Energy
& Utilities

Africa Outlook Report 2023

By Informa Markets
March 2023

CHAPTER 1

The Africa Outlook

Africa advances on many paths

With some 1.3 billion people, Sub-Saharan Africa is home to about a fifth of the world's population while it accounts for just 3% of electricity use. Yet entrepreneurial savvy and an increasing diversity of power sources are gradually overcoming the limitations of the continent's legacy infrastructure. A majority of new electricity connections in the coming years will come from off-grid solar.

The huge gap between electricity supply and demand in Africa is well known. Only a handful of countries on the continent can boast of 100% electricity access, including Egypt and Tunisia, while a few others get close, such as Mauritius, Cabo Verde and Gabon, according to data from the World Bank. Some of the larger economies, such as South Africa and Ghana, provide the vast majority of their people with power, but they are still not yet at 100% and power cuts remain a problem – particularly in South Africa where it is an increasingly important political issue.

Many other countries have much lower access, particularly in rural areas – electricity access in Mozambique, Malawi, Sierra Leone, Liberia and some other countries is well below 10% in rural areas. Across the continent as a whole, electricity access in rural areas is less than 27%, according to the African Development Bank (AfDB).

Yet the gap is gradually closing, helped by the increasing diversity of power sources. Renewable power projects are growing in size and reach and storage solutions are starting to address the intermittency of solar and wind power. New forms of financing are also being deployed to make the most of local capital.

There remain plenty of challenges. While the energy transition could allow African countries to create extensive, green energy networks, there remain numerous financial, regulatory and logistical problems that need to be overcome before the continent's full potential can be unleashed. In the meantime, governments insist on the need to continue expanding thermal power generation capacity.

Thermal power projects

Africa is home to some of the world's largest producers of hydrocarbons. Nigeria, Algeria, Angola and Libya are among the world's 20 biggest oil producers, while Algeria, Egypt and Nigeria are among the 20 largest natural gas producers. Several African countries also produce coal, most notably South Africa, but also some of its neighbours including Botswana, Mozambique and Zimbabwe.

Given that situation, it is perhaps unsurprising that coal and natural gas are the two largest sources of electricity generation across the continent, followed by hydropower and oil. The three carbon fuels in that list – gas, coal and oil – between them accounted for about 77% of Africa's total electricity generation in 2019, according to a 2022 report by the International Renewable Energy Agency (IRENA), in collaboration with the AfDB.

While much of the world's attention has been on the ramping up of renewable energy sources, including hydropower, wind, solar and geothermal power, there remains a strong appetite for conventional fuels, with natural gas in particular identified by many African governments as a vital 'transition fuel' in the continent's journey to reach its net zero carbon emission targets. This has been the cause of some friction with international partners and, as a result, sourcing finance for gas-fuelled plants has become more difficult in recent years as western backers have shied away from such projects.

Nonetheless, there are numerous thermal power plants under development, or at least under consideration, around the continent – both in terms of new plants being built and existing plants being expanded.

A key consideration is often the need for reliable baseload power – something that wind and solar power plants cannot provide due to intermittency of those sources and the under-developed nature of existing power storage technology.

Hydroelectric Power

According to the International Hydropower Association (IHA), there was some 33.4GW of installed hydroelectric power capacity across sub-Saharan Africa as of 2021. The most important country is Ethiopia, which has installed capacity of just over 4GW. It is followed by Angola (3.8GW), South Africa and Democratic Republic of the Congo (2.8GW).

On an electricity generation basis, the picture is slightly different, with Mozambique the leading actor with 15TWh in 2021, followed by Zambia (14.9TWh), Ethiopia (13.6TWh) and Angola (10.7TWh).

The Paris-based International Energy Agency (IEA) estimates that hydropower provided 16% of Africa's electricity output in 2020, with 90% of the generation capacity located in sub-Saharan Africa (SSA).

Even within SSA though, the industry is concentrated in a relatively small number of countries. Just 15 countries across SSA account for more than 90% of the installed hydropower capacity and generation.

That concentration is likely to increase in the years to come. The IEA says large hydropower projects are planned in 15 countries, including existing sector-leaders such as Angola, Ethiopia, DRC, Nigeria and Tanzania. Reservoir plants make up around 83% of this project pipeline – these are more flexible in producing power and better at managing water flow than run-of-river plants, which account for 6% of the planned schemes. Another 6% are pumped storage plants.

Selected major hydropower projects in SSA, planned or underway

Source: E&U

Country	Project	Capacity (MW)
Angola	Caculo Cabaça	2,172
Cameroon	Nachitgal	420
Democratic Republic of Congo	Grand Inga	40,000
Ethiopia	Grand Ethiopian Renaissance Dam (Gerd)	6,450
Nigeria	Mambilla	3,000
Nigeria	Zungeru	700
Tanzania	Julius Nyerere	2,115
Zambia / Zimbabwe	Batoka Gorge	2,400

Geothermal

Africa's geothermal power capacity is concentrated around the East African Rift System, and in Kenya in particular. According to IRENA, Kenya currently has some 863MW in installed capacity in 2021, putting it far ahead of the next nearest country Ethiopia, which has just 7MW. Indeed, for Kenya, geothermal power is the largest single element of its electricity supply.

