

ENERGY EFFICIENCY AND RENEWABLE ENERGY SOLUTIONS

South Africa's energy sector is undergoing significant transformation in 2025, spurred by evolving regulations and technological advancements. The nation faces the intricate task of balancing existing infrastructure with increasing energy demands and the integration of renewable solutions like solar power and battery energy storage systems (BESS). While grid access and capacity remain a challenge, legislative reforms and market innovations are reshaping the industry. Investment in infrastructure and strategic planning are essential to harness the full potential of renewable energy and ensure a resilient and sustainable energy system for the future. Enterprises UP has for the past two decades provided, and increasingly continues to undertake science-based, professional energy-solutions across the entire value chain.

A business solutions partner of choice

Various expert opinions hold it that South Africa's transition from coal to renewable energy should not come at the expense of job security for vulnerable communities. Furthermore, South Africa did not rank highly among the world's top polluters and the rate of transition should reflect that.

The onset of today's energy crisis in South Africa lies in the latter months of 2007 – a dilemma that continues to threaten and destabilise the country's economic growth and status as a preferred destination for foreign direct investment.

To date, the most significant step has been the government's Independent Power Producers initiative now providing electricity to the grid.

Energy experts also cautioned against a quick transition from coal to renewable energy and that people should be at the forefront of the energy transition.

The government-owned national power utility and primary power generator, Eskom, is ultimately blamed for these supply challenges - ascribed to funding issues, insufficient generation capacity and lack of maintenance. As a result, South Africans are forced to look to new forms of energy to supplement inadequate supply. The move towards using more energy-efficient equipment, improved operations and maintenance plans, as well as implementation of renewable energy solutions, have become crucial in the pursuit to stabilise, diversify and grow local and regional electricity security.

According to the Just Transition Framework the country needs R1,5 trillion in energy infrastructure investment over the next five years.

SOLUTIONS

In line with these developments, Enterprises UP has over the past 21 years, and particularly over the last three to five years, provided science-based professional solutions for local and international clients, this comprised of clients from national, provincial, metropolitan, district and local government sectors, state-owned entities and councils, as well as private sector clients across the energy value chain.

Enterprises UP's specialists are at the forefront of energy-related fields such as energy optimisation, measurement and verification, Smart Grid research to test and deploy various smart-grid concepts within the South African Electricity Distribution Industry, as well as feasibility studies and validation studies for solar projects, power systems, clean energy, hydropower, technology and innovation management, energy modelling, policy studies, local legislation and regulations, as well as demand-side management. The team is dedicated to carrying out unbiased, applied research to the benefit of our clients and has the capacity to engage on solutions throughout the entire energy-sector value chain.

VALUE PROPOSITION / ADD

With some of South Africa's most acclaimed practitioner-academics and thought leaders on the Enterprises UP team, we provide our clients with lasting energy efficiency and energy cost-saving solutions. Our solutions include a bespoke portfolio of specialist areas addresses a wide variety of energy challenges to fit specific needs.

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WHY PARTNER WITH US?

Customised, innovative and real-world relevant research and advisory services driven by scientific evidence.

Access to comprehensive knowledge resources from the University of Pretoria.

Personalised services to achieve unique business and professional development goals.

Innovative solutions for targeted training and businesses decisions support insights.

An extensive international footprint spanning six continents.

Leading domestic and international industry experts and thought leaders.

FOR MORE INFORMATION, CONTACT US TODAY.



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RENEWABLE ENERGY APPLICATIONS

Renewable energy scoping and feasibility studies including Technical, Financial, Commercial and Legal Review on Solar Photo Voltaic Power Plants.

Renewable energy transaction advisor during all phases of the energy solution, from policy development to construction.

Advisory services for pilot sites in renewable energy.

Renewable energy metering, investment ROI and monitoring and evaluation.

Develop Standardized Cost Estimate Methodology for the Decommissioning Policy of Nuclear Facilities.

Development of a financial model to more accurately estimate the cost of nuclear waste disposal.

ENERGY POLICY STUDIES AND MODELING

Energy management strategy development for effective savings, improved efficiency and data insights.

Strategy and Target Development in the energy sector.

Data analytics to benchmark sustainability initiatives against competitors in the industry.

Assess regulations that have an impact.

Industry Analysis & Benchmarking including Scenario Analysis.

Support to governments with more reliable and extensive databases for the creation of energy management policies.



SMART GRID RESEARCH

Applications of smart distribution systems.

Improved distributed energy grids.

Smart metering and system diagnostics.

Renewable energy integration, as well as smart prepaid metering (with time of use).

Advanced metering infrastructure (AMI) security and active network management for studies how to best integrate renewable energy sources into conventional power systems using smart grids.

DEMAND SIDE MANAGEMENT ENERGY SAVINGS MEASUREMENT AND VERIFICATION

Measurement and verification of actual energy savings to demonstrate the short-term and long-term impact of Energy efficiency measures in line with SA's environmental sustainability goals.

Assist businesses and government departments to generate data on the efficacy of their energy saving programs to support future energy management and business decisions.

Assist Financial institutions to use M&V data to assess risk in green financing packages.

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