

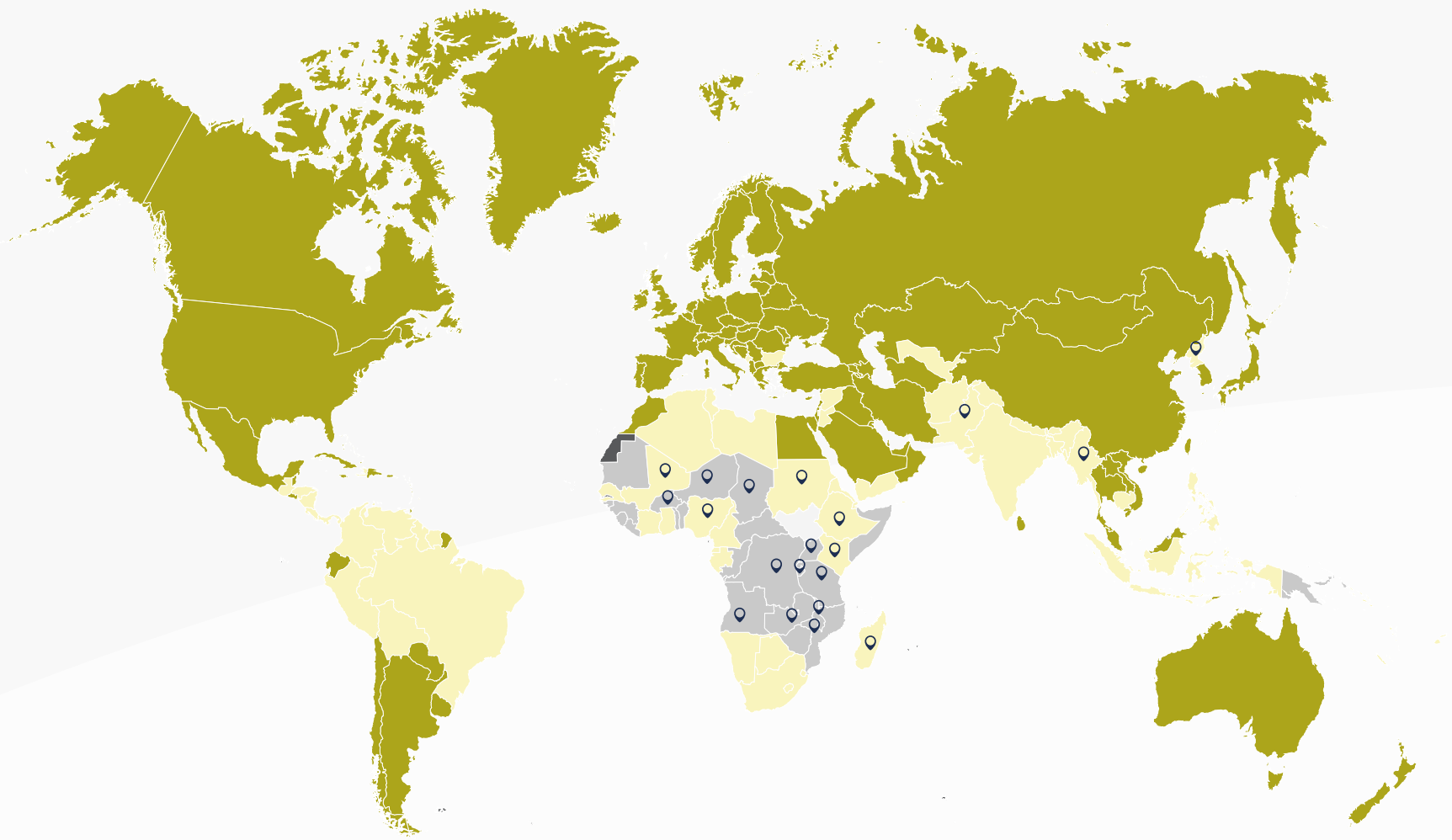
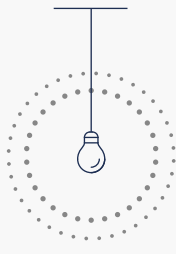
THE FUTURE OF ENERGY

Harnessing the Momentum of Renewables in Emerging Markets

SOLARPLAZA

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Access to electricity: The big picture