Where Kenya has led, others are seeking to follow, with activity in a number of nearby countries. In December, the African Development Bank Group approved a $10m grant from the Sustainable Energy Fund for Africa (SEFA) for the Tulu Moye geothermal project – a drilling programme that will add 50MW to Ethiopia's power system, with a potential second phase adding a further 100MW.

In August 2022, the UK's Northern Powerhouse Investment Fund (NPIF) reported that Marriott Drilling Group had raised a "seven-figure loan" from NPIF - Mercia Debt Finance to help finance its work on the construction of two geothermal power stations in Ethiopia.

The Tanzania Geothermal Development Company (TGDC), a subsidiary of the state-owned Tanzania Electric Supply Company, issued tenders in November for drilling services and equipment to be used in its Ngozi geothermal drilling programme. That is one of several sites earmarked for development around the country, as part of wider ambitions by TGDC to develop up to 200MW of geothermal capacity in the coming years.

Off-grid, mini-grid and home systems

With large parts of Africa far from electricity transmission lines, the trend for off-grid and mini-grid networks continues to grow. These are generally powered by fossil fuels or solar photovoltaic plants, but there are also some schemes based on power from hydroelectric, wind and biofuel sources.

According to the World Bank's Off-grid Solar Market Trends Report 2022, some 586 million people in SSA are not connected to the grid – with the largest number being in West Africa, where 213 million are without a link. A further 182 million people around the continent have unreliable grid access.

Electricity grid access (millions of people)

Source: World Bank

Region	Unconnected	Unreliable grid
Central Africa	109	14
East Africa	161	41
West Africa	213	94
Southern Africa	103	33
Total	**586**	**182**

The World Bank estimates that the majority of new electricity connections in the period 2020-25 will come from off-grid solar, including 53% of new connections in Southern Africa, followed by 55% in West Africa, 64% in East Africa and 81% in Central Africa.

However, the rate of growth has shown sharply divergent trends in different regions in the past few years.

Sales of solar home systems (SHS) in the East Africa region fell from 737,000 in 2019 to 721,000 in 2020 and 569,000 in 2021. Lanterns and multi-light systems (MLS) have fared better, with sales of 3.4 million in 2019, dipping to just over 3 million in 2020 before rising to 3.5 million in 2021.

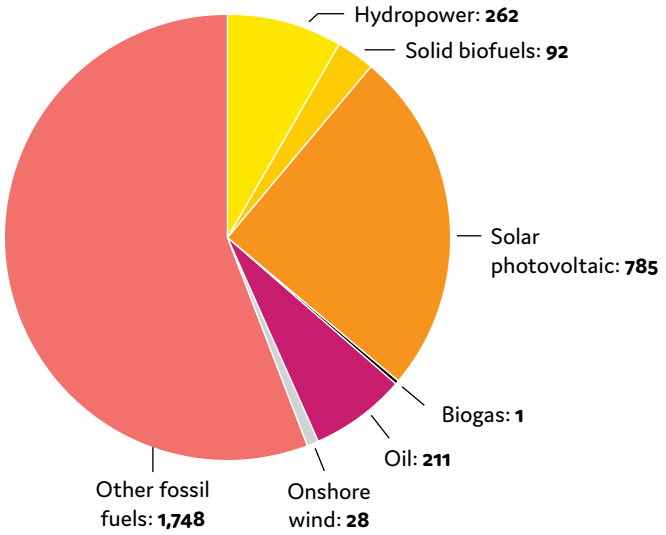
In West Africa the trend has been much more positive, with a steady increase in sales over the past three years in both categories, with lantern and MLS sales reaching 685,000 in 2021 and SHS sales reaching 377,000 that year.

In Central Africa, sales of lantern and MLS systems shot up to 348,000 in 2021, a rise of 140% on the year before. Sales of SHS were more modest but also more than doubled year-on-year to 64,000 in 2021.

Despite the growth seen in the sector to date, there is plenty of room for further development. Off-grid services provide just 2.5% of electricity access across SSA, according to data from IRENA for 2021. The off-grid total capacity of 3.1GW compares to 122.4GW for on-grid electricity.

Off-grid electricity generating capacity by fuel (MW)

Source: IRENA



Off-grid funding

Funding has been forthcoming for this sector. Globally, the off-grid solar sector attracted $2.3 billion of capital from 2012-2021, according to the database maintained by GOGLA, the global association for the off-grid solar energy industry.

