

GFSE Newsletter

Dear Friends of GFSE,

We are pleased to send you our April 2022 edition of the GFSE newsletter, containing updates, important events, and news from stakeholders working towards a sustainable energy future for all.

Enjoy reading!

The Global Forum on Sustainable Energy

IRENA: Renewable Energy Market Analysis: Africa and its Regions

The International Renewable Energy Agency (IRENA) in collaboration with the African Development Bank (AfDB) has published the report Renewable Energy Market Analysis: Africa and its Regions. The report outlines opportunities for the development of renewable energy sources in Africa, while also acknowledging challenges.

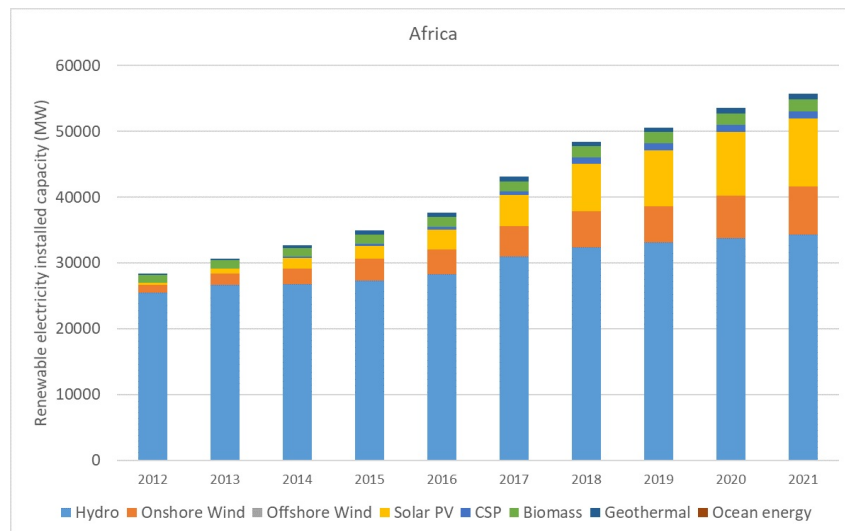


Figure 5: Renewable electricity installed capacity by technology in Africa (MW). Source: IRENA, 2022: Renewable Capacity Statistics 2022. April 2022. <https://www.irena.org/publications/2022/Apr/Renewable-Capacity-Statistics-2022>

Africa has significant resource potentials in wind, solar, hydro, and geothermal energy and Central and Southern Africa have abundant mineral resources. IRENA estimates the continent's solar technical potential at 7 900 GW (assuming a 1% land-utilisation factor). IRENA estimates the technical potential of wind power generation at 461 GW (assuming a 1% land-utilisation factor). The geothermal potential in the East Africa Rift System is estimated at approx. 15 GW. The potential for other regions is unknown. Ocean energy potentials also appear to be unknown.

The report proposes an African Green Deal with renewable energy at the centre, driven by a comprehensive policy package for the demand and supply sides, strong institutions, and international co-operation as well as coordination at the regional level. An African Green Deal would promote regional supply chains around renewable energy and create jobs in the renewable energy industry in the continent. Currently, less than 3% of global renewables jobs are in Africa and, at the end of 2021, Africa accounted for only 2% of the global installed renewable electricity generation capacity. The development of renewable energy sources is essential to achieve the objectives of the [African Union's Agenda 2063: The Africa We Want](#).

The IRENA report can be found [here](#)

The AEEP Wind Energy Policy Brief

Increasing renewable energy capacities is important for Africa to achieve development goals and move towards a sustainable energy system. Africa has substantial wind energy potentials, a substantial land area and a very long coast. IRENA estimates that the electricity generation potential in areas with wind turbine capacity factor greater than 30% exceeds 66000 TWh. However, the total wind power installed capacity in Africa was only about 6,500 MW in 2020 (and about 7,300 MW in 2021). All this capacity was onshore wind. So far no offshore wind parks have been installed. So far, new electricity capacity investment growth appears to have been mainly driven by IPPs and Chinese investment. IPPs are spreading rapidly, but most investment is still concentrated in only a few countries and is not flowing into renewable energy projects.

