

Western Cape

For some time, the Western Cape's been the conduit to SA's burgeoning renewable energy (RE) industry. Stuart Rothgiesser investigates why

RENEWABLE CENTRAL

On 8 February this year, SA saw its first community RE festival (<http://renewableenergyfestival.co.za>). The event, hosted by the Alternative Information & Development Centre and the World Wide Fund for Nature SA, in partnership with the City of Cape Town, showcased speakers, technologies and entertainment, all against a background of the indigenous gardens of Green Point Park.

This festival's just one of the many initiatives that make the Western Cape the centre of SA's growing RE industry. At the time of writing, 66 job vacancies in the sector and the province were listed on the job website www.indeed.co.za. Of the 64 projects approved thus far in the Renewable Energy Independent Power Producer Procurement Programme (REIPPP), the government procurement programme for all RE, over 60% have been from developers based in the Western Cape (the bulk of these projects are to be built in the North and Eastern Cape). And of the latest approved Environmental Impact Assessments (EIAs), 29% are in the Western Cape too.

The province has a long and proud history of RE. Nowhere is this more apparent than at the first national demonstration wind farm in SA, just outside Yzerfontein (about 75km north of Cape Town). Built in 2008,

the four turbines supply 5,2mW of power and are known as a "demonstration project". As CEO of Darling Wind Power (www.darlingwindfarm.co.za), Hermann Oelsner knows the business inside out. A visionary, he and his wife Antoinette were responsible for bringing the World Wind Energy Conference to Cape Town in 2003. According to him, local researchers developed a wave converter for the West Coast as far back as 1975. And in 2010 German-based solar company Concentrix launched SA's first concentrated photovoltaic solar pilot plant, generating 60kW, at the Aquila Safari Game Reserve near Touws River. (The company's currently planning to build a much larger (36mW) plant in the province.)

Many other smaller RE initiatives exist

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in the Western Cape, including individual businesses like Villiera Wine Estate, which is 80% powered by renewable energy and the I-Shack Project, launched by researchers from the Sustainability Institute at Stellenbosch University in an illegal settlement just outside

the town, that has four arms: solar, sanitation, food waste and a biogas unit. The solar-powered shack lighting project and toilet arms train and employ community members as independent contractors to sell, market, install and maintain the units.

SUPPORTIVE PROVINCIAL GOVERNMENT

A very supportive provincial government helped the Western Cape become a trendsetter in the RE sector. Back in 2010, it set a target of generating 15% of its total energy generation mix from RE by 2014. The following year, in his Provincial Budget Speech, Minister Alan Winde stated that the green economy, along with oil and gas, ICT and the business and process outsourcing

international firms, such as AEG, Sunpower, Jinko, Solaire Direct and Enertronica, have either set up or are in the process of setting up factories.

The provincial government's also established Green Cape to encourage job creation and investment in the sector. With 25 employees with engineering, economics and sustainability backgrounds, and in co-operation with local universities, the organisation produces market intelligence reports on waste, water, energy efficiency and RE in order to understand the industry, the role-players and the challenges. But Green Cape is much more than a research agent. As Operations Manager responsible for RE, Mike Mulcahy, says: "We do many networking functions which are free for anyone to attend. We've hosted 24 events over the past two years

on every possible topic to do with RE, from technology requirements to legal queries. We're building a community of developers, with good access and sharing of information."

Mulcahy explains that the provincial government's role is one of investment facilitation. "The provincial government's trying to be an enabler through its green economy strategy, through research and through organisations like Green Cape. While land use planning is done at municipal level, the province can help rewrite and interpret the land use planning ordinances. The provincial government also has a say over the local level, in line with the integrated development plan, which is more cohesive and disciplined than it may be in other provinces."

That said, the provincial government ➤



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has limited powers in the field: in the consent use model, municipalities have to sign off on all land use applications. “Typically, municipalities are quite supportive. One example of co-operation is the Swartland Municipality (Caledon area) with a project tying into the municipal grid. The City of Cape Town, too, is doing a huge amount of work across departments and is very supportive of the green economy in general. It has a climate change group and a number of discrete units working together on the environment.”

The role of the provincial government in the renewable sector has evolved over time, despite coming under criticism at first. According to Davin Chown, Director of Genesis Eco-Energy and Mainstream South Africa: “The provincial government’s initial strategy misfired. It wasn’t development-friendly and the guidelines were too stringent, with a poor understanding of grid requirements and wind resource issues. For example, the 2005/6 environmental and visual impact assessments done north of Koeberg to Saldanha had the effect of the development community pulling back due to the [overly] stringent guidelines. Since then, in particular with the establishment of Green Cape, government support’s advanced a lot and its understanding has developed positively.”