That finance comprises a mixture of debt, equity and grants, but it has been heavily concentrated, both in geographic and commercial terms. Some 49% of funding was assigned to East Africa. In addition, seven large companies absorb the majority of investments, all of which are active in Africa. They are: Bboxx, d.light, Engie Energy Access, Sun King, Lumos, M-Kopa and Zola.

Investment trends

Between 2000 and 2019, $109 billion in public commitments were made to the energy sector across Africa, according to IRENA. More than half of the total – $64 billion – was directed towards renewable energy, of which $50 billion went towards hydropower projects from 2010 onwards. This is a reflection of the general trends for more finance to be directed into renewables – while the renewables sector attracted 14% of public investment in energy in 2000, by 2017 it had reached a record 79%.

A small number of investors accounted for the majority of those financial commitments, led by China (51% of the commitments), the International Bank for Reconstruction and Development (14%) and the Islamic Development Bank.

While investments in renewable energy have increased, they are unevenly distributed, with most going to the more developed economies. The top five recipients over the period were South Africa, Egypt, Nigeria, Morocco and Kenya – between them, they received more than half of all renewable investments. The 33 least-developed countries (LDCs) in Africa attracted just 37% of renewable energy commitments in Africa from 2010-19.

The discussion around financing of power projects in Africa has become inextricably linked with the global push to take action to minimise the damage from climate change. Many western financing institutions are now refusing to support oil and gas projects, or at least heavily prioritising renewable schemes. At the same time, most African governments insist that natural gas in particular must be allowed to play a role in their electricity supply industries in the short-to-medium term.

New financial frameworks continue to be drawn up, including South Africa's $8.5 billion Just Energy Transition Partnership (JETP), which was announced at COP26 and received initial funding at COP27 last year. This scheme involves a partnership between the governments of South Africa, France, Germany, the UK, US and the EU. It aims to accelerate the decarbonisation of South Africa's economy, helping the country transition its coal power plants to clean power. As such, the JETP offers a model which could be replicated in some other parts of the continent.

Governments are also increasingly keen to develop and tap local sources of finance, although this is not a realistic option in many parts of the continent.

The AfDB says it has a portfolio of energy projects worth more than $12 billion. Its key initiatives include the New Deal on Energy for Africa, which launched in 2016 and aims for universal energy access, with priority given to the use of low-carbon technologies. From 2016-20, the AfDB approved $7.2bn in funding under the New Deal and mobilised a further $850m in co-financing resources. Overall, this funding is expected to add 3GW of installed generation capacity, of which 2.2GW will come from renewable energy sources. The funding will also support the construction of more than 7,000km of transmission lines, including 3,000km of regional interconnections.

Other AfDB initiatives include the Desert-to-Power initiative (DtP) to accelerate economic development in the Sahel region through the deployment of solar technologies, the Sustainable Energy Fund for Africa (SEFA), and the Facility for Energy Inclusion investment platform.

Data tables

The eight tables are provided courtesy of business intelligence partner ABiQ.

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Top 40 MEA | Utility-scale Wind Projects: proposed and awarded

Source: ABiQ 2023

Project	Region	Country	Status	Stage	Value million USD
AFRICA					
Aysha II Wind Power Plant	East Africa	Ethiopia	Ongoing	Construction	257
Bubisa Wind 300 MW	East Africa	Kenya	Upcoming	Plan	550
Namaacha Wind 120 MW	East Africa	Mozambique	Ongoing	Construction	280
Singida Wind Plant	East Africa	Tanzania	Ongoing	Awarded	1,500
Serenje Wind 200 MW	East Africa	Zambia	Upcoming	Plan	350
South Africa Renewable Energy Project 6.8 GW Window 6	Southern Africa	South Africa	Ongoing	Awarded	7,000
South Africa Renewable Energy Project 6.8 GW Window 5	Southern Africa	South Africa	Ongoing	Awarded	3,500
South Africa REIPPP 1 Mainstream Wind 824 MW	Southern Africa	South Africa	Ongoing	Awarded	1,500
Enel-H1-Pele 700 MW Wind Farms in South Africa	Southern Africa	South Africa	Upcoming	Plan	1,200
Magnora South Africa Wind and Solar 775 MW	Southern Africa	South Africa	Upcoming	Plan	950
Mpumalanga Wind Plant 450 MW	Southern Africa	South Africa	Upcoming	Plan	730
South Africa REIPPP 1 EDF Wind 420 MW	Southern Africa	South Africa	Ongoing	Awarded	700
Red Rocket Wind 364 MW	Southern Africa	South Africa	Ongoing	Awarded	663
Sibanye-Stillwater Mines Wind Power Plants	Southern Africa	South Africa	Upcoming	Study	400
Autonomous Port of Cotonou Wind Farm	West Africa	Benin	Upcoming	Study	500
Ayitepa Wind Power	West Africa	Ghana	Ongoing	Awarded	400
Togbloku Wind 200 MW	West Africa	Ghana	Upcoming	Study	340
Madavunu Wind 200 MW	West Africa	Ghana	Upcoming	Study	340
Amlakpo Wind 200 MW	West Africa	Ghana	Upcoming	Study	340
Konikablo Wind 250 MW	West Africa	Ghana	Upcoming	Study	340
Koluedor Wind 160 MW	West Africa	Ghana	Upcoming	Plan	270
Tarka Wind Farm	West Africa	Niger	Upcoming	Study	270
NEK Gambia Wind 250 MW	West Africa	The Gambia	Upcoming	Plan	430

Top 40 MEA | Utility-scale Wind Projects: proposed and awarded (contd.)

