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Morocco's position in the energy transition: A rising energy and EV supply chain power

Morocco is emerging as an energy power in the new geopolitical landscape created by the energy transition. Early investments in renewables have translated into foreign direct investment in downstream projects with high economic value-added. With large-scale projects and proximity to Europe, Morocco has the potential to be a significant exporter of clean electrons. Morocco is also making a push to become a battery hub on the basis of its strengths in cobalt and phosphate rock.

Morocco's potential role in the energy transition, and therefore its geopolitical significance, has spiked due to Russia's invasion of Ukraine. North African energy projects could meet as much as 15 percent of Europe's energy demand.¹ European countries are especially interested in Morocco because there are already submarine electrical cables to Spain, with another to the UK in

development.² Morocco is also presenting itself, with its array of economic relationships across the continent, as a “gateway to Africa.”³

In building the fossil-based world order, the United States provided critical support to energy-producing countries because their supply could be used to balance against reliance on Russian energy.⁴ The same dynamic is unfolding today, as support for countries like Morocco is necessary to diversify energy sources in a new world. However, unlike in the post-Second World War era, there is no single region or group of countries that require support. Instead, there will be a range of “middle energy powers” like Morocco.

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Clean Energy and Mineral Resources

Morocco has high-quality solar and wind resources, in the top 25% of the world.⁵ It is currently leveraging these resources into a rapidly growing fleet of hydro, wind, and solar power (Table 1). The 580 MW Noor-Ouarzazate project is particularly notable as one of the world’s largest solar projects.⁶ Morocco is also a leading producer of cobalt and home to 70% of the world’s phosphate reserves.⁷

Table 1. Morocco’s clean power fleet

Renewable resource	2020 production (MW)
Wind	4,592
Hydro	1,290
Solar thermal	1,130
Solar PV	390

Source: IEA.⁸

These resources are already attracting major foreign direct investments in renewable energy, hydrogen export, carbon removal, and renewable desalinization (Table 2). Morocco has established itself as a preferred destination for investment from China, Europe, and the Gulf states.⁹ The geographic and sectoral diversity of these investments put Morocco in a very strong economic and geopolitical position.



Table 2. Major foreign direct investments in clean energy supply chains

Project	Clean Energy Sector	Country	Capacity	Investment
Total Eren	Green hydrogen and ammonia	France	10 GW	\$10.2bn
Gotion EV	Battery manufacturing	China	100 GWh	\$6.4bn
Brilliant Planet	Algal carbon dioxide removal	UK	1500 tons CO ₂	\$2.3bn
CCCE	Renewable energy	China		\$2.3bn
Saipem	Green hydrogen and ammonia	Italy		\$2bn
Shanghai Electric	Solar farm	China	3500 MW	\$2bn
Taqa Morocco	Renewable desalinization	Abu Dhabi	1000 MW	\$1.4bn
Tinci Materials	Battery processing, lithium electrolytes	China	300kt materials	\$280mn
China First Highway Engineering	Hydropower	China	108 MW	\$300mn

Source: FDI Intelligence and Net Zero Industrial Policy Lab research.

In addition to the advanced projects listed above, there are a number of projects at an earlier stage would be significant if completed. One project proposed by China Energy and Aljan & Bros of Saudia Arabia would install 4 GW of solar and 2 GW of wind to power 320,000 tonnes of hydrogen and 1.4 million tonnes of ammonia.¹⁰

Huayou Cobalt has proposed a \$20bn plant to produce battery materials in Laayoune Sakya Al Hamra province. The facility would provide materials for 6 million vehicles. This, alongside Gotion's proposed battery facility and Tinci's electrolyte facility, would create the basis of an EV supply chain in Morocco.

This is significant because Morocco has a Free Trade Agreement with the United States, so Moroccan battery materials should receive IRA credits.¹¹ This would mean that Chinese firms would benefit from the IRA, unless Chinese firms are labelled "foreign entities of concern" and projects involving them are disqualified from receiving IRA credits.

Its position on the Mediterranean gives Morocco access to European, African, Arab, and Asian markets. It has all the core elements to become a significant green production and trading hub.

