

energy

Department:
Energy
REPUBLIC OF SOUTH AFRICA

PRESENTATION OUTLINE

1. Introduction
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3. Opportunities for Employment in the RE sector
4. Opportunities for SMMEs
5. How to become part of the Renewable Energy Deployment Legacy?
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INTRODUCTION (2)

- The Department formulates energy specific policies, legislation, regulations, programmes, projects, and oversees their implementation to ensure energy security, promotion of environmentally friendly energy carriers, and access to affordable and reliable energy for all South Africans
- The main objective of the Renewable Energy Initiatives Directorate is to ensure the integration of renewable energy into the mainstream energy supply by planning and coordinating initiatives. The focus is on all RE - wind, solar, bioenergy including biogas and small scale hydro power energy sources.
- Intended objectives are to contribute to: diversification of energy supply options; increased security of energy supply through a clear energy mix; increasing access to affordable, modern energy services and options.
- Key policy and legislative enablers included the White Paper on Renewable Energy Policy (2003); Electricity Regulations Act (2006 as amended) & Schedule 2 regulations; Integrated Resource Plan 2010; 2019, New Generation Regulations etc.

Introduction

- Significant utility scale procurement of renewable energy projects in SA started 9 years ago, in 2011, in what is commonly known as the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP)
- The IPP Office was established mainly for the purposes of handling this and other energy related procurement.
- The objective of REIPPPP is to promote private investment into electricity generation through renewable energy projects. Since 2011 bidding windows for large scale renewable energy technologies and small scale technologies have been opened to procure electricity as per Ministerial Determinations for each technology. Biogas has not fared well on any of these. Solar and wind have the largest share of procured MW to date. **Solar PV** also seems to dominate the small scale embedded generation market while the biogas sector is still lagging behind.
- SABIA, the South African Biogas Industry Association seeks to improve the uptake and contribution of biogas nationally.

REIPPPP PROCUREMENT TRAJECTORY

From all the seven bid windows, only landfill biogas was procured at Bid window three (BW3), no biogas project was procured under REIPPPP. Solar PV and wind dominated the first two bid windows of the procurement.

Table 1: Technology capacity procured per bid window (MW)

Bid Window	1	2	3	3,5	4	1 SS	2 SS
Hydro	0	14	0	0	5	0	0
Biomass	0	0	17	0	25	10	0
Landfill gas	0	0	13	0	0	0	0
Concentrated solar	150	50	200	200	0	0	0
Solar PV	627	417	435	0	813	30	50
Wind	649	559	787	0	1 363	9	0

OPPORTUNITIES FOR WOMEN IN THE RENEWABLE ENERGY SECTOR: THE CONTEXT

Framing renewable energy opportunities around projected growth of RE in the energy sector