Source: ABiQ 2023

Project	Region	Country	Status	Stage	Value million USD
MENA					
Oman Wind IPPs	Middle East	Oman	Upcoming	Design	2,400
Dhofar III Wind IPP 200 MW	Middle East	Oman	Upcoming	Design	300
Duqm Wind IPP 200 MW	Middle East	Oman	Upcoming	Design	300
NEOM Hydrogen Power Wind	Middle East	Saudi	Ongoing	Awarded	2,000
Saudi NREP Round 4 Yanbu	Middle East	Saudi	Upcoming	Pre-qualification	1,000
Saudi NREP Round 4 Waad Al Shamal	Middle East	Saudi	Upcoming	Pre-qualification	700
Masdar Wind Project in Egypt 10 GW	North Africa	Egypt	Upcoming	Study	15,000
Engie Wind Project in Egypt 3 GW	North Africa	Egypt	Upcoming	Study	4,500
ACWA Power Wind IPP in Egypt 1.1 GW	North Africa	Egypt	Upcoming	Plan	1,500
Ras Ghareb Wind 500 MW RSWE	North Africa	Egypt	Ongoing	Construction	800
Ras Ghareb Wind 500 MW AMEA Power	North Africa	Egypt	Ongoing	Awarded	650
Harmattan Wind Project	North Africa	Morocco	Upcoming	Plan	3,000
Boujdour Wind Farm	North Africa	Morocco	Ongoing	Construction	450
Koudia Al Baida Wind Expansion	North Africa	Morocco	Ongoing	Awarded	350
Jebel Lahdid Wind 270 MW	North Africa	Morocco	Ongoing	Construction	314
Sudan Wind Projects	North Africa	Sudan	Upcoming	Study	1,800
Tunisia Wind IPPs 600 MW	North Africa	Tunisia	Upcoming	Bidding	900

Top 15 in Africa | Geothermal power plants: proposed and awarded

Source: ABiQ 2023

Project	Region	Country	Status	Stage	Value million USD
Baringo-Silali Geothermal Project	East Africa	Kenya	Ongoing	Construction	5,000
Lake Ngozi Geothermal Plant	East Africa	Tanzania	Upcoming	Bidding	821
Tulu Moye Geothermal Plant	East Africa	Ethiopia	Ongoing	Construction	780
Longonot Geothermal Project	East Africa	Kenya	Upcoming	Study	560
Corbetti Geothermal 300 MW	East Africa	Ethiopia	Ongoing	Construction	500
Boseti Geothermal Plant	East Africa	Ethiopia	Upcoming	Study	400
Akiira I Geothermal Plant	East Africa	Kenya	Ongoing	Construction	356
Olkaria II Geothermal Plant Expansion	East Africa	Kenya	Upcoming	Study	350
Olkaria VII Geothermal Plant	East Africa	Kenya	Upcoming	Study	350
Olkaria VI Geothermal Plant	East Africa	Kenya	Upcoming	Study	350
Katwe-Kikorongo Geothermal Plant	East Africa	Uganda	Upcoming	Study	300
Suswa Geothermal Plant	East Africa	Kenya	Upcoming	Plan	300
Aluto-Langano Geothermal 70 MW	East Africa	Ethiopia	Ongoing	Construction	218
Gale Le koma Geothermal Plant	East Africa	Djibouti	Ongoing	Construction	174
Abaya Geothermal Plant	East Africa	Ethiopia	Ongoing	Awarded	150

