



The REIPPPP contribution:

Women in energy:
empowerment,
engagement and
employment

Outcomes 5 and 14

Released: August 2017



Photo source: <http://www.worldbank.org/en/news/feature/2016/02/17/africa-far-from-sustainable-energy-for-all-but-showing-signs-of-progress>

Full Power

Empowering women through energy

Sixty-one years after 20,000 women of all races marched to the Union Buildings in Pretoria to present a petition against restrictive pass laws, South African women are casting off the shackles that used to prevent them from playing an active part in the economy. Appropriately, the energy sector is increasingly becoming a showcase for women's empowerment.

From a powerful figurehead such as the Minister of Energy, Ms. Mmamoloko Kubayi, to a humble solar power factory tea lady-turned-technician such as Harriet Julies (refer page 5), women from disparate social backgrounds are showing the way. They play an increasingly influential role in all aspects of Renewable Energy (RE), the fuel retail sector, energy consulting and other key aspects of the industry.

The growing and changing role of women in energy is of great significance. Historically, there have been different gender-defined roles in energy production, distribution and utilisation in households, communities, and the

market at large. It is mainly women and girls (especially in rural and peri-urban areas) who are mainly responsible for procuring and using cooking fuels¹. They, therefore, tend to carry the burden of 'energy poverty' with the resulting negative effects such as devoting less time to income-earning or educational activities.

Studies from a number of countries indicate that increasing the share of household income controlled by women, either through their own earnings or cash transfers, changes spending in ways that benefit children². And when more women work, economies grow. An increase in female labour force participation—or a reduction in the gap between women's and men's labour force participation—results in faster economic growth³.

Well-designed energy interventions have the potential to benefit women as active players and suppliers, not just as consumers of energy. Energy has the potential to empower women, communities and indeed the entire nation. In South Africa, we are beginning to see evidence of this.

Note 1. AfDB statistics show that women and girls spend a total of 40 billion hours a year collecting water, equivalent to the time spent at work each year by France's entire workforce. Note 2. The World Bank, 2012. Note 3. Organisation for Economic Cooperation and Development, 2012

Renewable Energy Independent Power Producer Procurement Programme (REIPPPP): displaying the national commitment to women empowerment

South African government policy and legislation recognise the importance of gender equity and the empowerment of women. This policy position is reflected in the universally acclaimed REIPPPP – a flagship partnership between Government and the private sector – that has not only attracted a staggering R202 billion in investment to date, but uniquely incorporates fundamental socio-economic development objectives, one of which is to redress historical and systemic gender inequality.

The REIPPPP is providing employment opportunities for women, empowering women entrepreneurs through preferential procurement from enterprises owned by women, and encouraging the inclusion of women in top management positions of companies operating in the field. Independent Power Producers (IPPs) are either required or encouraged to meet the following criteria:

- In terms of job creation targets, 12% to 20% of the staff complement of RE plants must originate from the local communities within which they are located. Since South Africa's population is predominantly female², a fair number of these local beneficiaries are women;
- At least 12% of project shareholding is reserved for black people, including women;
- Procure up to 5% of their inputs exclusively from women-owned vendors or business enterprises;
- To aim for 40% black top management in their project companies, with preference for black women, in particular.

The programme is also benefitting women through the Socio-Economic Development (SED) and Enterprise Development (ED) initiatives implemented by IPPs. Some of these are focused on assisting mostly women and children in previously disadvantaged communities.

And even among the staff complement at the IPPPP Office itself, women hold more than 62% of the positions (as at July 2017).

REIPPPP contribution to women empowerment

By June 2017, the REIPPPP had achieved the following milestones:

3 892

Employment opportunities¹

created for women (9% of total or 11% SA citizen employment opportunities)

Women in Top Management positions (construction phase)



Women in Top Management positions (operations phase)



R1.4 billion

Procured from women-owned vendors

Women energising development and innovation

Despite the fact that South Africa remains a vastly unequal society, enormous opportunities exist for women in the energy sector. On the research, development and policy information side, for instance, it is no small coincidence that a woman – Dr Karen SurrIDGE-Talbot (pictured below), manager of the Renewable Energy Centre of Research and Development (RECORD), a centre within the South African National Energy Development Institute (SANEDI) – has an influential hand in developing the kind of innovation that has enabled some remarkable strides in the Renewable Energy (RE) sector of the past few years.