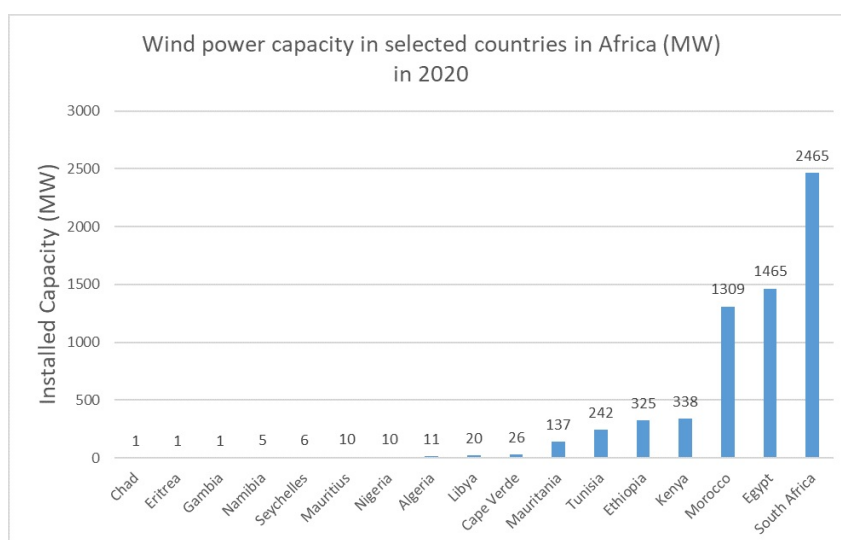


Figure 2: Wind power installed capacity in selected countries in Africa (MW) in 2020. Source: Africa-EU Energy Partnership's (AEEP) Policy Brief Wind Energy: Joining Forces for an African Lift-Off. <https://africa-eu-energy-partnership.org/publications/wind-energy-joining-forces-for-an-african-lift-off>

The pan-African policy of the Africa Union Commission (AUC) recognises the role of an Africa-centred implementation of the energy transition. The Africa Energy Transition Programme led by the Africa Energy Commission (AFREC) recognises the role of renewable energy sources.

Several areas require action for the development of wind power resources in Africa:

- Enabling policy and regulatory frameworks, among others to encourage private sector investment in the African renewable power sector but also to guarantee affordable electricity to African citizens
- Reforms of the African electricity sector
- Modernisation and strengthening of the electricity grid to increase the capacity to integrate renewables
- Increase the use of small hydro, geothermal and other non-variable renewable resources to facilitate the penetration of wind and solar
- Development of bankable Power Purchase Agreements including through suitable de-risking instruments and affordable (local) debt
- Improvement of wind resource data, planning and zoning for wind parks including the identification of areas that are restricted e.g. due to high environmental value
- Capacity development for national institutions (planning, policy development. Permitting, environmental impact assessment etc.)
- Development of local value chains for wind energy
- Training of a skilled workforce, capable of designing, building, installing, maintaining, repairing and decommissioning wind parks.

In the long term, countries with large renewable energy potentials can attract energy-intensive industries and become green industrialisation hubs. Increasing the renewable energy capacities in Africa may also open opportunities for exports of green products and renewable energy carriers towards Europe.

The European wind industry and supply chain are well developed. It covers the production of wind turbines, their installation, operation and maintenance as well as logistics and finance. By working together, Africa and the European Union can help increase the contribution of wind energy in the African continent and generate business opportunities for European and African companies. This requires substantial cooperation on policy and regulatory frameworks, private sector development, R&D and training of a skilled workforce in Africa, among others. It also requires suitable financial and de-risking instruments.

The AEEP policy brief on Wind Energy can be found here

The Wind Turbine Service Training Programme in South Africa

The Wind Turbine Service Training programme, is an initiative of EIMS Africa's Portfolio Company, Cookhouse Wind Farm and Suzlon. This joint youth development programme targets local Eastern Cape (South African province) youth, from the Cookhouse Wind Farm beneficiary communities and is implemented under the stewardship of the South African Renewable Energy Technology Centre ([SARETEC](#)). The programme addresses local youth unemployment. The youth receive training over a seven-month period (5 months will focus on theory, 2 months on-site). The first group of eight technicians graduated during quarter one of 2022. The programme intends to provide solutions to the problems posed by high costs and logistic complications of sourcing the maintenance expertise far from the wind projects.

Wind turbine service technicians inspect, maintain and repair wind turbines, resolving electrical and mechanical malfunctions. They are able to work at heights in all weather conditions, including extreme cold and heat, for extended periods.