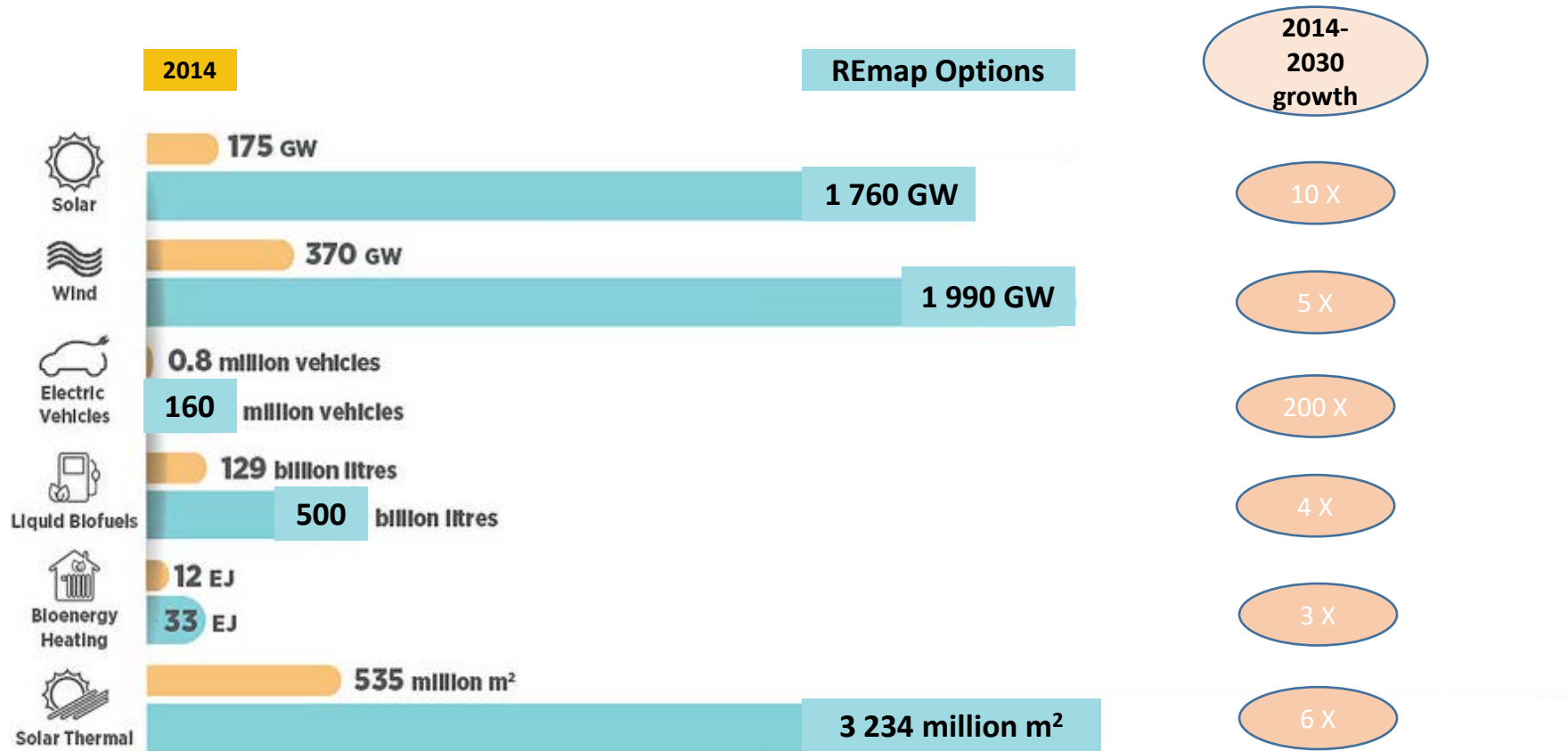
- According to the International Renewable Energy Agency (IRENA) the share of renewables in global power should more than double by 2030 to advance the global energy transformation, achieve sustainable development goals and a pathway to climate safety. This means that for the electricity sector, for example, renewables should supply 57 per cent of global power by the end of the decade, up from 26 per cent today.
- Among the reasons for this ambitious goal is that renewable energy solutions are now affordable, readily available and deployable at scale. It is therefore possible to scale up renewables, achieve sustainable development and meet key climate goals at the same time within the next 10 years.
- To this end, in January 2020, IRENA declared this period to 2030 a decade of action.

OPPORTUNITIES FOR WOMEN IN THE RENEWABLE ENERGY SECTOR: THE CONTEXT CONT.

- In light of the impact of COVID 19 pandemic IRENA has offered practical advice to countries on key investments and policy decisions towards post COVID 19 recovery, over the period 2021 -2023. The list of policy recommendations includes:
 - Safeguarding existing renewable projects and ensuring stable policy frameworks for transition-related infrastructure
 - Creating renewable-based, efficient infrastructure, incentivising electric vehicle and biofuel use, and promoting behavioural changes to reduce the impact of travel
 - Protecting existing jobs, supporting workforce expansion in transition-related fields, co-ordinating with industries and developing education and training to minimise skills gaps.
 - Diversifying supply chains, developing local industries, providing finance and promoting supplier development programmes and industry clusters.
 - It further underlines the use of investments to foster equitable, inclusive and resilient economies



IRENA'S PROJECTED GROWTH IN SELECTED TECHNOLOGIES, 2016



OPPORTUNITIES FOR EMPLOYMENT IN THE RE SECTOR

- Employment opportunities range from less skilled to highly skilled professionals. Usually a great start for many entrepreneurs before venturing into own businesses.
- Employment opportunities are both in the public and private sectors
- Training is largely available in many institutions in South Africa, ranging from solar water installations (various institutions), wind turbine service technicians (WTST) to professional degrees. WTST is provided by the South African Renewable Energy Technology Centre (SARETEC) at Cape Peninsula University of Technology) with funding support from the South African Wind Energy Programme. The WTST is a globally sought-after qualification which trains specialized technicians to work on wind turbines undertaking construction, maintenance, service, fault finding and repairs. Original Equipemnt Manufacturers support trainees with two months' workplace training.
- The RE sector is also ripe for entrepreneurs', however to my knowledge historically there has been no training for entrepreneurship, you learned on the job with ambition as your driver/coach!

OPPORTUNITIES FOR WOMEN - SMMES

1. IPP sector (Large Utility Scale Projects)

- So far, this has been done through government procurement under the REIPPPP, attracting large investors; SMMEs can find opportunities along the value chain facilitated by the localisation requirements/Preferential Procurement Framework
- Private sector initiatives are set to grow – Mining sector, SASOL etc.
- This market is only 9 years old, allowing women, young entrepreneurs and people with disabilities to explore both the public and private sector opportunities that are still opening up.