She is part of a league of phenomenal women driving energy research and innovation in South Africa, the others being, among others, Dr Thembakazi Mali (Senior Manager for RE, SANEDI), Dr Christina Trois (UKZN), Dr Roula Inglesi-Lotz (Wits), Holle Wlokas (Energy Research Centre, UCT) and Jesse Burton (Energy Research Centre, UCT) – the latter two are in the process of completing their doctorates.

But back to Dr SurrIDGE-Talbot. She, along with the renewables team at SANEDI have been largely responsible for the establishment of several RE resource maps for South Africa that, because they are in the public domain, have levelled the playing field for investors and developers wishing to enter the industry. Moreover, she coordinates and leads several



Dr Karen SurrIDGE-Talbot (photo provided)

RECORD research platforms in the RE research space in a wide field of subjects, from biogas (waste-to-energy being a particular point of focus) to algal bioenergy and solar energy technologies. RECORD, through SANEDI's mandate, generates information and is invited to advise on policy relating to the future implementation of, say, Renewable Energy Development Zones (REDZ) and Grid Infrastructure Development Zones.

"I feel privileged to be in this position," she says. "My job is very satisfying in terms of knowledge sharing – it's fair to say the resource maps and technology information are valuable to Government and the other players in the industry."

As a role model for many young women wishing to enter the energy sector, Dr SurrIDGE-Talbot has this advice: "You should always strive to realise your full potential without losing your femininity. Women think differently to men and that is the gift you bring. People need to look at things in different ways; it brings perspective and variety to ways of approaching situations. So don't try to fit in with what you think others may expect of you, be an individual, work hard and always give your very best. One can have a career and a personal life and be successful in both."

In addition to Dr SurrIDGE-Talbot, all along the downstream value chain of the REIPPPP there are a number of inspirational women, from investors to solar PV installers to strategists; each making their mark. Here are some of their remarkable stories.

Gaining traction in the (energy) business world

Like most women from rural communities, Ms Aljone Meyer (pictured next page) found gaining meaningful employment a tremendous challenge despite the fact that she boasted a law degree from the University of the North West. Were it not for the Entrepreneur Development Programme (EDP) initiative (initiated as a direct result of the REIPPPP), and the resultant hand-up from Solar Capital, the 27-year-old might still be struggling. Instead, she is gaining traction in the business world after a tentative beginning.

"Once graduated, I went to Cape Town to try and find work, but lacking experience I was unsuccessful. I returned to the Northern Cape, stayed with my mother in De Aar and took up teaching Grade 12 Accounting and Business Studies. It wasn't something I enjoyed and I

didn't feel like it was my calling. So, when I saw an advert in the local paper about Solar Capital's EDP, I decided to stop teaching.

"At the same time as starting at the EDP, I also opened up my own business, Meyer Consulting – an entrepreneurial development consultancy. Although the EDP covered a lot of business basics that I already knew because of my degree, I now use the practical knowledge gained from the course to mentor my clients.

"Solar Capital assisted me by funding the purchase of my office equipment to the value of R60,000. Also, being a strong student in the EDP, many other participants came to me for help with their assignments or when they didn't understand something. Through this I've managed to attract potential customers that will assist in the long-term success of my business."

In addition, Solar Capital hired Ms Meyer to coordinate and manage their rebranding event. "I feel extremely grateful to be able to support both my brothers who are studying at university. The EDP helped my family to build a future; it will be a legacy we can hand on to our children."

Opportunities in the broader energy sector

Apart from the REIPPPP's entrepreneurial and socio-economic development stimuli, broader opportunities are being created. For instance, Women in Oil and Energy (WOESA) is a Section 21 company that was created to facilitate women's participation in business opportunities in the energy sector. "Black women in South Africa have either been at the lowest end of any form of business opportunity, or totally excluded," it states on its website. "It therefore is imperative for women to focus cohesively on addressing their unique position in order to address these facts."

While collective action and bargaining is to be commended, some individual entrepreneurs in the downstream value chain haven't let the grass grow under their feet. Ms Santie Gouws¹ (pictured next page), boasting a Masters degree in Civil Engineering, started her own, one-woman company, Concrete Growth, in response to the REIPPPP.

