception, GreenCape set out six goals in line with the initial focus on renewable energy. Five of these six goals have been achieved¹⁵ through the aforementioned activities, namely:

- build and support a local renewable energy network and industry
- provide policy support to entrench the Western Cape as a great place for renewable energy businesses and the green economy
- build a relationship with financiers and financial institutions
- ensure renewable energy skills training and development
- drive local content and manufacturing of renewable energy components.

Investment and job creation are the primary indicators of success based on the delivery targets attached to the clustering funding provided by DEDAT. A summary of achievements at GreenCape's 5 year milestone (2015) is provided in Table 1.

Table 1 Investment, job creation, and other benefits facilitated by GreenCape (2010–15)

Investment/business benefit	Job creation/other benefits
Renewable energy projects in the Western Cape	
ZAR 17 billion (US\$1.2 billion) ¹⁶ (investment)	More than 2,000 jobs
New renewable energy manufacturing	
ZAR 500 million (US\$33.7 million) (investment)	More than 700 jobs
Western Cape Industrial Symbiosis Programme (WISP) ¹⁷	
ZAR 25.3 million (US\$1.7 million) direct financial benefits to member companies	14 permanent new jobs from synergies 8,455 tons diverted from landfill

Factors leading to GreenCape's success

A number of factors are considered as key to GreenCape's success.

- Access to industry: With 600+ business members, GreenCape has access to, and can thus obtain input to and responds to, industry. This access to industry is enabled primarily by GreenCape's sector desk function, which works proactively to build strong relationships with diverse businesses at a range of scales and levels of development.
- Free, impartial service: GreenCape continues to be funded primarily by government, but its structure as an independently operated not-for-profit allows its service to be free at the point of delivery.
- Credibility and in-depth understanding of the issues: Due to industry access, GreenCape can see recurrent patterns and distinguish real from perceived barriers in order to identify effective points of leverage and interventions to enable or accelerate development. GreenCape is also able to draw on knowledge and expertise in local academic institutions to direct strategy and to assist in identifying effective interventions. A collateral benefit is that the academic institutions benefit from a deeper understanding of challenges and potential research areas.
- Cross-sectoral understanding and influence: GreenCape works across all green technology and all sectors, so it is able to make the cross links. The organization employs a mix of skills (primarily engineering, science, economics, finance) so is able to consider these aspects of problems simultaneously and rapidly gain insight into complex problems.



Modular plastic framework foundations are shaped and built by hand onsite at Geoplast's manufacturing facility in Tableview. Geoplast utilises the regeneration of low and high density polyethylene and polypropylene to create environmentally conscious plastic products.

- Ability to bring about policy and regulatory change: Many of the barriers experienced in the green economy result from the disruptive nature of some green technologies. Rapidly changing fundamental economics of products and services require corresponding policy and regulatory changes. Among others, governance structures, infrastructure planning, and regulations may not have made provision for, or kept pace with, the changes and requirements for green technologies. GreenCape's ability to understand at sufficient depth the technologies, the related business models and practical business requirements, as well as the current regulatory environment allows the identification of misalignments. GreenCape interacts with policymakers and legislators to motivate for the necessary changes to policies and regulations to be made. Ideally, these changes can be made pre-emptively when GreenCape is in a position to anticipate challenges that may arise (as was the case for some aspects of the REIPPP), thus allowing businesses to operate in an enabling environment. More often, this involves bringing together stakeholders who may not have been aware of the bigger picture implications of the various regulations, permitting and decision processes, and how these often lead to contradictory or inappropriate requirements for green economy businesses.
- Position as an independent influencer with legitimacy: GreenCape's strategic position thus allows it to interface between multiple stakeholders. As a not-for-profit, GreenCape can access information from both businesses and government with little or no conflict of interest or implicit bias. Being funded by all three tiers of government lends GreenCape legitimacy as an organization acting in broad economic interests. Yet operating at arm's length from government and not being a commercial entity allows access to business, and particularly to information from which to develop deep, evidence based insight. Having an endorsement and access to a broad range of government stakeholders has allowed GreenCape to act on this information and develop a credible voice with all three tiers of government in order to influence change.
- Impact oriented: GreenCape is impact oriented rather than policy/strategy or commercially oriented. Being at arm's length from government enables a large degree of agility and flexibility as well as an impact oriented approach that cannot be readily duplicated by a government body.

- Political stability and government commitment to the green economy: At a political level, there is very high level commitment to the green economy in the Western Cape. The same political party and Premier have been in place since GreenCape's inception. In addition, continuity is enabled by the institutionalization of the green economy within government (for example through the interdepartmental committee and dedicated funding for green economy projects). GreenCape's ability to act as a knowledge resource for government, and particularly its ability to demonstrate impact, has enabled the relationship to be mutually reinforcing.

Lessons learned

Over time, GreenCape has learned the importance of identifying decisions and decision makers that can effect change, and specifically of working to influence these individuals by providing credible information. Persistence and patience are required to develop stakeholder understanding and, ultimately, obtain buy-in. It is also important to prioritize effort in relation to the scale of the opportunity and what influence GreenCape has over removing the barriers.¹⁸ Based on experience, the following are thus considered operational imperatives.