Top 20 MEA | Transmission projects: proposed and awarded

Source: ABiQ 2023

Project	Region	Country	Status	Stage	Value million USD
AFRICA					
Caculo Cabaça Power Transmission Project	Central Africa	Angola	Ongoing	Awarded	1,400
Dundo Camanongue Power Transmission Line	Central Africa	Angola	Ongoing	Awarded	790
Cameroon Chad Power Interconnection Cameroon Section	Central Africa	Cameroon	Upcoming	Plan	550
Songo Matambo Transmission Line	East Africa	Mozambique	Upcoming	Design	1,000
Chimuara Nacala Power Transmission	East Africa	Mozambique	Ongoing	Construction	600
Kisongo Segera Power Transmission Line	East Africa	Tanzania	Upcoming	Study	700
ZTK Regional Power Interconnector Tanzania Section	East Africa	Tanzania	Upcoming	Bid Evaluation	595
Electricity Access Scale-up Project	East Africa	Uganda	Upcoming	Study	638
Mozambique Tanzania Interconnector Project	East Africa		Upcoming	Plan	2,000
Nigeria Chad Power Interconnection	West Africa	Nigeria	Upcoming	Plan	700
North Core Project	West Africa		Ongoing	Construction	550
MENA					
Saudi Iraq Power Interconnection	Middle East	Iraq	Upcoming	Study	600
Saudi Kuwait Power Interconnection	Middle East	Kuwait	Ongoing	Awarded	800
North South Interconnection Project	Middle East	Oman	Ongoing	Construction	1,040
Saudi Egypt Power Interconnection	Middle East	Saudi	Ongoing	Awarded	1,600
Saudi Jordan Power Interconnection	Middle East	Saudi	Upcoming	Bidding	700
Adoc Subsea Power Transmission Network	Middle East	UAE	Ongoing	Awarded	3,800
EuroAfrica Interconnector	North Africa	Egypt	Ongoing	Construction	2,750
Morocco-UK Power Project	North Africa	Morocco	Upcoming	Design	22,000
Tunisia Italy Power Interconnection	North Africa	Tunisia	Upcoming	Study	680

Top 20 in Africa | Africa hydropower projects: planning and construction

Source: ABiQ 2023

Project	Region	Country	Status	Stage	Value million USD
Caculo Cabaca Hydroelectric Plant	Central Africa	Angola	Ongoing	Construction	4,500
Lauca Hydroelectric Dam	Central Africa	Angola	Ongoing	Construction	4,300
Grand Eweng Hydropower Plant	Central Africa	Cameroon	Upcoming	Study	5,500
Inga 3 Hydroelectric Dam	Central Africa	Congo-Kinshasa	Upcoming	Study	18,000
Grand Ethiopian Renaissance Dam	East Africa	Ethiopia	Ongoing	Construction	4,800
Koysha Hydropower	East Africa	Ethiopia	Ongoing	Construction	2,800
High Grand Falls Dam	East Africa	Kenya	Ongoing	Awarded	3,493
Mphanda Nkuwa Hydroelectric Dam	East Africa	Mozambique	Upcoming	Bidding	4,200
Chemba Hydropower Project 1,000 MW	East Africa	Mozambique	Upcoming	Study	2,550
Julius Nyerere Power Plant	East Africa	Tanzania	Ongoing	Construction	2,900
Ayago Hydroelectric Power Plant	East Africa	Uganda	Ongoing	Awarded	1,970
Karuma Hydropower Plant	East Africa	Uganda	Ongoing	Construction	1,700
Luapula Hydropower Plant	East Africa	Zambia	Upcoming	Study	4,300
Kafue Gorge Hydroelectric Dam	East Africa	Zambia	Ongoing	Construction	2,000
Batoka Gorge Hydroelectric Dam	East Africa	Zimbabwe	Ongoing	Construction	5,200
Devil Gorge Hydroelectric Project	East Africa	Zimbabwe	Upcoming	Plan	4,000
Attaqa Mountain Pumped Storage Hydroelectric Pant	North Africa	Egypt	Ongoing	Construction	2,600
Mambilla Hydropower Project	West Africa	Nigeria	Ongoing	Awarded	5,800
Makurdi Hydropower Plant	West Africa	Nigeria	Upcoming	Study	3,500
Zungeru Hydropower Plant	West Africa	Nigeria	Ongoing	Construction	1,500
Gale Le koma Geothermal Plant	East Africa	Djibouti	Ongoing	Construction	174
Abaya Geothermal Plant	East Africa	Ethiopia	Ongoing	Awarded	150

Top 38 MEA | Hydrogen projects: proposed and awarded

Source: ABiQ 2023

Project	Region	Country	Status	Stage	Value million USD
AFRICA (8 PROJS)					
Project Aman	West Africa	Mauritania	Upcoming	Study	40,000
Project Nour	West Africa	Mauritania	Upcoming	Study	17,000
Namibia Hydrogen and Ammonia Project	Southern Africa	Namibia	Upcoming	Study	10,000
Namibia Hydrogen and Ammonia Project 2	Southern Africa	Namibia	Upcoming	Study	9,400
HDF Hydrogen Plant in Namibia	Southern Africa	Namibia	Upcoming	Study	513
Coega Green Ammonia Plant	Southern Africa	South Africa	Upcoming	Study	5,920
Boegoebaai Hydrogen Project	Southern Africa	South Africa	Upcoming	Study	4,000
HDF Hydrogen Plant in Uganda	East Africa	Uganda	Upcoming	Study	200

Top 38 MEA | Hydrogen projects: proposed and awarded (contd.)