This technical training programme complies with the international standard of the Global Wind Organisation ([GWO](#)) for a safe and productive workforce, in addition to the national standards frameworks such as Quality Council for Trades and Occupations (QCTO) and the National Qualification Framework (NQF). GWO training standards help trainees understand and reduce the risk associated with safety hazards in the wind turbine industry. In this way, the technical training programme facilitates the employment of the trained staff at the international level.

Source: Tena, N, 2022. ESI Africa, SA youth programme to target skills gap in wind energy sector. 5 April 2022
<https://www.esi-africa.com/industry-sectors/smart-technologies/sa-youth-programme-to-target-skills-gap-in-wind-energy-sector/>

Solar PV Training Center in Ghana

A solar training centre has opened at the Takoradi Technical University in

Ghana, as a joint effort with the [GREEN Solar Academy](#) and Valentin Software with financial support from the German Federal Ministry for Economic Cooperation and Development (BMZ). The training centre has been equipped in collaboration with solar PV producers including the Austrian company Fronius.

The centre offers practical training in combination with internships by companies who are members of the Solar Hub West Africa, with the possibility for permanent employment. This combination aims at ensuring that the needs of local companies are addressed and trainees obtain the skills they need in the Ghanaian solar PV market. It also facilitates connecting trainees with solar PV companies looking for staff. The training centre targets graduates and final year students of the Takoradi Technical University University lecturers that teach students undergo one year training at the GREEN Solar Academy.

The training at the Solar Training Centre is based on the SuperSolarSchool approach from the GREEN Solar Academy, which provides a 5-day course on grid PV systems with battery back-up with focus on practical applications. However, the training in Ghana is much longer (three weeks), encompassing PV basics, planning, installation, operation, maintenance and economic aspects.

GREEN (Global Renewable Energy & Efficiency Network) offers courses accredited by the German Solar Energy Society (DGS). The courses are centrally organised to guarantee internationally recognised standard contents but they are locally executed to foster local ownership.

Source: <https://solar-training.org/ghana/solar-training-centre-inaugurated/>

Africa-EU Green Energy Initiative

The Africa-EU Green Energy Initiative aims at supporting the transition to renewable energy sources, increase access to affordable, reliable and sustainable energy and improve energy efficiency in Africa.

The EU will support the development of the Continental Power System Masterplan for the infrastructure connecting the five African power pools. The initiative also includes an investment package including funding for electricity interconnections and transmission lines, as well as technical assistance for setting up the Africa Single Electricity Market.

Energy Transition Partnerships will be co-developed with a number of African countries. The initiative aims at providing a support package to partner countries that endorse enhanced climate objectives and new robust commitments to decarbonise their energy mix.

The Africa-EU Green Energy Initiative also foresees the promotion of cooperation on clean hydrogen. Activities can encompass:

- research and innovation
- regulatory policy
- direct investments and
- undistorted and fair trade in hydrogen, its derivatives, and the associated technologies and services

Africa-EU Green Energy Initiative Factsheet

DiBiCoo biogas and biomass gasification matchmaking platform

DiBiCoo is a Horizon 2020 project funded by the European Commission between biogas technology exporting and importing countries, with the overall objective to support the European biogas/biomethane industry by preparing markets for the import of sustainable biogas/biomethane technologies from Europe to developing and emerging countries. DiBiCoo consortium consisted of 13 organisations from Europe, Argentina, Ethiopia, Ghana, Indonesia and South Africa. The project was coordinated by GIZ.

DiBiCoo developed a biogas and biomass gasification matchmaking platform. The platform provides company profiles and a collection of factsheets and allows stakeholders to post business opportunities, project ideas and requests for services. The digital business-to-business platform can be used free of charge.

The platform can be found [here](#)

More information about the project can be found [here](#)

The African School of Regulation Initiative

The initiative to create the African School of Regulation has been launched by a partnership between the European University Institute (EUI), the University of Cape Town (UCT), the Pan African University Institute of Water and Energy Sciences (PAUWES), the Enel Foundation, RMI, and the Energy Nexus Network (TENN). The first phase will be led by the Florence School of Regulation in coordination with partner institutions. In this phase training programs will be developed, specific research and policy dialogue will be conducted and an African hosting institution will be identified. In phase two, after 5 years, the management will be transferred to the African institution(s).

A virtual Knowledge Hub will provide an inventory of capacity-building activities, energy regulation institutions in Africa, and a repository of open-access learning materials

Source: [Florence School of Regulation, 2022. The African School of Regulation \(ASR\) initiative has been launched by a partnership of leading institutions in energy and climate change.](#)



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