

Using our  
Strength for  
a better  
SA  
for all



# The Role of Skills Development in Driving Female Participation, Contribution and Inclusion in the Energy Sector

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*"Here's to strong women.  
May we know them. May we be  
them. May we raise them."*

U n k n o w n



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# Introduction

- There are more women than men in South Africa, women comprise 51% of the total population (56,5 million) .
- Despite women making up just over half of the population, they remain relatively unrepresented in positions of authority and power.
- If we consider the entire workforce, women fill 44% of skilled posts, which includes managers, professionals and technicians.
- The Women Empowerment and Gender Equality Bill in particular calls for 50% representivity in decision-making positions.



# Introduction

- The International Energy Agency states that, despite accounting for 48% of the global workforce, women constitute only about 22% of the traditional energy (fossil fuel sector) and 32% in renewable energy sector.
- The lowest performing energy sub-sector is mining of coal.
- Women's participation in the energy sector is below that of the broader economy and varies widely across energy sub-sectors.
- According to the World Economic Forum, only 55% of sub-Saharan Africa's human capital potential is utilised in comparison with a global average of 65%.
- The World Bank has noted that 'one of the key underlying factors affecting human capital in Africa is the low level of empowerment of women and girls'.





# Challenges faced by women in a workplace

- External Challenges:
  - Women are harassed, stressed, isolated and excluded.
  - “Glass walls” effect in core functions.
  - Motherhood is still considered as a challenge.
  - Previously disadvantage background.
- Internal Challenges:
  - Low self-esteem.
  - Fear of work-life imbalance.
  - Lack of a defined career progression/path.



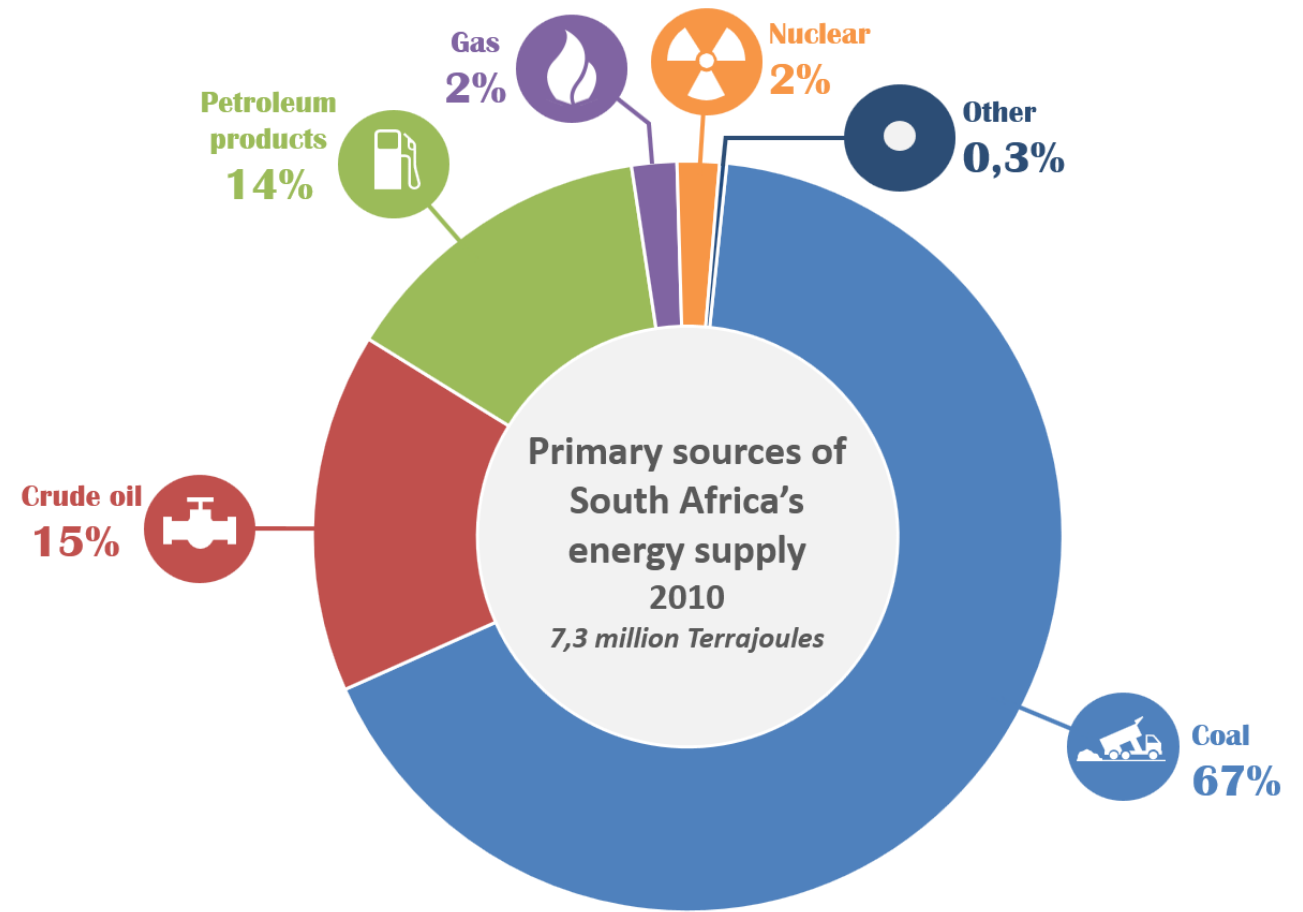
# Success factors to drive gender equality