Source: ABiQ 2023

Project	Region	Country	Status	Stage	Value million USD
MENA					
ACME Hydrogen Plant in Sokhna	North Africa	Egypt	Upcoming	Plan	13,000
Globeleq Hydrogen Plant in Sokhna	North Africa	Egypt	Upcoming	Study	11,000
Masdar Green Ammonia Project in Egypt	North Africa	Egypt	Upcoming	Plan	9,000
ReNew Hydrogen Plant	North Africa	Egypt	Upcoming	Study	8,000
Alfanar Hydrogen Plant in Sokhna	North Africa	Egypt	Upcoming	Plan	4,000
AMEA Green Ammonia Project in Egypt	North Africa	Egypt	Upcoming	Study	4,000
Hydrogen Project in Egypt	North Africa	Egypt	Upcoming	Study	4,000
Green Fuel Alliance Ammonia in Ain Sokhna	North Africa	Egypt	Upcoming	Study	3,000
Total Green Ammonia in Ain Sokhna	North Africa	Egypt	Upcoming	Study	3,000
Waste to Hydrogen Plant in Port Said	North Africa	Egypt	Upcoming	Study	3,000
Alcazar Hydrogen Plant in Sokhna	North Africa	Egypt	Upcoming	Plan	2,000
K&K Hydrogen Plant in Sokhna	North Africa	Egypt	Upcoming	Plan	2,000
Actis Green Ammonia Plant in Sokhna	North Africa	Egypt	Upcoming	Plan	1,500
Scatec Green Ammonia in Ain Sokhna	North Africa	Egypt	Ongoing	Awarded	450
MEP Green Ammonia in Sokhna	North Africa	Egypt	Upcoming	Plan	250
Hydrogen and Ammonia in Guelmim-Oued Noun	North Africa	Morocco	Upcoming	Study	10,611
HEVO Ammonia Morocco	North Africa	Morocco	Upcoming	Study	800
Hydrogen Ammonia Plant in Oman	Middle East	Oman	Upcoming	Study	30,000
Hydrogen Ammonia Plant in Salalah	Middle East	Oman	Upcoming	Study	7,000
ACME Scatec Green Ammonia in Oman	Middle East	Oman	Upcoming	FEED	5,000
Hyport Duqm	Middle East	Oman	Upcoming	Design	3,000
Waste to Hydrogen Plant in Oman	Middle East	Oman	Upcoming	Plan	1,400
NEOM Hydrogen Plant	Middle East	Saudi	Ongoing	Construction	900
Ruwais Hydrogen Ammonia	Middle East	UAE	Upcoming	Study	5,000
Taqa Hydrogen Ammonia in KIZAD	Middle East	UAE	Upcoming	Study	2,500
Brooge Green Hydrgen and Ammonia Plant	Middle East	UAE	Upcoming	Study	1,500
Helios Hydrogen Ammonia in Abu Dhabi	Middle East	UAE	Upcoming	Study	1,000
Petrolyn Chemie Green Ammonia in KIZAD	Middle East	UAE	Ongoing	Awarded	1,000
Emirates Steel Hydrogen Plant	Middle East	UAE	Upcoming	Study	250
Sharjah Waste to Hydrogen Plant	Middle East	UAE	Upcoming	Study	180

Top 30 MEA | Gas-fired power plants: proposed and awarded

Project	Region	Country	Status	Stage	Value million USD
AFRICA					
Maputo Floating Power Plant	East Africa	Mozambique	Upcoming	Study	5,000
Beluluane Power Plant	East Africa	Mozambique	Upcoming	Pre-qualification	2,000
Zambezi Thermal Power Plant	East Africa	Zimbabwe	Ongoing	Construction	1,700
Nseleni Floating IPP	Southern Africa	South Africa	On Hold	Study	20,000
Karpowership Port of Coega	Southern Africa	South Africa	Ongoing	Awarded	5,540
Karpowership Richards Bay	Southern Africa	South Africa	Ongoing	Awarded	5,540
Richards Bay Power Plant	Southern Africa	South Africa	Upcoming	Study	4,000
Karpowership Saldanha	Southern Africa	South Africa	Ongoing	Awarded	3,940
Egbin Phase 2	West Africa	Nigeria	Upcoming	Plan	2,000
MENA					
Riyadh Power Plant 15	Middle East	Saudi	On Hold	Design	6,000
Al Khairat Thermal Power Plant	Middle East	Iraq	Ongoing	Construction	5,600
Zour North IWPP	Middle East	Kuwait	Upcoming	Pre-qualification	4,000
Facility E IWPP	Middle East	Qatar	Upcoming	Bid Evaluation	3,500
Riyadh Power Plant PP16	Middle East	Saudi	On Hold	Study	3,500
Nuwaiseeb Phase 1 Power and Desalination Plant	Middle East	Kuwait	Upcoming	Study	3,500
Hassyan IPP	Middle East	UAE	Ongoing	Construction	3,237
Riyadh Power Plant 13	Middle East	Saudi	Ongoing	Construction	2,500
Jeddah South Power Plant Expansion Phase 2	Middle East	Saudi	On Hold		2,400
Khiran 1 IWPP	Middle East	Kuwait	Upcoming	Pre-qualification	2,300
Shuqaiq Power Plant Extension Phase 1	Middle East	Saudi	On Hold		2,300
Al Rais IPP 2	Middle East	Saudi	On Hold	Study	2,100
South Madinah Power Plant 2	Middle East	Saudi	On Hold	Study	2,100
Taiba 1 IPP	Middle East	Saudi	Upcoming	Pre-qualification	2,000
Taiba 2 IPP	Middle East	Saudi	Upcoming	Pre-qualification	2,000
Qassim 2 IPP	Middle East	Saudi	Upcoming	Pre-qualification	2,000
Al Dur Phase 3 IWPP	Middle East	Bahrain	Upcoming	Plan	2,000
Qassim 1 IPP	Middle East	Saudi	Upcoming	Pre-qualification	2,000
Marjan Field Expansion - Tanajib ISWPP	Middle East	Saudi	Ongoing	Construction	2,000
Jorf Lasfar Gas to Power Project	North Africa	Morocco	Upcoming	Pre-qualification	4,600
i-kWh IPP in Libya	North Africa	Libya	Ongoing	Awarded	2,000