As Principal Engineer (Built Environment) at the



Ms Aljone Meyer (photo provided)

Council of Scientific and Industrial Research (CSIR), she had participated in a research study illustrating that concrete wind towers could be built cost effectively at 90 metres or higher. "I saw an opportunity for the concrete industry," says Ms Gouws, "and decided to follow my intuition, presenting the findings to several industry forums while launching my own business."

When the Spanish company Acciona Energy, in bidding for the Gouda Wind Farm, had resolved to manufacture the planned 100m concrete masts to European specifications in South Africa, Ms Gouws aced it.

The burgeoning Green Economy has also attracted sharp-eyed investors such as Ms Anthea Gardner (pictured next page), the Johannesburg-based Chief Executive Officer and Managing Director of Cartesian Capital. The 45-year-old financial whizz is also an Executive Director of Specialized Solar Systems (SSS), a company based in George. How did this come about?

"I was lucky to be introduced to SSS by a friend and co-investor who came across the business through his network," she says. "We analysed the company, spoke to the owner and completely bought into his vision. The fact that the business made sense from a financial point of view and that it was in a sector we are positive on, was the deciding factor.

"While wind is a viable RE source for large-scale IPP projects, our solar solutions can be scaled up or down to provide for the rural and lower

Note 1. Refer Q3 2015/16 IPPPP Overview for more detailed story of Santie Gouws and Concrete Growth.



Ms Santie Gouws¹ (centre) (photo: SAWEA website)



Ms Anthea Gardner (photo: Moneyweb.co.za)

income sectors; we supply sustainable solar solutions from DC micro-grids to larger installations for commercial applications. In this regard we believe we're achieving our goal of making a positive impact on the lives of people that may never experience connection to the grid."

In addition, SSS has empowered a young woman from the Transkei, Ms Yonela Roshinamba², to start her own solar PV installation business. This is an admirable initiative and begs the question – can more be done by Government (national, provincial and municipal), as well as companies like SSS to empower other women in a similar manner?

"Statistics show that there isn't enough inclusion of women in business. No doubt, a lot more can be done to promote women. It's good that Government is willingly supporting women entrepreneurs, but these programmes must also start at school level to help make the transition from school into business a more comfortable progression."

For its part, SSS is doing admirable work in addressing the gender imbalance. When Ms Roshinamba came knocking for assistance, Mr Jonathan Hodgson, the Chief Executive Officer and one of the owners of the company, was extremely generous.

"He even went so far as to offer me financial support for my return journey," she beams. "Mr Hodgson recognised my ambition and said he wanted to empower me, providing technical support and training, but he demanded my commitment in return. SSS gives me their

systems on credit and the skills transfer process has been fascinating."

On the SSS production line, the workforce of 20 electrical technicians include eight women, one of whom is Ms Harriet Julies (pictured next page). What makes her presence on the factory floor all the more remarkable is that she started out as the company's tea lady.

"My husband Allen is also an electrical technician at SSS and it was through him that I originally landed the job seven years ago," she recalls. "After two years as tea lady, Mr Hodgson started teaching me personally to become an electrical technician. I feel very grateful that he recognised and developed my potential."

The 42-year-old Pacaltsdorp resident, who has three kids, has left the child minding responsibilities to her mother and loves working in the industry. "I'm really enjoying myself because the work changes from day to day. We design and build different systems all the time; distribution boxes; solar powered streetlights with batteries; LED floodlights... you name it!

"Even though you'd think a production environment is not for women, I find it more stimulating than being a housewife. There is a place for us in this world. Two of my sisters work here as well."

And the highlight of her work? "When our installation teams return from the rural areas, places where people have never had the

Note 1. Concrete Growth director, Santie Gouws, was awarded the prestigious South African Wind Energy Association's Industry Award for making the best contribution to local content in South Africa in 2015. Note 2. Refer Q4 2015/16 IPPPP Overview for more detailed story about Ms Yonela Roshinamba.

benefit of electricity, they show us some video footage of when the first light bulb comes on. To see the smiles on those faces, especially the faces of the young kids, is an absolute delight. It makes our jobs worthwhile and inspires us to build even more units. When I grew up, I never could imagine such a thing as a solar powered street light... and at the rate that technology is improving, this really is just the beginning!"