- A direct way to incentivise the greater inclusion of women in the energy sector is through policies and regulations by national governments, financing institutions, donors and other role-players that require a certain percentage of women participation in new energy sector investments.
- The above can serve as an important tool to strengthen gender mainstreaming in the energy sector, however success of such is dependant on the ff:
  - *Comprehensive support measures that improve access to financial, technical and capacity building measures for women wishing to participate in the energy sector,*
    - *Deploy gender diversity and inclusion policies which will target marketing tailored for women.*
    - *Offer a more flexible development programmes and work models to high potential women.*
    - *Develop a well-defined career paths for women*
  - *Effective monitoring, evaluation and reporting to assess progress in adherence to gender-based requirements.*



# Energy sector in SA

- Energy comprise of two sources:
  - Primary and secondary energy sources.
    - Primary sources are natural or refined resources
    - Secondary sources are products produced from primary sources



Environmental Economic Accounts Compendium, 2015  
<http://www.statssa.gov.za>  
Excludes electricity  
Percentages have been rounded and may not sum to 100%

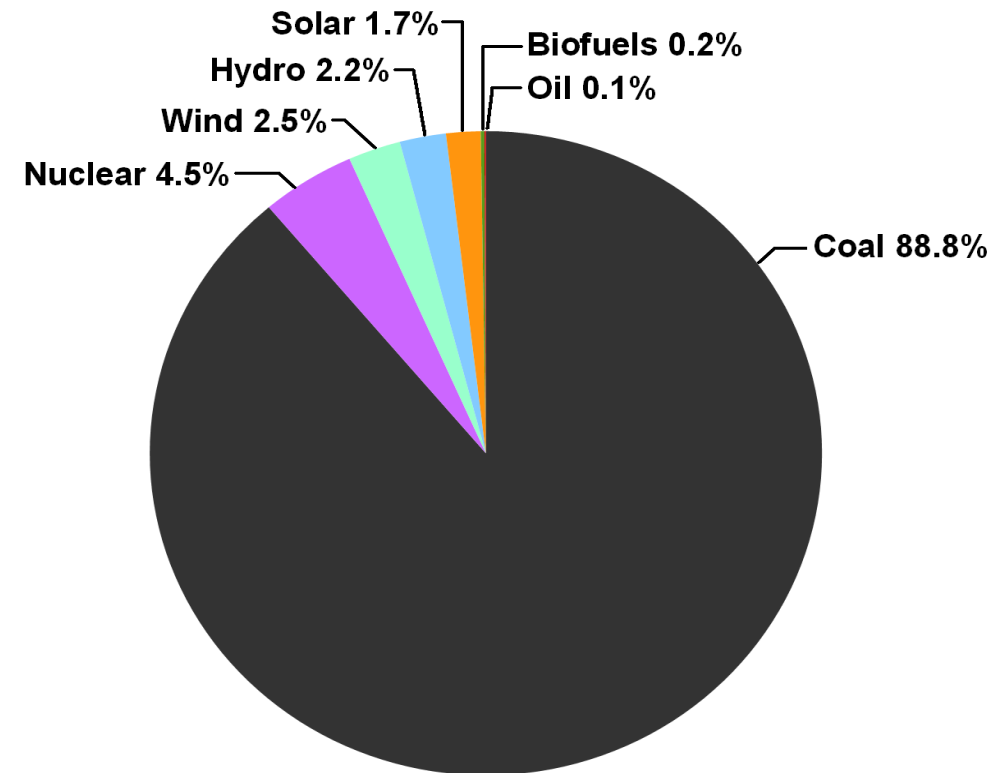


# Energy Resource distribution in SA

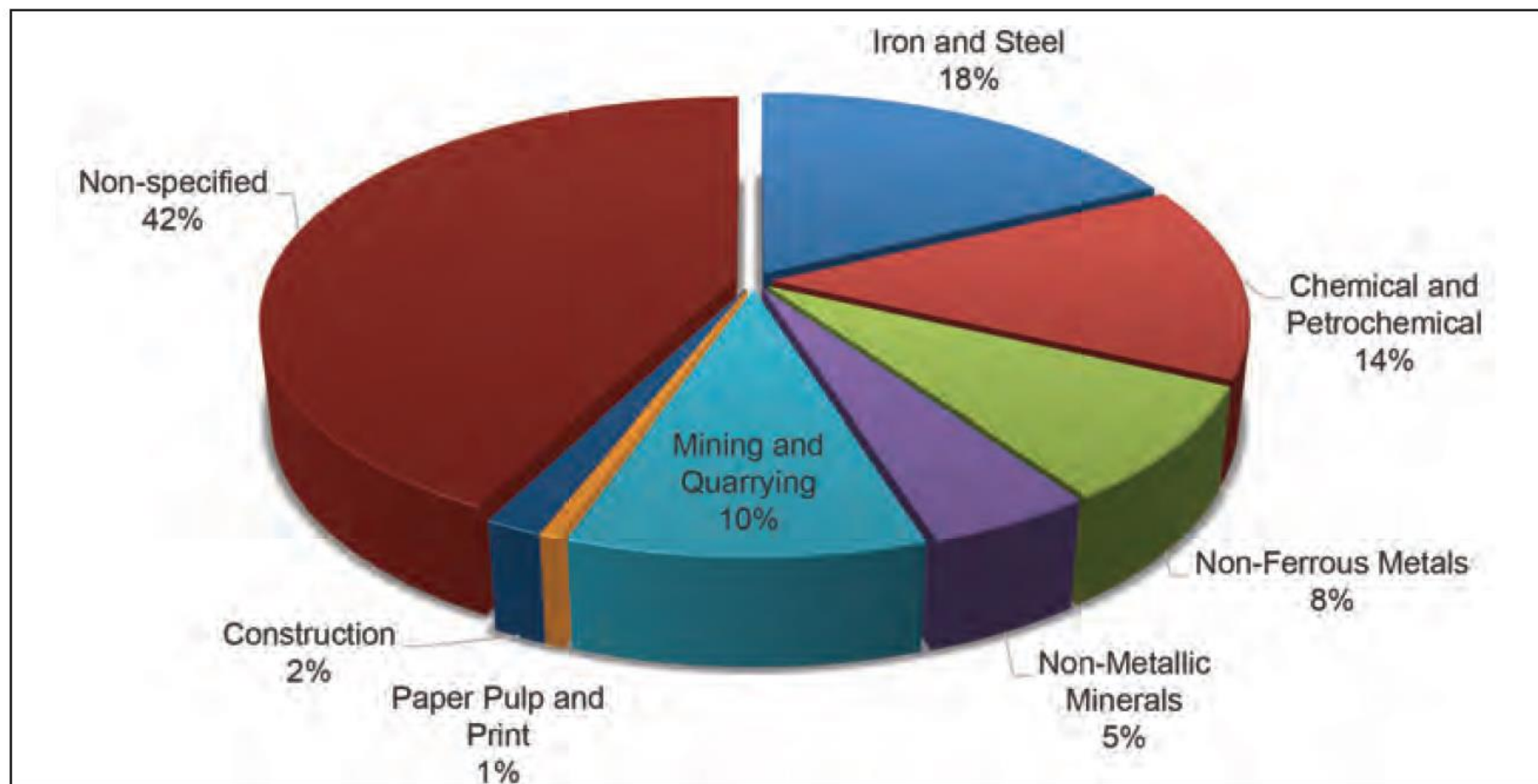


- South Africa is planning to shift away from coal in the electricity sector.
- The country aims to decommission 34 GW of coal-fired power capacity by 2050.
- It also aims to build at least 20 GW of renewable power generation capacity by 2030.
- South Africa is the world's 14th largest emitter of greenhouse gases.