- Focus and prioritization: There are a large number of concurrent challenges and opportunities in the green economy. GreenCape evaluates the eligibility of projects or interventions against the available resources, mandate, and scale of the opportunity. GreenCape prioritizes those with large investment and job creation potential, and where GreenCape has a reasonable ease of influence in order to have an impact. Medium and longer term challenges with potential for large scale impact are typically addressed where additional targeted funding can be obtained from government and other sources. This enables GreenCape to ensure that the organization uses its resources (financial and human) prudently and continues to make substantial and measurable impacts annually.
- Targeted and appropriate problem definition and solving: GreenCape works to understand problems and develop bespoke solutions. In practice, this requires a collaborative effort with considerable stakeholder contact (with government, business/industry, academic and/or civil society, where appropriate) in framing the problem statements and quickly assessing opportunities and barriers in order to understand the work that needs to be done (see Figure 5).
- Relevance: Steering committees for projects and regular dialog with key sector stakeholders to shape each program's strategy are key to ensuring that GreenCape's strategy and activities are aligned with government policy, industry needs, and sustainability imperatives.
- Credibility: It is vital to maintain an independent view at all times, as credibility is dependent on playing this impartial role among stakeholders across the green economy. In South Africa there are multiple authorities involved in green economy decision making. Technical credibility, legal independence, and political agnosticism are key components of building and retaining this credibility.

Concluding remarks

This case study provides an outline of the governance and organizational structures, the team, and some specific projects that GreenCape has delivered, that can guide replication elsewhere. However, arguably the most important element is the approach: GreenCape's strength is in an approach that deliberately matches the type of solution to the specific individual(s) who need to make decisions differently. This requires an ability to gain insight into the problem without presupposing a solution. GreenCape's success can also be attributed to defining a clear mandate and putting mechanisms in place to ensure that everything, from strategies to individual activities, remains aligned with this.

This approach requires thorough analysis to determine what can and cannot change (or over what time frame such changes might occur); define the key intervention points to effect change; and recognize that it is people who make decisions to change systems. Key elements of this are building strong relationships and having an evidence base at hand that resonates with the decision makers. That said, challenges in the form of policy, individuals, mandates, or urgency are frequently encountered. The ability to identify which of these are intractable and which can be solved through persistence is more of an art developed through experience than a science.

The technical expertise and commitment of GreenCape's staff are also key factors for success. Here GreenCape is fortunate in its location in South Africa and access to skilled graduates and strong academic institutions. However, in a globalizing world, access to knowledge and (increasingly free) expertise through knowledge sharing networks, many of which are voluntary and organically developed, can allow access to a similar knowledge resource. To assist in this, the attitude and tenacity of the staff employed is key. Another enabler is the apparent trend of international grant funding increasingly requiring regional level collaboration. This is an opportunity to be embraced in terms of access to knowledge sharing opportunities with countries across the full range of the development spectrum.

A caution in this regard is that access to international expertise (or noncritical analysis of international examples) can lead to international solutions being shoehorned into a context where they are inappropriate. Taking time to understand the rationale and logic of an international solution, and to develop an understanding of the local problem and its economics, enables a workable, typically adjusted, locally applicable solution. It is easy to fall into the trap of trying to change the context to replicate the success conditions for green technologies elsewhere, rather than determining the local conditions for success, which is ultimately more effective.

The international, national, and local drivers that aligned to provide the motivation for GreenCape's establishment, and the continued political and institutional support for the green economy in the Western Cape, highlight the importance of context for success. Replicating this type of intervention to promote green growth and investment at subnational level thus requires a thorough analysis of the international, national, and subnational drivers that influence the local green economy market. The local context would also inform whether an entity such as a sector development agency is an effective mechanism to unlock this potential. Should this be the case, the following are considered key ingredients for success: a clear and focused mandate; a demand led approach enabled by strong links to industry; initial and continued financial and nonfinancial support from (subnational) government; an initial narrow remit to develop credibility; and finally, legal and political independence.

Notes

1. DoE (2010) *Government Notice R.400 Electricity Regulation Act (4/2006): Electricity Regulations on the Integrated Resource Plan*. Pretoria: Department of Energy, Government of South Africa; DoE (2013) *Integrated Resource Plan for Electricity (IRP) 2010–2030 Update Report 2013*. Pretoria: Department of Energy, Government of South Africa.
2. In South Africa, energy planning is a national not a provincial (subnational) competence.
3. DoE: 'Renewable Energy Independent Power Producer Programme.'
4. WCG (2006) *Micro-Economic Development Strategy for the Western Cape (MEDS): Synthesis Report 2006*. Cape Town: Western Cape Government.
5. EDD (2011) *The New Growth Path: Framework*. Pretoria: Economic Development Department, Government of South Africa.
6. EDD (2011) *New Growth Path: Accord 4. Green Economy Accord*. Pretoria: Economic Development Department, Government of South Africa.
7. WCG (2013) *Green is Smart: Western Cape Green Economy Strategy Framework 2013*. Cape Town: Western Cape Government.
8. Ibid.
9. Not covered in this paper; more information on these strategic and targeted projects can be found on GreenCape's website: www.greencape.co.za.
10. GreenCape: [Market Intelligence Reports](#).
11. Western Cape Government Department of Agriculture: [GreenAgri](#).
12. Department of Environmental Affairs: [Alternative Waste Treatment Guide](#).
13. International Cleantech Network: [Global network of leading cleantech clusters](#).
14. SANEDI: [South African Sustainable Energy Finance Information Database \(SASEFID\)](#).
15. The sixth goal, on driving component testing rather than systems testing for solar water heaters, has not been achieved to date due highly divergent stakeholder views and interests and attendant delays in the national processes for solar water heater standards.
16. Exchange rate as of 7 June 2016 (www.xe.com).
17. Based on business synergies and attendant resource exchanges facilitated to date and assuming that continuous synergies last for 5 years; expected to be a conservative estimate.
18. A good example of a situation where GreenCape had to deprioritize its efforts is the above example on component testing for solar water heaters.

The **LEDS GP Subnational Integration Working Group** strives to accelerate climate resilient LEDS by supporting the coordination and vertical integration of climate action between national and subnational governments.

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