Carving out a career in the energy sector

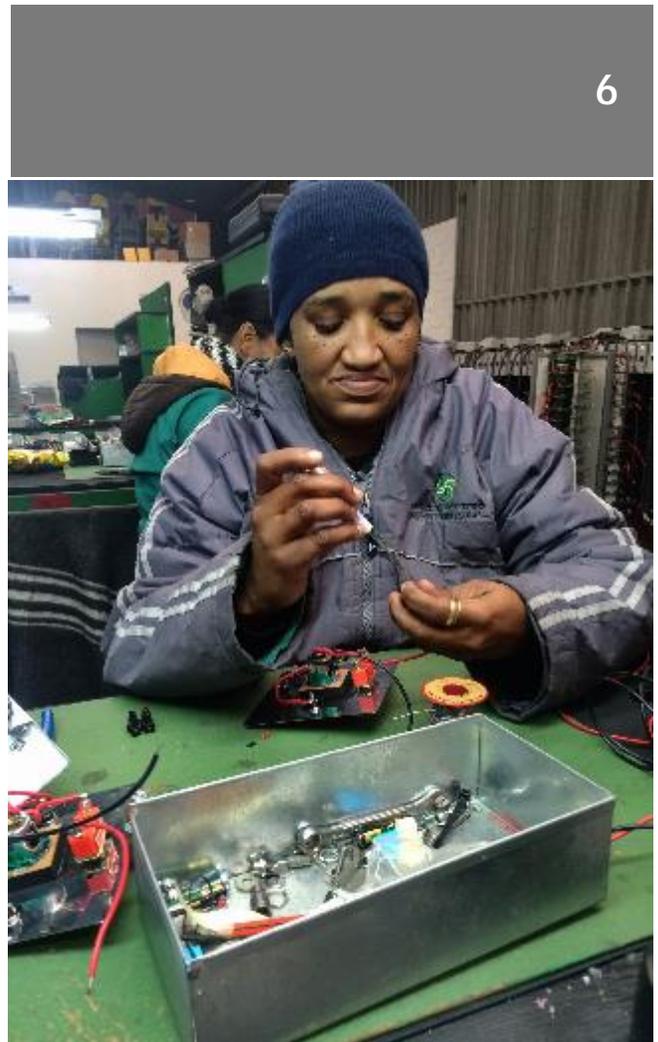
Indeed, the Green Energy landscape is changing swiftly. Many jobs that were traditionally considered the domain of men are increasingly becoming available to women. For instance, the Italian multinational Enel Green Power (EGP) has partnered with the Master Artisan Academy of South Africa to offer three free skills programmes for Photovoltaic (PV) Rooftop installations. It will support EGP's intention of developing a national franchising network, with women entrepreneurs such as Ms Masedi Morore and Ms Salome Blom at the front of the queue. Both have completed the PV Installer Course, and would like to attend the Entrepreneurial and Seller Courses before they launch their businesses.

Ms Morore, 35 (pictured next page), is a divorced mother with two children from Kagiso on the West Rand. She currently supports herself selling clothing and perfume from the boot of her car despite the fact that she has a diploma in marketing management and a certificate in business communication from the University of South Africa.

Given this background, she's keen to complete the other courses and feels undeterred by the challenges of entering what was once considered a man's world. "There are more women than men in South Africa, so we're in a majority as end users of electricity. It makes sense for us to be involved in the whole process relating to energy.

"What motivated me to enrol for the EGP training programme was the increase in the cost of electricity, which has spiked during the last couple of years. And load shedding made me think of alternative energy sources. RE is important for everyone, but especially small businesses that are run by women, for instance those selling food or ironing clothes as a source of income. They need cheap and efficient electricity, and should be involved in the planning stages."

Ms Blom, 38 (pictured next page), a single parent who lives with her son and mom in Rosedale, Upington, learned of the EGP



Ms Harriet Julies (photo provided)

training programme while doing an e-skills course in computer literacy at the Vaal University of Technology. Although she had already registered a business focusing on construction, cleaning and catering, her interest was piqued.

"I also saw an opportunity in the RE market because the electricity crisis became a major issue. It doesn't just affect small businesses, but big companies and large factories as well. The Green Economy is the answer because it's a cleaner and safer environment. In the medium to long term, we save on electricity and we save on money. Doing the training made me more willing and eager to get involved."