**Electricity production in South Africa in 2018 (IEA)**

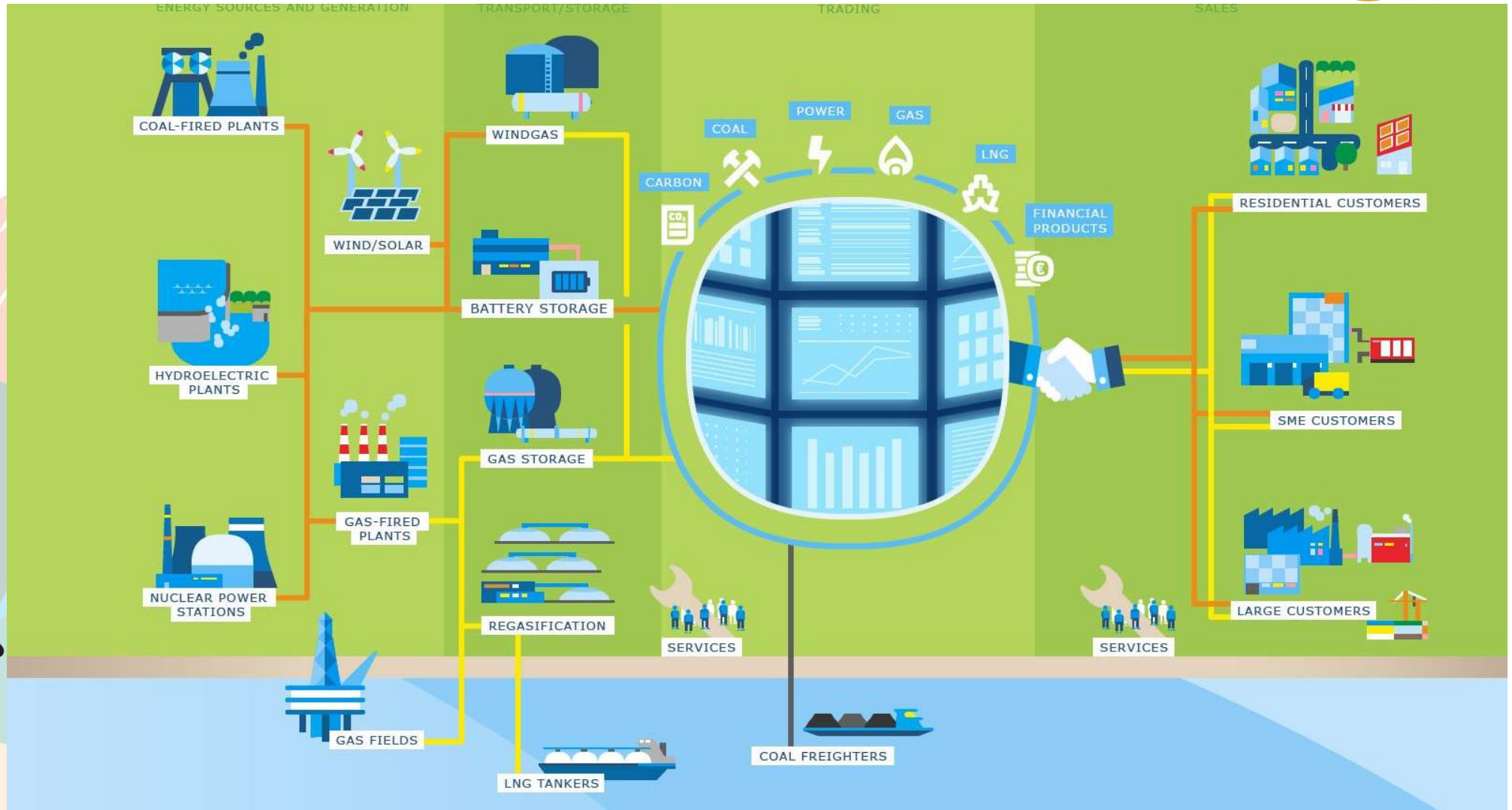


# Energy demands in SA



“Economic growth of the country is measured by the energy intensity”

# Careers in the Energy Value Chain



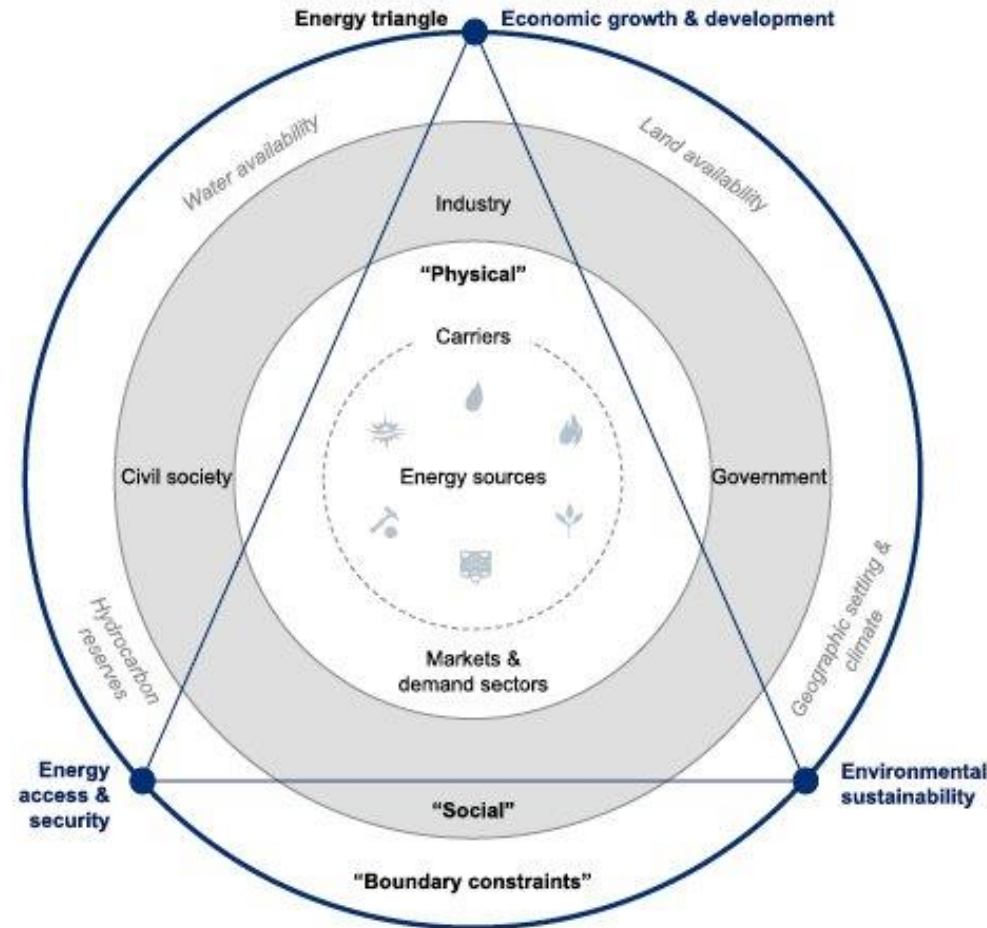






# Energy architecture framework

## Just Energy Transition:

- Reliable baseload is needed to support the economic growth of the country.
- Enhanced by deployment of renewable energy technologies and more advanced power generation technologies (HELE) – to achieve a low carbon economy.
- New normal can be defined differently and the concept of “Just Energy Transition” is a diverse concept.