- Under 10%**
 - 10% to 49.9%**
 - 50% to 99.9%**
 - 100%**
 - Not applicable**
 - Top 20 access-deficit countries**
- In 2021, about 675 million people still lacked access to electricity.** Although the share of the global population with access to electricity did grow on an annual basis, the overall rate of access expansion decelerated over the 2019-2021 period, as compared to earlier years.¹
- While advancements in **rural electrification** played a role in this improvement, a significant disparity still exists **within urban regions**.
- In 2021**, the 20 countries with the largest access deficits accounted for **75%** of the global population lacking electricity access.
- In sub-Saharan Africa**, over **567 million people were without access to electricity**. The deficit in electricity access within this region remained nearly unchanged compared to 2010.
- To achieve universal access by 2030**, global efforts must **push the annual growth rate in electrification to 1% annually** from 2021 through increased investments and policy reinforcement - a significant improvement over the 0.6% progress observed between 2019 and 2021.

SOURCE: IEA, IRENA, UNSD, World Bank & WHO

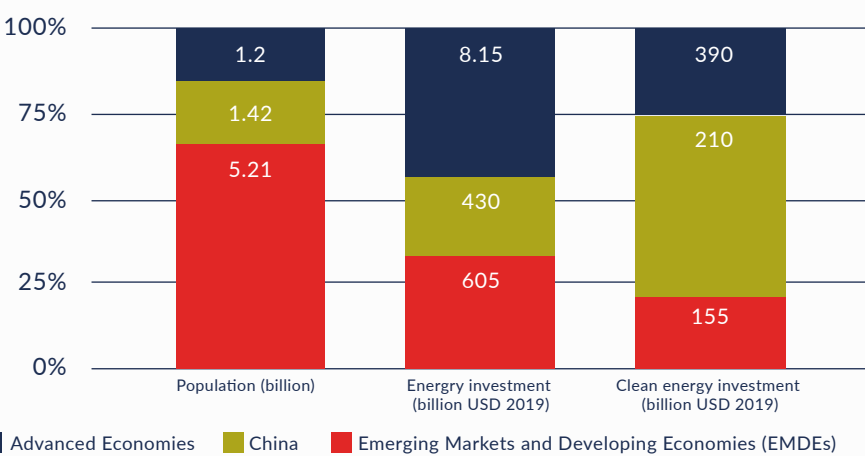
Main benefits of accelerating the deployment of renewable energy in emerging markets and developing economies (EMDEs)



- Achieve improved energy access**
- Bolster energy security**
- Reduce reliance on fossil fuels**
- Meet net-zero targets**
- Mitigate the effects of climate change**

Unlocking more finance remains key to the energy future of EMDEs

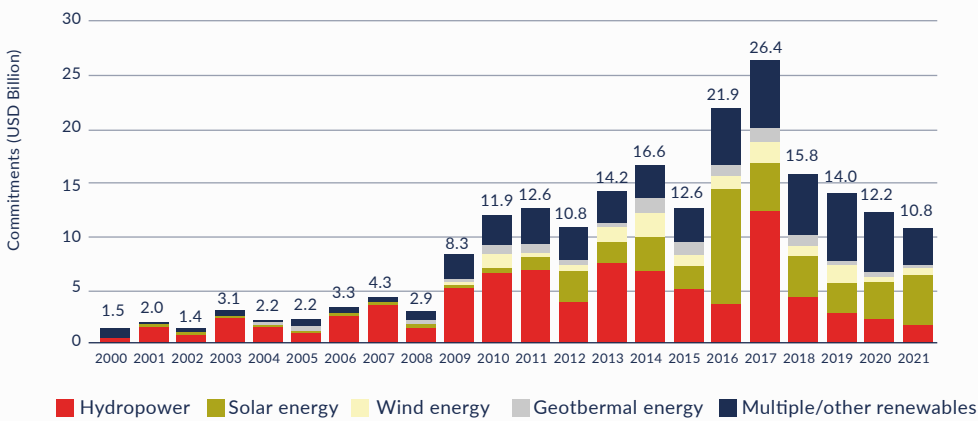
Key indicators for EMDE in 2021



SOURCE: IEA

- Compared to the population of EMDEs, the flow of clean energy investments into the region is markedly unequal.²
- Financial support** from the international public sector for clean energy initiatives in low and middle-income nations **has been on a declining trajectory since 2018** and **funding is still limited to a small number of countries**.³