Source: ABiQ 2023

Top 40 MEA | Utility-scale Solar Projects: proposed and awarded

Source: ABiQ 2023

Project	Region	Country	Status	Stage	Value million USD
AFRICA					
Masdar 2 GW Solar Projects in Angola	Central Africa	Angola	Upcoming	Study	2,000
MCA Solar Project 950 MW	Central Africa	Angola	Ongoing	Construction	2,000
Burundi Solar Plant	East Africa	Burundi	Upcoming	Study	4,500
Masdar 2 GW Solar Projects in Tanzania	East Africa	Tanzania	Upcoming	Study	2,000
Masdar 1GW Solar Projects in Uganda	East Africa	Uganda	Upcoming	Study	1,000
Masdar 2 GW Solar Projects in Zambia	East Africa	Zambia	Upcoming	Study	2,000
Namibia-Botswana Solar 5,000 MW Botswana	Southern Africa	Botswana	Upcoming	Plan	2,000
Namibia-Botswana Solar 5,000 MW Namibia	Southern Africa	Namibia	Upcoming	Plan	2,000
AngloAmerican Renewable Energy Project in South Africa	Southern Africa	South Africa	Ongoing	Awarded	7,000
Embedded Generation Investment Program	Southern Africa	South Africa	Upcoming	Study	1,800
Musina Makhado Solar Plant	Southern Africa	South Africa	Upcoming	Study	1,500
Kenhardt Solar 540 MW	Southern Africa	South Africa	Ongoing	Construction	962
Redstone Solar CSP 100 MW	Southern Africa	South Africa	Ongoing	Construction	828
Meinergy Solar 1 GW	West Africa	Ghana	Ongoing	Construction	1,500
Kebbi Solar IPP	West Africa	Nigeria	Upcoming	Plan	6,000
Five Solar Plant in Nigeria 961 MW	West Africa	Nigeria	Ongoing	Awarded	1,500
G5 Sahel Desert to Power	West Africa		Upcoming	Study	10,000

Top 40 MEA | Utility-scale Solar Projects: proposed and awarded (contd.)

Source: ABiQ 2023

Project	Region	Country	Status	Stage	Value million USD
MENA					
Iraq SolarChina 2 GW	Middle East	Iraq	Upcoming	Plan	2,000
Iraq Solar Masdar 2 GW	Middle East	Iraq	Upcoming	Study	2,000
Iraq Solar TotalEnergies 1 GW	Middle East	Iraq	Upcoming	Plan	1,000
Shagaya Renewable Energy Park Phase 3	Middle East	Kuwait	Upcoming	Plan	3,200
Al Dibdibah Solar IPP	Middle East	Kuwait	Upcoming	Plan	1,500
Manah Solar IPPs	Middle East	Oman	Upcoming	Bidding	1,000
Saudi National Renewable Energy Program	Middle East	Saudi	Ongoing	Construction	60,000
Ma'aden Solar I	Middle East	Saudi	Upcoming	Study	4,000
NEOM Hydrogen Power Solar	Middle East	Saudi	Ongoing	Awarded	2,700
Shuaibah 2 PV	Middle East	Saudi	Ongoing	Awarded	2,000
The Red Sea Project Power	Middle East	Saudi	Ongoing	Construction	1,400
Saudi NREP Round 4 Al Hanakia	Middle East	Saudi	Upcoming	Pre-qualification	1,000
Sudair Solar PV	Middle East	Saudi	Ongoing	Construction	906
SaudiNREP Round 3 Ar Rass PV	Middle East	Saudi	Ongoing	Awarded	900
Mohammed bin Rashid Al Maktoum Solar Park	Middle East	UAE	Ongoing	Construction	13,000
Ajban Solar IPP	Middle East	UAE	Upcoming	Bidding	1,500
Mohammed bin Rashid Al Maktoum Solar Park Phase 6	Middle East	UAE	Upcoming	Study	900
Al Dhafra Solar PV 2 GW	Middle East	UAE	Ongoing	Construction	900
Algeria Renewable Energy Development and Energy Efficiency Program	North Africa	Algeria	Ongoing	Construction	34,000
Tafouk 1 Solar PV	North Africa	Algeria	Upcoming	Bidding	3,600
Libya Solar 2 GW W Solar	North Africa	Libya	Upcoming	Study	2,000
Gabes and Kebili Solar Plants	North Africa	Tunisia	Upcoming	Study	1,500
Tunisia Solar IPPs 800 MW	North Africa	Tunisia	Upcoming	Bidding	800