2. Small scale Embedded Generation

- Solar PV installations in the residential, public and commercial sector buildings are becoming attractive for energy security purposes.
- Biogas installations in municipal Waste Water Treatment Works. Studies conducted by GIZ show that the lowest hanging fruit for implementation of bigger biogas projects lies in the municipal sector where a large amount of electrical energy is also consumed, with a significant potential of reducing costs.
- This is a growing market in South Africa, less than 3 years old.
- To service immediate local communities & take advantage of new opportunities created by the new business models in the SSEG sector. Check at provincial level.

OPPORTUNITIES FOR SMMEs

3. Energy Poverty Alleviation/Access – off grid energy solutions; mini-grid hybrid markets

- The number of people without access to electricity fell from 1.2 billion globally in 2010 to 789 million in 2018. Renewable energy solutions have been instrumental, with more than 136 million people receiving basic electricity services via off-grid renewables by 2018. Therefore, off grid RE solutions are recognised for their potential to reduce the world's energy access gap.
- Off-grid renewable power can come from a variety of sources, ranging from large isolated power grids to solar lights and solar home systems. In addition to households, off-grid renewables provide power for water pumping, street lighting, telecommunications towers, rural schools and clinics, as well as for remote commercial and industrial facilities and other uses
<https://irena.org/publications/2019/Dec/Off-grid-renewable-energy-statistics-2019>
- International financial flows to developing countries for clean energy solutions have increased from USD 10,1 billion in 2010 to USD21,4 billion in 2017.

Opportunities for SMMEs

- Off grid energy market is well established in South Africa, started in 2000/01. Budget allocation from the Department over the medium term is just above R213 million in 2020/21; R222 million in 2021/22 and R230 million for 2022/23.
 - A panel of service providers is appointed for a term of 3 years;
- The basic solar home system currently used comprises the following:
 - A solar photovoltaic (PV) panel (95Wp equates to approximately 475Wh/day)
 - A charge controller
 - Wiring & outlets for small appliances
 - A battery (105Amp-hour)
 - 2x external lights for 12 hours/day
 - 6x internal lights for 4 hours/day
- Women are under represented in this sector even though it has a long term market opportunity
- Panel of service providers for the next 3 years will be appointed this year. Women who have an interest in this sector can prepare for the next round, and also look out for opportunities to assist those who are already appointed as there may be capacity constraints. See website for old bid specifications.

How to become part of the Renewable Energy Legacy

1. Affiliation with relevant associations, attending RE related events for networking & business partnerships etc.

SAREC; SAPVIA; SAWEA; and a further list emerging from the Renewable Energy Forum facilitated by Mr Chris Yelland from EE Publishers.

2. South African Women in Energy Business Directory

The South African Women in Energy Business Directory is a platform established by the Department of Energy to catalogue women owned business operating in the South African energy industry.

Registration is open for organisations providing goods or services to the energy industry. For more information and forms please go to <http://www.womeninenergy.co.za/>

HOW TO BECOME PART OF THE RENEWABLE ENERGY LEGACY

3. Energy Service Companies Market

1. An Energy Service Company (ESCO) is defined as a company that offers a wide variety of energy services such as energy analysis and audits, energy management, project design and implementation, maintenance and operation, monitoring and evaluation of energy savings, and supply of required technologies for the provision of energy services (SANEDI Energy Services Companies In South Africa Report, 2019).
2. The Department in collaboration with SANEDI and GIZ, have developed a national register for ESCOs which is a tool aimed at facilitating market development and growth in this sector.
3. It can be used by public and private sector when identifying, planning, developing, financing or implementing energy projects including energy efficiency and demand side management as well as small scale embedded generation. The register profiles companies, underlining their capabilities and experience using a two tier system. The number of registered ESCOs grew from 54 in 2015 to 100 by 2018. please visit <http://sanediesco.org.za/> for more details and information about workshops and training opportunities.

HOW TO BECOME PART OF THE RENEWABLE ENERGY LEGACY

4. Developing Developers Workshop Programme

- This is a new and exciting initiative which we would like everyone in this meeting to join in, take interest and support. We know that many women supported the mentorship programme initiated by SAWEA, and we thank you for this sisterhood!

***“The top priority of a leader must be to invest in future leaders”, says Dave Kraft.
“It takes one to know one, to show one and to grow one”, adds John Maxwell***

CONCLUSION

- In conclusion, it is my wish that more and more women participate in the Renewable Energy sector and the energy sector broadly with their diverse fields of study because the energy field is more than just STEM, social scientists, economists, environmentalists, legal experts, finance experts, communicators etc. all have an equally important role to play in this growing sector. We need women leaders.
- Any limiting beliefs that you hold about yourself, remember that's all that they are – beliefs that are limiting you from realizing your full potential. Shake them off and show the world the phenomenal woman that you are.
- Work to leave a legacy, let everyone know even in your small space that “**you were here and you lived**”! Let each one of us echo Beyoncé and say:

I wanna say I lived each day, until I died

You know that I, been something in, somebody's life

The hearts I have touched

Will be the proof that I leave

That I made a difference

And this world will see, I was here Lyrics by Beyoncé



Thank you



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