TECHNICAL EXPERTISE

The Western Cape also offers a significant skills base – the kind used by the renewable energy sector. The Centre for Renewable & Sustainable Energy Studies at Stellenbosch University offers post-graduate studies in RE and collaborates on several high-profile projects in the sector, while the multi-disciplinary Energy Research Centre is housed in the Faculty of Engineering and the Built Environment at the University of Cape Town. The South African RE Technical Centre, funded by the National Department of Higher Education & Training and located at the Cape Peninsula University of Technology, is teaching courses in wind and solar PV operation and maintenance. Its first cohort was recently flown to Germany for training; upon their return, it will train the next cohort.

But it’s not just the academic background that drives the province’s attractiveness for the RE industry. The manufacturing industry for solar PV in the Western Cape has existed for at least a decade, while wind is fast catching up. According to the Western Cape Investment and Trade & Promotion Agency (Wesgro), the existing boat-building industry gives the province an advantage for production of local wind turbine components (since a large amount

of the technical and mould-making skills used in the marine industry are also used in wind turbine manufacturing). And SA’s very competitive cost-wise for setting up solar panel manufacturing, due to low labour and transport costs.

A CONDUCTIVE ENVIRONMENT

The Western Cape also possesses a natural and business environment conducive to RE investment. The climate and resource base

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are excellent for wind power, with steady and predictable winds, good grid and road infrastructure, and large areas of accessible and easily buildable land.

Doing business in the Western Cape is easier than in other provinces. “There are some planning issues, but the ability to get them sorted out is better [than in some other provinces],” says Chown. “It’s easy to find information through bodies such as Wesgro and Green Cape. And all the players, from project developers, turbine and tower manufacturers to support and transport, are here. But other provinces such as the Eastern and Northern Cape are catching up.”

Oelsner agrees. “The quality of life here means qualified people are easier to find than in Coega or De Aar. Also, developers can lobby Parliament. And the Western Cape people’s positive attitude to nature helps.”

CHALLENGES

Of course, the sector isn’t without certain problems. One of the biggest obstacles facing wind farms up the West Coast is the nearby military base, which claims that the turbines are interrupting its radar signal. Landowners have opposed wind farms on the grounds that the presence of turbines will harm tourism. Chown wants South Africans to know about the benefits to communities of RE projects (bids are assessed 70% on price and 30% on social and developmental benefits). “We must marry tourism, agriculture and RE, see the symbiosis and get away from competition, understanding that they can work together. Inland, poor communities see the benefits of wind farms, but wealthy foreign landowners up the West Coast [only] see a blot on the landscape!”

He urges provincial and local governments to campaign more at the national level for

investment support in the province. “The Western Cape has things we aren’t exploiting; for example, large stretches of suitable wind farm areas up the West Coast right to the border [with Namibia]. We should be pushing harder to promote our growth and investment opportunities in renewables at Minmec [the inter-ministerial meetings].”

The province seems to be listening. Premier Helen Zille, in her 2013 State of the Province Address, said: “Our government’s committed

to doing everything it can to ensure that wind farms are developed without unnecessary logistical and regulatory hitches. We’re therefore appealing to developers to engage with us on any problems they encounter so that we can ensure the efficient roll-out of these farms across the province.”

THE WAY FORWARD

The Western Cape holds great potential: estimates put capacity for wind power alone at 5GW. The Hopefield 66mW farm, very much a locally developed, built and serviced project, came on line in February this year. Farms near Saldanha and Paternoster, awarded in Round Two of the REIPPP, are making good progress. However, others on the ground have stalled due to the air force radar issue. Still other wind farms are being built or coming into operation in the Caledon and Gouda areas. In February, Gestamp – a subsidiary of Spanish giant GRI Renewable Industries – announced its investment of €22 million to build a wind turbine manufacturing plant capable of producing 150 wind towers a year and creating 200 jobs. On the solar front, a 20mW project near Malmesbury is on the cards.

Back at Darling, Oelsner – asked how he maintains such optimism after a decade of red tape and setbacks as a pioneer in the industry – replies: “Do you have children? We’re standing on our children’s children’s land. Much will be different in 50 or 60 years’ time.” Then, with a mischievous glint in his eye and a strong German accent, he adds: “Ve will vin(d)!” 🌈

📄 www.westerncape.gov.za/110green/impact/list/what-impact-green-economy-western-cape

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