

National Science and Technology Forum (NSTF)

Skills Development in South Africa for a Just Transition

24 April 2024

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science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA



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Outline

- Background
- Projects
 - Re-skilling project
 - CoBenefits
 - Social protection plan for Mpumalanga
 - Skills needs assessment for green hydrogen
 - EISP 5-year programme
- Conclusion

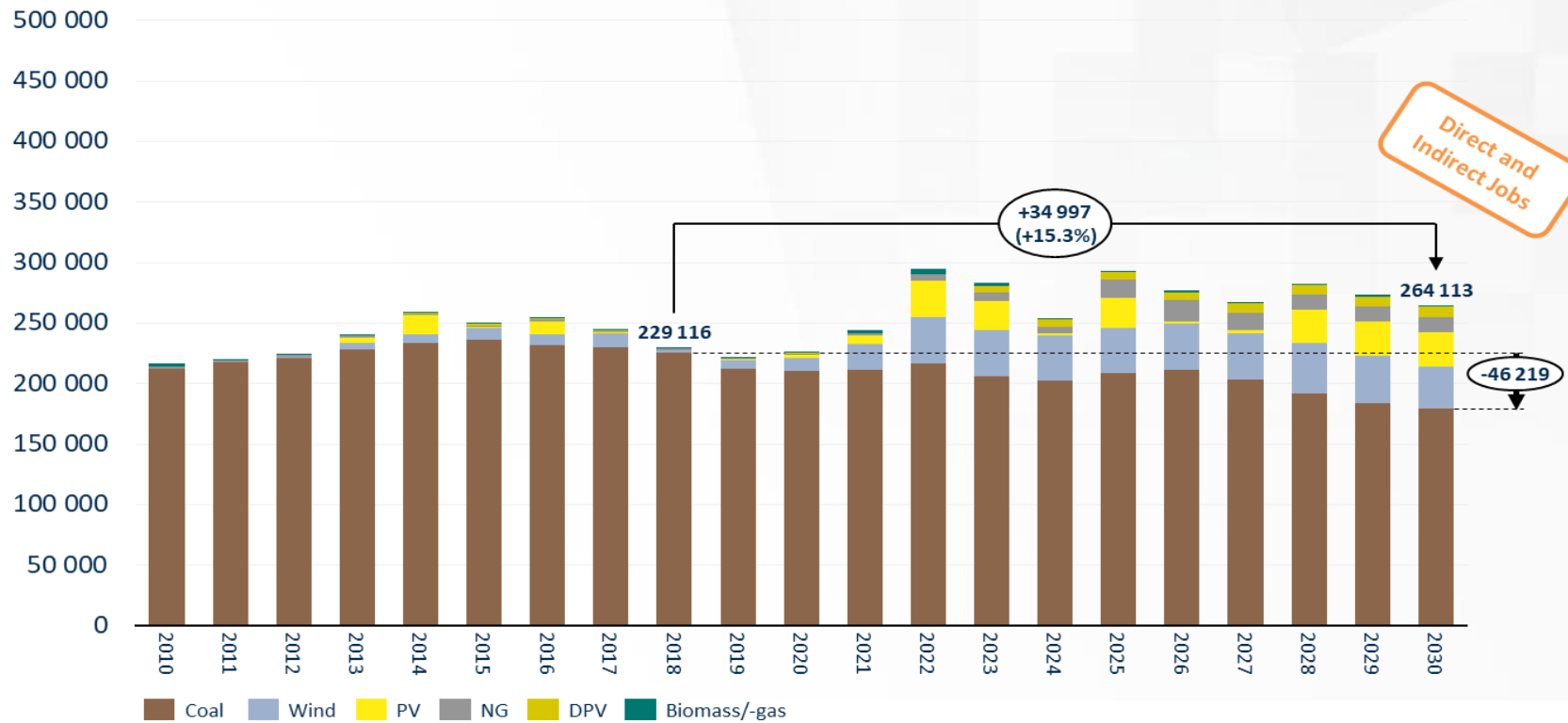


Background



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Background



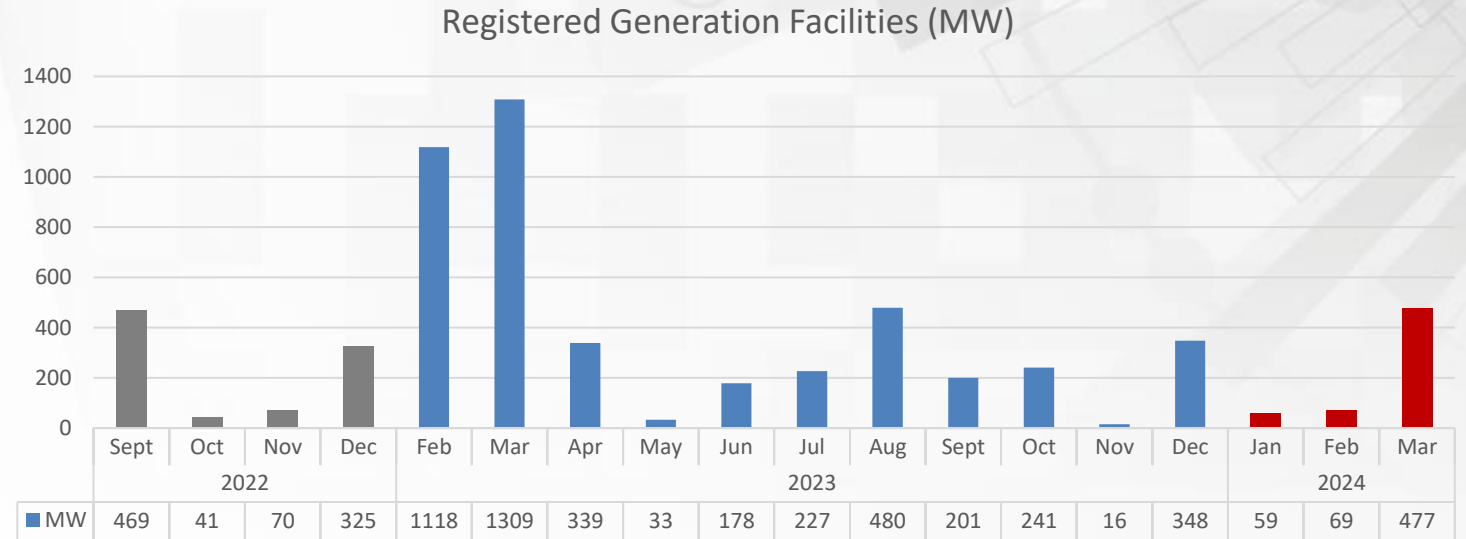
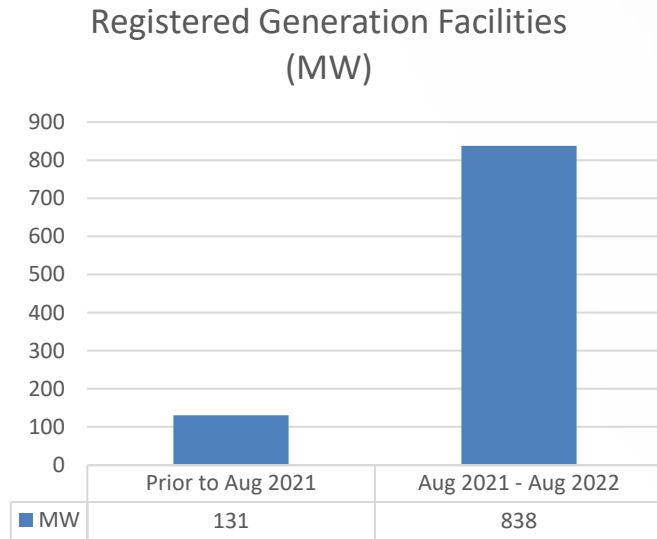
Why Skills Matter?