Geopolitical Partnerships

Morocco is being actively courted by China, Europe, and the Gulf states. As China shifts its Belt and Road Initiative, Morocco is being developed as a critical hub to allow Chinese firms to access upstream and downstream markets in both Europe and Africa.¹² Since signing a 2017 memorandum of understanding, trade between the two countries has increased 50%.¹³

In the wake of Russia's invasion of Ukraine and associated fallout in energy markets, Europe has stepped up engagement with Morocco.¹⁴ Europe hopes to leverage Morocco's green power into a reliable and close supply of hydrogen. To this end, the EU and Morocco signed a Green Partnership in October 2022. This resulted in €50 million in support for green energy and €115 million for sustainable forestry and agriculture.¹⁵ Also in 2022, Germany and Morocco reinvigorated their longstanding energy partnership to develop hydrogen projects to reduce reliance on Russian gas.¹⁶ Spain and Morocco have longstanding energy ties with Spain exporting gas and Morocco exporting power through submarine cables.¹⁷

Gulf states are particularly interested in Morocco as a key energy export market and a promising location for desalinization projects, which they are actively developing.

Strong partnerships with all three regions allows Morocco to play each off the other while hedging against declining economic fortunes in any particular region.

In the new geopolitics of the energy transition, energy and resource power will shift away from the countries that dominated oil and gas markets. But they will not be replaced by another oligopoly. Rather, there will be many states like Morocco: countries with strong renewables potential and a burgeoning manufacturing base that be leveraged into regional hubs for clean energy supply chains. Morocco is a prime example of a country that is making a push to become what we call a "middle energy powers." Such states will be critical to the energy transition.



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- ¹ <https://www.washingtonpost.com/climate-solutions/2023/04/13/morocco-europe-solar-desert/>
- ² <https://www.morocoworldnews.com/2022/07/350070/xlinks-project-north-ayrshire-grants-permission-for-cable-manufacturing>
- ³ <https://www.ft.com/content/28187230-f970-11e8-a154-2b65ddf314e9>;
<https://www.ft.com/reports/morocco-gateway-africa>
- ⁴ Helen Thompson. 2022. Disorder: Hard Times in the 21st Century. Oxford University Press.
- ⁵ <https://www.nature.com/articles/s41467-023-41107-x>, Source Data.
- ⁶ <https://www.morocoworldnews.com/2021/02/335886/moroccos-ouarzazate-noor-solar-plant-supplies-2-million-moroccans-with-electricity>
- ⁷ <https://www.morocoworldnews.com/2023/08/356984/chinese-cobalt-supplier-huayou-to-invest-20-billion-in-morocco-plant>;
<https://source.benchmarkminerals.com/article/phosphate-concerns-drive-chinese-battery-investments-in-morocco>. Although, it is important to note that the sedimentary phosphate reserves in Morocco may require more processing to achieve battery grades than the igneous sources available elsewhere. See, <https://www.visualcapitalist.com/sp/mapped-where-is-the-best-phosphate-for-lfp-batteries/>.
- ⁸ <https://www.iea.org/countries/morocco>
- ⁹ <https://www.ft.com/content/28187230-f970-11e8-a154-2b65ddf314e9>
- ¹⁰ <https://www.seetao.com/details/210904.html>
- ¹¹ <https://ustr.gov/trade-agreements/free-trade-agreements/morocco-fta>
- ¹² <https://www.globaltimes.cn/page/202201/1246500.shtml>
- ¹³ <https://assomac.it/en/news/news-from-world/belt-road-initiative-in-morocco/>
- ¹⁴ https://neighbourhood-enlargement.ec.europa.eu/news/eu-and-morocco-launch-first-green-partnership-energy-climate-and-environment-ahead-cop-27-2022-10-18_en
- ¹⁵ https://ec.europa.eu/commission/presscorner/detail/en/ip_23_423
- ¹⁶ <https://energynews.biz/germany-to-work-with-morocco-on-green-hydrogen/>
- ¹⁷ <https://www.atalayar.com/en/articulo/economy-and-business/spain-becomes-moroccos-main-gas-supplier-1200-increase/20230418142147182590.html>