Figure 1: Energy architecture conceptual framework



Definitions	
	<b>Physical elements:</b> includes energy sources, their carriers and end markets
	<b>Social elements:</b> includes political institutions, industry and civil society, which shape the physical elements
	<b>Energy triangle:</b> ultimate objectives that the energy architecture is designed to support
	<b>Boundary constraints:</b> factors limiting performance against the energy triangle, both physical and social



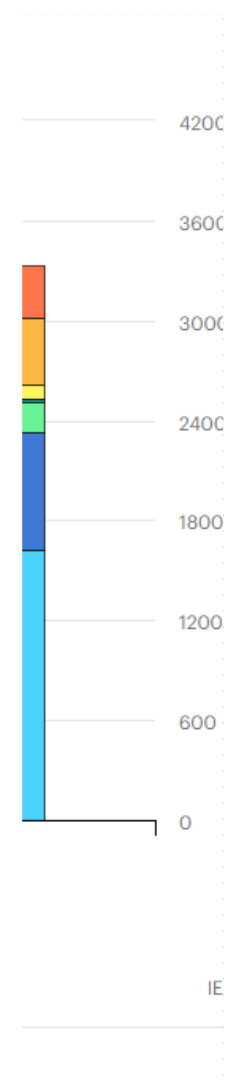
# SA's energy wish list to the year 2040 (IRP2019)



	Coal	Coal (Decommissioning)	Nuclear	Hydro	Storage	PV	Wind	CSP	Gas & Diesel	Other (Distributed Generation, CoGen, Biomass, Landfill)
Current Base	37 149		1 860	2 100	2 912	1 474	1 980	300	3 830	499
2019	2 155	2313					244	300		Allocation to the extent of the short term capacity and energy gap.
2020	1 433	1557				114	300			
2021	1 433	1400				300	818			
2022	711	814			513	400	1000	1600		
2023	750	555				1000	1600			
2024			1860				1600		1000	500
2025						1000	1600			500
2026		1219					1600			500
2027	750	817					1 600		2000	500
2028		475				1000	1 600			500
2029		1682			1575	1000	1 600			500
2030		1030		2 500		1 000	1 600			500
TOTAL INSTALLED CAPACITY by 2030 (MW)		33364	1860	4600	5000	8288	17742	600	6380	
% Total Installed Capacity (% of MW)		43	2.36	5.84	6.35	10.52	22.53	0.76	8.1	
% Annual Energy Contribution (% of MWh)		58.8	4.5	8.4	1.2*	6.3	17.8	0.6	1.3	

Installed Capacity  
 Committed / Already Contracted Capacity  
 Capacity Decommissioned  
 New Additional Capacity  
 Extension of Koeberg Plant Design Life  
 Includes Distributed Generation Capacity for own use

- 2030 Coal Installed Capacity is less capacity decommissioned between years 2020 and 2030
- Koeberg power station rated / installed capacity will revert to 1926 MW (original design capacity) following design life extension work.
- Other / Distributed generation includes all generation facilities in circumstances in which the facility is operated solely to supply electricity to an end-use customer within the same property with the facility





# SDGs



## SUSTAINABLE DEVELOPMENT GOALS



# Opportunities for Women in the Energy Sector

*“You can be anything that you want to be, if only you believe with sufficient conviction and act in accordance with your faith; for whatever the mind can conceive and believe, it can achieve.”*

*By Napoleon Hill*



# Success factors for Young Women in STEM

- *Decide on what you want to be.*
- *Have a plan on how to get there.*
- *Get a mentor.*
- *Believe in yourself/be your number one fan.*
- *Don't be apologetic about your existence.*
- *Know your strong strengths and take advantage of them.*
- *Keep good networks.*
- *Be hard at work.*
- *Be willing to learn new things.*
- *Know when to let go.*





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