Annual international public financial flows toward renewables in developing countries

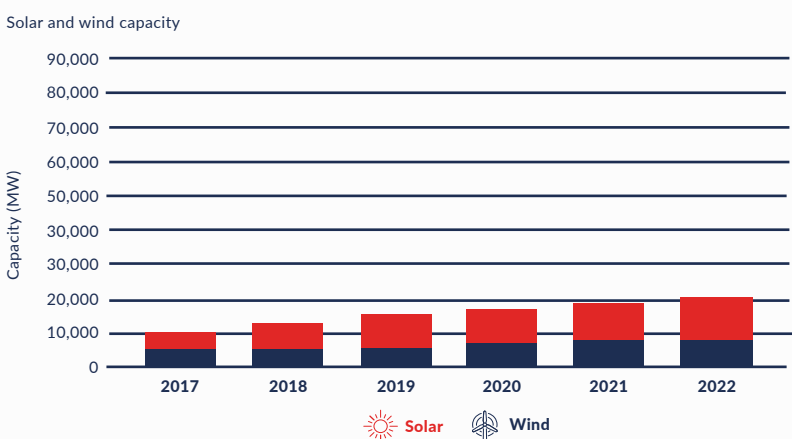


SOURCE: IEA, IRENA, UNSD, World Bank & WHO

- In 2021**, international public financial contributions to clean energy initiatives in developing nations amounted to **\$10.8 billion**, marking a 35% reduction from the average of the 2010-2019 period and only approximately 40% of 2017's record investments of \$26.4 billion.⁴

Abundant opportunities for financing renewable energy in EMDEs

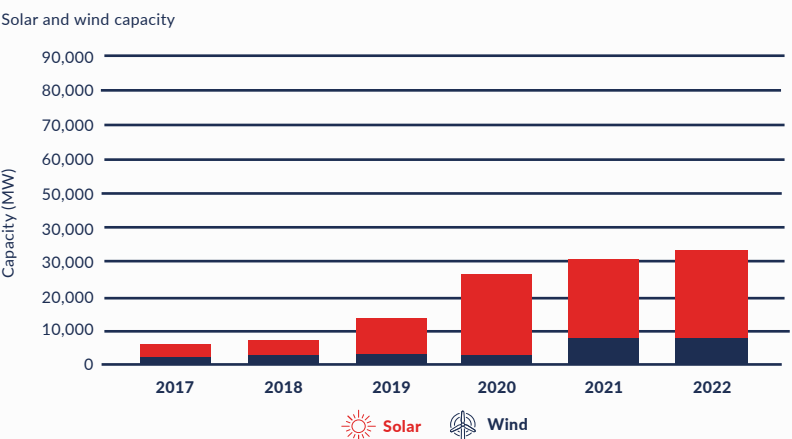
Africa



SOURCE: IRENA¹⁴

- Angola (284 MW), South Africa (111.8 MW), Egypt (80 MW), Ghana (71.3 MW) and Mozambique (41.9 MW) were the top solar installers in 2022**.⁵
- Commercial and industrial (C&I)** installations currently contribute to almost 30% of the total installed capacity across the continent, experiencing a notable year-over-year growth of 61%.
- Nigeria is the leading country in mini-grid development** with 1.5 MW of new capacity, followed by Mali, Uganda, Kenya, and Mozambique.
- Residential solar systems witnessed a 21% increase in capacity**, with an estimated cumulative capacity reaching 67 MW.
- Although **Africa has the potential to generate about 59 GW of wind energy**, South Africa (3103 MW), Egypt (1643 MW), and Morocco (1558 MW) are the only countries that deployed more than 1 GW by the end of 2022.⁶