Investing in skills is a strategic response to addressing the electricity crisis and supporting the energy transition, to ensure it is just

- Building Capacity for Innovation and Technology Adoption
- Enhancing Operational Efficiency and Resilience
- Addressing Policy and Regulatory Challenges

Amendment to Electricity Regulation Act

Do we have the skills?



- Since 2011 when first BW announced, 9 169 MW contracted through the REIPPPP
- Persisting loadshedding: Reforms encouraging further private sector participation for generation projects of any size to enable private investment at a much larger scale.
- NERSA registrations: Since September 2022, 5 999 MW registered



Projects

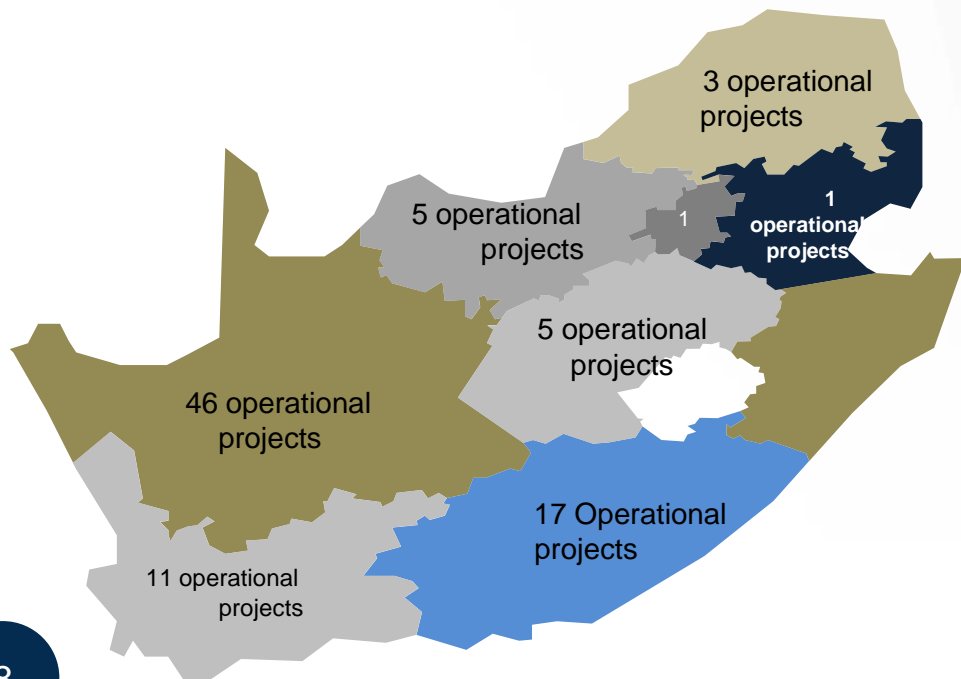


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Co-Benefits project

Objective:

Calculate and quantify the socio-economic benefits of potential renewable and clean energy projects on the re-purposing sites of Eskom coal plants in Mpumalanga, namely employment effects, skill development/gender needs and industrial opportunities.



The results of the study aim to:

- Inform policymakers about the socio-economic implications of RE deployment in Mpumalanga,
- Highlight important framework conditions how these benefits can be fully harnessed:
 - RE skills development programmes through TVETs
 - Childcare facilities near training centres
 - Entrepreneurial development for women to open access to markets and networks