MEA | Renewable power capacity and generation

Source: IRENA | Courtesy of ABiQ

Country	Renewable Capacity MW 2021	Renewable Capacity Share % 2021	Renewable Generation GWh 2020
AFRICA			
Angola	3,793.66	63.97	14,019.94
Benin	3.44	1.13	5.41
Botswana	5.94	0.64	5.98
Burkina Faso	97.79	22.38	214.55
Burundi	57.39	53.19	285.06
Cabo Verde	35.38	20.06	70.52
Cameroon	826.74	53.93	5,109.57
Central African Republic	19.17	21.02	136.03
Chad	3.83	1.34	18.78
Comoros	1.45	6.28	-
Congo DR	2,741.49	98.95	11,918.90
Congo Rep	226.82	27.54	1,046.90
Cote d'Ivoire	892.14	39.97	3,393.60
Djibouti	20.36	14.20	0.60
Equatorial Guinea	127.22	31.71	127.00
Eritrea	25.28	10.98	44.49
Eswatini	179.03	94.76	420.47
Ethiopia	4,758.77	97.86	15,075.02
Gabon	332.89	54.36	985.53
Gambia	3.39	2.75	3.57
Ghana	1,700.29	31.69	7,419.88
Guinea	831.58	73.04	1,514.03
Guinea Bissau	1.17	4.01	1.89
Kenya	2,384.34	76.04	9,563.36
Lesotho	75.11	99.84	417.49
Liberia	94.58	49.11	127.62
Madagascar	197.21	24.07	868.09
Malawi	527.40	78.93	1,863.04
Mali	454.84	49.76	1,733.87
Mauritania	121.91	19.46	271.21
Mauritius	245.51	28.69	688.70
Mayotte	18.00	15.38	16.86
Mozambique	2,272.59	79.05	4,201.00
Namibia	501.44	73.23	1,666.78
Niger	27.04	7.12	46.09
Nigeria	2,153.80	16.36	8,292.23
Reunion	454.44	49.75	932.80
Rwanda	158.74	58.17	577.42

MEA | Renewable power capacity and generation (contd.)

Source: IRENA | Courtesy of ABiQ

Country	Renewable Capacity MW 2021	Renewable Capacity Share % 2021	Renewable Generation GWh 2020
Senegal	421.20	30.30	400.95
Seychelles	19.40	15.46	64.61
Sierra Leone	99.10	41.67	248.29
Somalia	27.09	11.33	30.46
South Africa	10,192.93	17.58	9,551.29
South Sudan	1.28	0.43	1.25
Sudan	1,816.86	48.43	11,139.36
Tanzania	685.35	34.22	3,417.28
Togo	123.84	36.09	218.84
Uganda	1,198.53	92.11	4,417.98
Zambia	2,844.42	84.45	13,036.32
Zimbabwe	1,211.08	50.23	4,198.62
MENA			
Algeria	686.00	2.62	721.05
Bahrain	12.00	0.14	11.20
Egypt	6,226.50	10.56	24,064.23
Iran	11,929.32	13.82	23,200.04
Iraq	1,594.42	5.29	5,342.16
Israel	2,614.58	13.07	4,523.00
Jordan	2,171.29	33.89	3,046.77
Kuwait	105.74	0.52	60.29
Lebanon	370.66	8.05	1,168.40
Libya	6.33	0.06	7.79
Morocco	3,522.23	29.91	7,062.27
Oman	187.59	1.56	211.46
Palestine	178.17	52.69	178.71
Qatar	24.10	0.23	142.75
Saudi Arabia	442.64	0.55	266.95
Syrian	1,499.77	14.81	792.87
Tunisia	405.89	6.73	663.80
UAE	2,578.71	7.23	5,485.56
Yemen	252.81	11.20	489.67

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