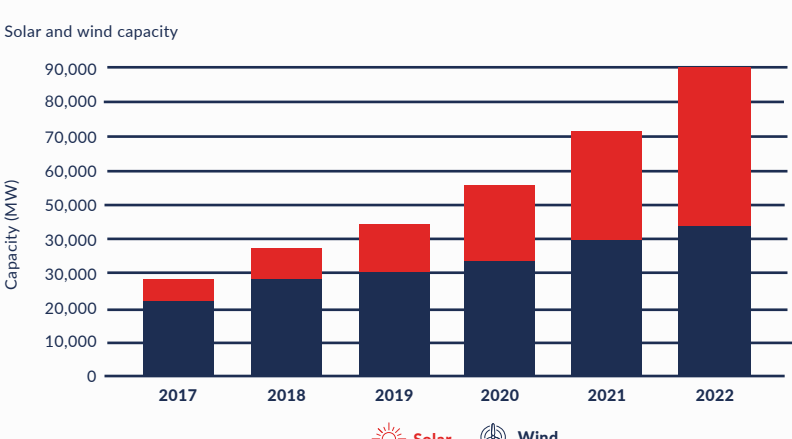
Southeast Asia



SOURCE: IRENA¹⁴

- Solar energy** is projected to experience a **compound annual growth rate of 10.4% from 2018 to 2040**.⁷
- Due to its escalating electricity demand (growing by 10% annually) and the government's provision of relatively high feed-in-tariffs (FIT), **Vietnam is projected to emerge as the most dominant solar market in Southeast Asia**.⁸
- Thanks to an array of large-scale projects, particularly in Indonesia, Singapore, Thailand, Malaysia, and the Philippines, the **floating solar capacity in the ASEAN region has increased rapidly** from just 1 MW in 2019 to several hundred megawatts.⁹
- Vietnam and the Philippines have ambitious offshore wind capacity targets** of reaching **6 GW by 2030**, and **20 GW by 2040**, respectively.^{9,10}

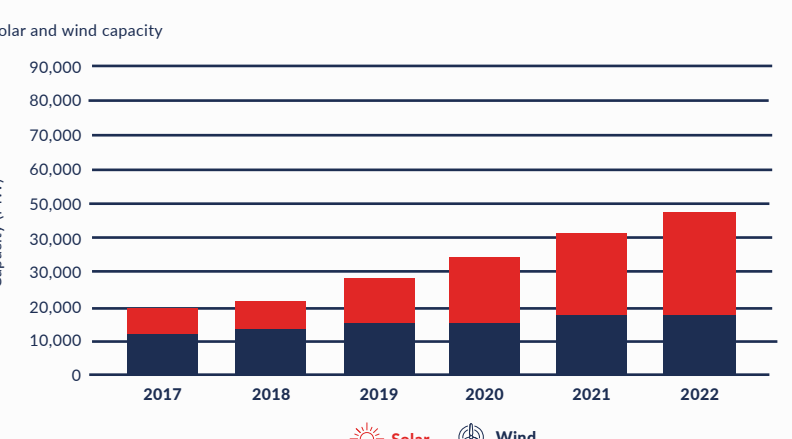
Latin America



SOURCE: IRENA¹⁴

- Nations in Latin America and the Caribbean possess the most substantial solar project development pipeline outside of Eastern Asia and North America.¹¹
- The main drivers for the solar surge originate from the economic powerhouses and major industrial players within the region, including **Brazil, Mexico, Colombia, Chile, and Peru**.
- According to the World Bank, the extensive potential of Latin America has the **potential to generate up to 8,000 GW of offshore wind energy**. This outlook is driven by notable contributions from Argentina (1,870 GW) and Brazil (1,228 GW).¹²

Central Eastern Europe (CEE)



SOURCE: IRENA¹⁴

- Although the **Central Eastern European (CEE)** nations have implemented **notable enhancements in their energy transition efforts** in recent times, **they are still trailing behind their Western European counterparts** in the adoption of renewable energy sources.¹³
- The hesitant stance on wind and solar energy rollout, along with the heavy dependence on fossil fuels, is currently **jeopardizing the energy security of the region, amplifying living costs, and diminishing economic competitiveness**.
- The CEE region has the **potential to generate 200 GW of wind and solar energy by 2030**, achieving a notable 63% share of renewables in their electricity mix, a significant rise from the 25% recorded in 2022.

Sources

- ¹ WHO (2023)
- ² IEA (2023)
- ³ UN (2023)
- ⁴ WHO (2023)
- ⁵ Mercom (2023)
- ⁶ African Business (2022)
- ⁷ Rated Power (2021)
- ⁸ Mordor Intelligence (2023)
- ⁹ Reuters (2023)
- ¹⁰ Pinsent Masons (2022)
- ¹¹ Reuters (2023)
- ¹² Infrastructure Investors (2023)
- ¹³ Ember (2023)
- ¹⁴ IRENA (2023)