Re-skilling project

Collaboration with Res4Africa

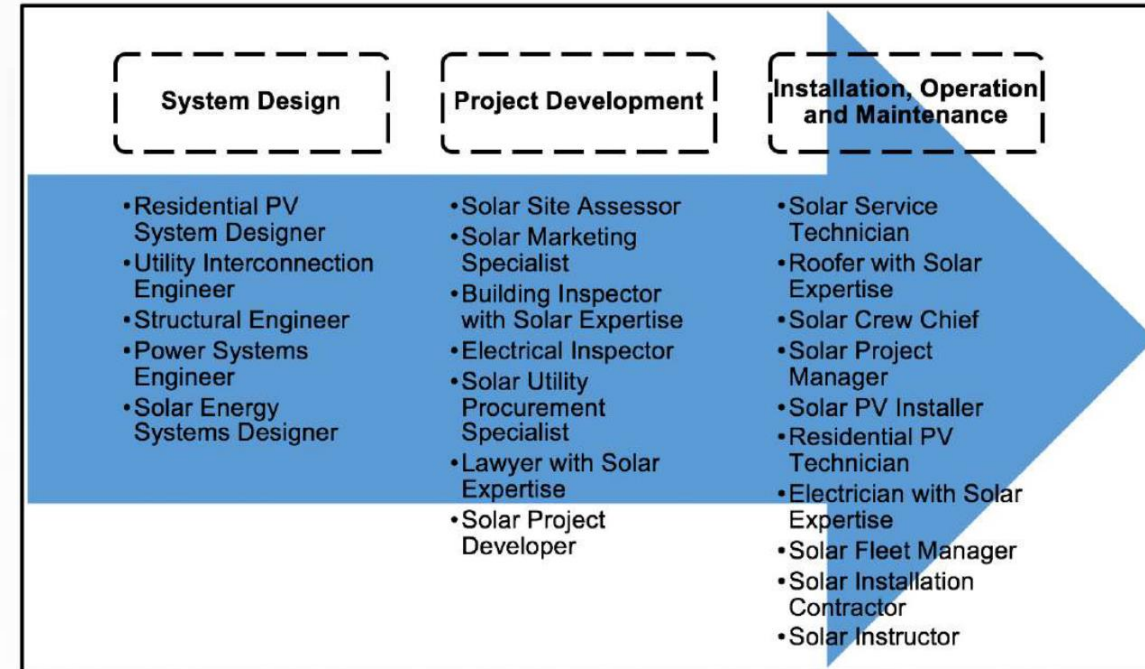
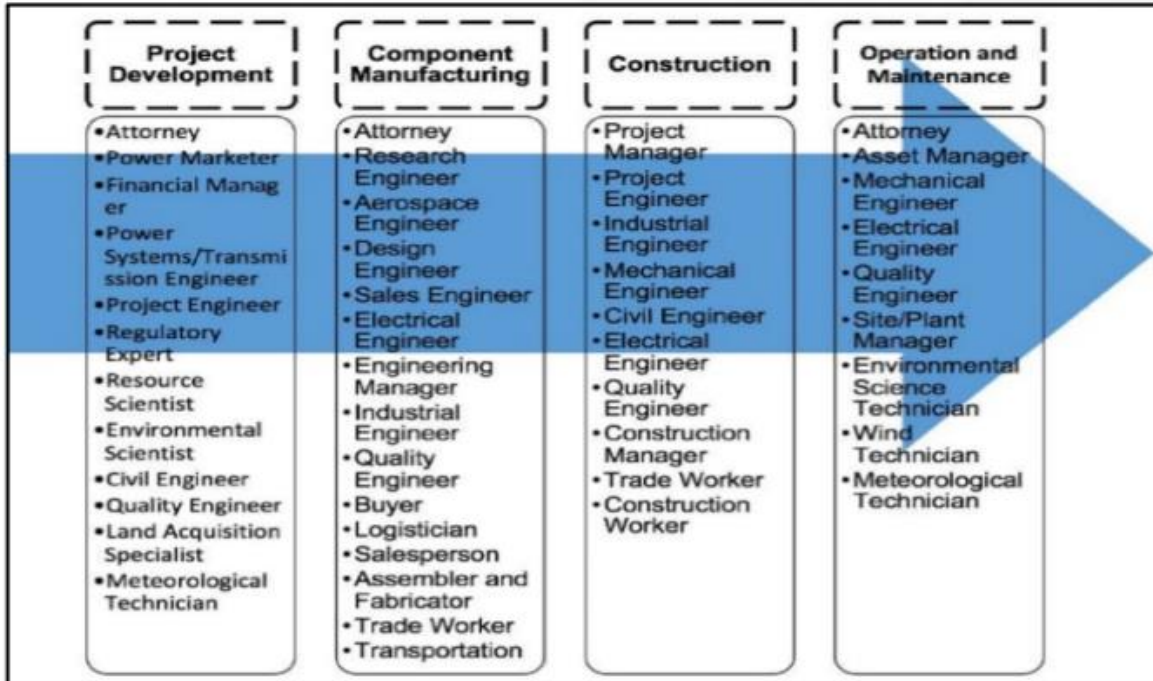
Objective:

To determine what skills are required for renewable energy value chains (solar PV and wind), quantify job gains that can be achieved from these technologies and finally develop a reskilling framework for coal to renewables.

The results of the study informed:

- The skills development to be targeted in Mpumalanga and
- Requirements for skills training.

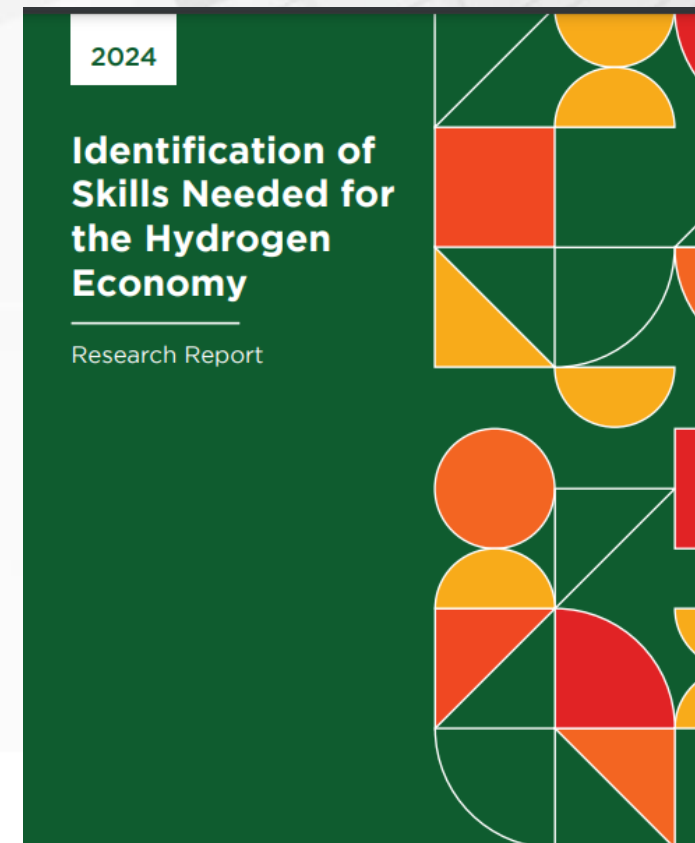
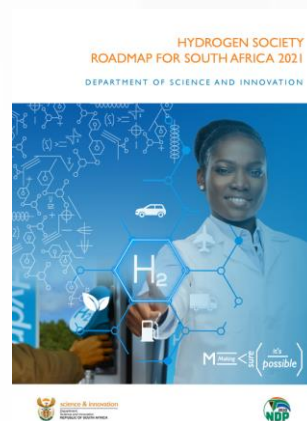
Wind & Solar PV skills assessment



DHET Green Hydrogen Skills needs Assessment

Capability-centric skills needs analysis

- Broader energy sector – 73.2% of GHG emissions
 - Includes hard to abate sectors
- GH2 identified as energy source to decarbonise broader energy sector
- SA has ambitious GH2 ambitions for domestic consumption and export