To draw a conclusion from the above that gender inequality in the industry has been eliminated would be erroneous. The fact is that women remain vastly under-represented in the energy sector. A case in point is the EGP training programme. To date, a total of 1,913



Ms Masedi Morore
(all photos provided)



Ms Salome Blom



Ms Lerato Motsamai

trainees have attended the courses. Of these, 91% were male and only 9% were female. While this constitutes an enormous disparity (and is, incidentally, no reflection on the company itself), the small percentage of women represented is a promising start in the context of a patriarchal society and in a historically male dominated sector of the economy.

Even so, it has not stopped someone like Ms Lerato Motsamai from reaching the pinnacle. Against all the odds – from leaving university as a non-graduate, to peddling newspapers at traffic lights in Port Elizabeth, to being homeless and sleeping in her car with her two children in Johannesburg – she became founder and Managing Director of Petrolink Retail Fuels Consultancy. The mainstay of her business is providing training to filling station operators on behalf of the different oil companies, though it also dabbles in brokerage – developing and selling filling stations – and serves as a reseller of Total Oil's industrial and automotive lubricants.

Ms Motsamai entered the fray as a 21-year-old temporary receptionist at Engen and, through sheer grit, determination and hard work, rose up the ranks and learned as much as she could about all aspects of the business. After nine years at Engen, she also had a short stint at Edcon before joining Chevron for five years. During her tenure at the latter she spotted an opportunity in the property development space of the petrochemical industry, since few black people, let alone women, were operating there. It took her a while to perfect her business plan and to gather the courage to go it alone, but when she eventually took the plunge in 2012 to establish Petrolink, she creamed it! Currently, her company hopes to launch a lubricant oil blending plant under the

Petrolink banner in May 2018.

Ms Motsamai has been featured as a Speaker for the Department of Energy's (DOE) Women in Business national workshops and has recently been selected by The Graça Machel Trust as one of 30 African women from different industries who will make a contribution on the Women Advancing Africa Brains Trust.

In addition, she has a heart for philanthropy. In 2014 Ms Motsamai launched Girlignite Africa Academy, a one-year certificate programme run on Saturdays for Grade 8 – 11 school girls from Diepsloot and the surrounding areas. The programme, administered by volunteers who are University of Pretoria Honours and Master's graduates, is classroom and field-based, and is built on four pillars: Maths, Leadership, Entrepreneurship and Active Citizenship. It empowers the learners with life skills 'Beyond The Classroom', as the programme is aptly called.

Girlignite Africa helps girls prepare for bright future

The Girl Ignite Africa Academy seeks to be a world-class, two-year economic empowerment program for adolescent girls. The programme shares a variety of focused disciplines (leadership and entrepreneurship) that equips the girls for the opportunities, challenges and responsibilities of life.

"With the aid of specialist teaching in leadership, entrepreneurship and participation in the prestigious President's Youth Award, the benefits ripple out far beyond the walls of the classroom, from improved lives, to stronger communities and more competitive economies." - Ms Lerato Motsamai

<https://www.facebook.com/girlignite/> <https://twitter.com/girlignite>

Inspirational women at the helm (...1)

South African women are increasingly taking the lead in the energy sector, providing role models for young girls and women to follow suit. We introduce a few of South Africa's inspirational leaders:

Karén Breytenbach

Head: IPP Office



Ms Karén Breytenbach's name is synonymous with procurement of large-scale infrastructure projects. For every wind farm or solar power plant that's been delivered, the head of the Independent Power Producer (IPP) Office can rightfully claim to have been the caring mid-wife.

Having honed her skills with the National Treasury Public Private Partnership Unit, she has shaped and championed the Renewable Energy Independent Power Producer Programme (REIPPPP) into a globally exemplary model of cooperation between Government and the private sector. The R201.8 billion invested to date serves as a ringing endorsement and bodes well for the future, which includes procuring the new coal baseload and co-generation IPP programmes, as well as a gas-to-power IPP programme – among others, natural gas, syngas and liquefied natural gas (LNG).