GREEN HYDROGEN COMMERCIALISATION
STRATEGY FOR SOUTH AFRICA

FINAL REPORT

30 November 2022

December 2022



DHET Green Hydrogen Skills needs Assessment

Capability-centric skills needs analysis

- SA does have required occupations (*although not in large quantities*)
- SA does offer most of the required qualifications (higher education, TVET college system and occupational qualifications)
- **HOWEVER**, augmentation is required for both occupations and qualifications offered
- Introduction of new qualifications and creation of new occupations (smaller extent)
- Shortage of WBL opportunities (nascent industry)
- No **CURRENT** skills shortage – **HOWEVER** risk of demand exceeding supply as industry is established
- Long term: Revise curriculum + train the lecturer and trainers
- The demand for specialized skills will however materialize before the longer-term project of updating curricula can be concluded. Therefore:
 - Develop CPD programmes.
 - Promote learner and trainer mobility to other countries.
 - Encourage students to enroll for STEM subjects in primary and secondary school.
 - Promote green hydrogen as an industry of choice to students and workers in declining sectors.

Social protection plan for Mpumalanga - Evaluated Economic diversification options

UK Pact

Objective:

- To develop a social protection plan for the coal regions by assessing possible economic diversification options.

Mining sector

- Alternative uses for coal
- PMGs
- Iron ore/manganese mining
- Minerals for RE components

Energy sector

- Renewables
- Green hydrogen
- Storage
- Gas
- Nuclear

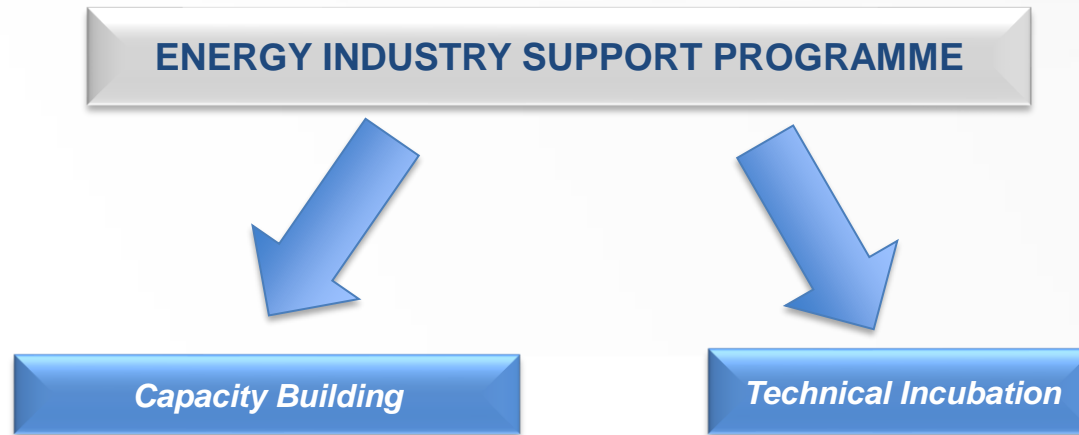
Other sectors

- Agric & Agro-processing
- Tourism
- Aquaponics
- Agri-voltaics
- Manufacturing
- Wholesale/retail

DIVERSIFICATION REQUIRES NEW SKILLS

5 Year CSIR-EWSETA Energy Industry Support Programme

- SMME's contribute to 59% of total employment in South Africa (Q1 2022)
- Renewable energy industry is growing – no signs of slowing down
- REIPPP offered private sector opportunities to construct, operate and maintain renewable energy facilities
- Participation of SMME's however limited to non-core value chain activities – limiting growth and impact on industry





Conclusion



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Conclusion

- Policy certainty is QUEEN on board of many moving chess pieces!
- Establish specialised training programmes and institutions dedicated to renewable energy technologies
- Skills development partnerships: Collaborating with industry (apprenticeships, and on-the-job training), public and private international partners (train the trainer, CDP programmes)
- Gender inclusivity: Promote clear gender inclusivity in the sector through targeted outreach and support programmes for women
- Awareness campaigns to inform individuals about career and business opportunities in the sector
- Reskilling frameworks:
 - Low hanging fruit: Cross cutting skills must be considered

Thank you

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