In a recent knowledge sharing publication on institutional reforms in SA, the World Bank summarised some of Karén's qualities that have made for the success of the REIPPPP: "...[P]rogram champions helped drive successful programs. Professionals with credibility need to be able to interact convincingly with senior government officials, effectively explain

and defend the program in meetings with stakeholders, deal with donors, select and manage consultants, communicate with the private sector, and manage a complicated procurement and contracting process. This success factor is profoundly difficult to replicate."

"In the past we all looked at green [power] and everybody was thinking, 'Well that's great, but it's very expensive, and it's for the rich,'" she recently remarked. "We've moved the market from very expensive green power to affordable power. It was far beyond our wildest dreams."

Inspirational women at the helm (...2)

Dr Phindile Masangane
Head Clean Energy
Development, CEF



Arguably one of the best-qualified women in the South African energy sector, Dr Phindile Masangane holds a PhD in Chemistry, an MBA from Wits Business School and a Bachelor of Science degree. She rose to prominence as a senior manager at the erstwhile SANERI (now called SANEDI – South African National Energy Development Institute); moved to the Clean Energy Division of the Central Energy Fund (CEF), responsible for pioneering biofuels and biomass projects; was head-hunted by KPMG to lead their Energy Advisory Division (becoming a partner in the process); and returned to the CEF as general manager of the Energy Projects Division (previously the Clean Energy Division).

Phew! That's a mouthful, but to be expected of a stellar career. In her latest capacity, she manages the RE activities of the CEF, a State-owned energy utility (its primary shareholder being the Department of Energy). This includes the identification of new joint venture investments in RE and clean energy projects, and the management of existing joint ventures with other parties.

Ayanda Nakedi
Senior General
Manager
Renewables, Eskom



Eskom has a history of Renewable Energy (RE) innovation, including the first wind turbine and Concentrated Solar Power (CSP) dish installations as demonstration projects in the country. In 2011, it established a Renewables Business Unit, signifying the formal transition from research to operational status. Ms Ayanda Nakedi, senior general manager of the Renewable Energy Unit, was tasked with establishing, resourcing, integrating and leading the new division – a daunting undertaking given the cumbersome practices of the State-owned utility.

By comparison, the RE sector is characterised by an extremely competitive private sector, technology innovation and short delivery lead times – historically speaking, not exactly Eskom's forte. Ms Nakedi recognised that success would depend on close collaboration: a competent core team, solid internal and industry relationships and strong support from all business areas within the organisation (including procurement, finance and group capital). To her credit, Eskom delivered the 100MW Sere Wind Farm on par with the average construction lead times of the current REIPPPP portfolio – as solid a start as anyone could hope for.



Photo source: <http://www.afdb.org>¹

Unlocking more (wo)man power

Women wanted to lead our sustainable energy future

Energy is at the heart of our economic and socio-economic development and will shape our children's future. Considering the significant role of women in communities and potential contribution to economic development, it is essential that women be part of the country's energy solution.

It is evident that South Africa's rapidly evolving energy sector is creating immense opportunity for the empowerment of women, both as consumers and as active participants in the sector. However, at only 9% female participation both in the REIPPPP workforce and the Enel Green Power training programme, there remain many more opportunities that are as yet unexplored.

Despite the remarkable women featured here, more effort is needed to unlock the full potential for inclusive development. Opportunities raised during these interviews include involving women during planning phases of energy solutions and introducing appropriate programmes to develop women entrepreneurs at schools level.

It is also evident that critical advances – the right representation of women in decision-making positions; their participation in project and programme development, implementation and execution; as suppliers, or as private actors participating in energy decision making – are required if the energy sector is to meet the needs of women and address our country and community's energy challenges.

Greater gender equality can contribute to reaching development and economic goals, for more effective, sustainable energy investment decisions, and for fostering the advancement of women. We have seen that there are a multitude of opportunities throughout the energy value chain.

This is therefore an appeal to women in South Africa to follow the courageous and inspirational example of the women featured here, to become a tangible force in the energy sector that defies the historic, gender-defined roles of energy production, distribution and utilisation on the continent. It is an invitation for women to be at the forefront of South Africa's sustainable energy future.

Note 1. <http://www.afdb.org/en/blogs/investing-in-gender-equality-for-africa's-transformation/post/empowering-women-and-girls-in-the-quest-for-universal-energy-access-for-all-15625/>