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Egypt
Renewable Energy

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This country-specific Q&A provides an overview of renewable energy laws and regulations applicable in Egypt.

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Egypt: Renewable Energy

1. Does your jurisdiction have an established renewable energy industry? What are the main types and sizes of current and planned renewable energy projects? What are the current production levels?

Yes, Egypt has an established and a growing renewable energy industry. This is shown through Egypt's commitment to the global clean energy landscape, demonstrated by Egypt's signature and ratification of various key international agreements such as (i) The United Nations Framework Convention on Climate Change ("**UNFCCC**"), (ii)The Convention on Biological Diversity ("**CBD**"), (iii) The United Nations Convention to Combat Desertification ("**UNCCD**") as well as (iv) the Paris Agreement.

In parallel, Egypt has been actively submitting its nationally determined contributions (**"NDC(s)"**) to the UNFCCC, outlining its specific commitments to the global renewable energy industry's goals. Furthermore, Egypt has been a member of the International Renewable Energy Agency ("**IRENA**") since 2016 and is engaged with said agency on several major initiatives related to renewable energy. Moreover, Egypt has a diverse array of renewable energy projects, primarily focused on wind, photovoltaic ("**PV**") solar, concentrating solar power ("**CSP**"), nuclear power, hydropower and potentially green hydrogen as well.

Leading the way in wind power projects are (i) Zafarana wind farms with an installed capacity of 545 MW which generate around 1,287,000 MWh of electricity annually. Thus, offsetting approximately 648,000 tons of carbon dioxide emissions per year. It is noteworthy that Zafarana is wholly owned by NREA; (ii) Jabal Al Zayt wind power plant with a total installed capacity of 580 MW noting that this capacity is distributed across three (3) phases.

On the PV solar front, the key projects include Benban Solar Park with a reported capacity of around 1.8 GW. Looking ahead, there are reports of other solar power planned projects such as the Abydos Solar PV Project which will be wholly owned by AMEA and will have a capacity of 500MW. These projects are aligned with Egypt's sustainable energy strategy to increase the share of renewable energy in its electricity generation mix, aiming for 42% by 2030.

2. What are your country's net zero/carbon reduction targets? Are they law or an aspiration?

Egypt's most recent NDC dated the 26th of June of 2023 doesn't explicitly set out a net zero target. Accordingly, there are no legal provisions mandating a net-zero target per se in Egypt.

However, the above-mentioned NDC outlines ambitious goals for 2030, mainly focusing on emissions reduction in different sectors. The main targets include a 33% reduction in the energy sector, a 65% reduction in the oil and gas industry, and a 7% reduction in the transport sector, all compared to a business-as-usual scenario. Additionally, Egypt has set an ambitious goal of increasing the electricity generation from renewable energies to up to 42% of the energy mix by 2030.

3. Is there a legal definition of 'renewable energy' in your jurisdiction?

The Egyptian Incentive for Electricity Generation from Renewable Energy Sources Law No. 203 of the year 2014 (the "**Renewables Law**") defines in its first article the term "*Renewable Energy Sources*" as natural sources of non-depletable electrical or thermal energy that can be used to generate electricity.

Further, the Egyptian Electricity Law No. 87 of the year 2015 defines in its first article the term "*Renewable Energy*" as natural images of inexhaustible energy that can be used to generate electricity.

With slightly differing wording, both definitions capture the concept of the natural reoccurrence and the never-ending nature of renewable energy sources.

4. Who are the key political and regulatory influencers for renewables industry in your jurisdiction and who are the key private sector players that are driving the green renewable energy transition in your jurisdiction?

Egypt's renewable energy sector thrives under a collaborative framework between various regulatory authorities as follows:

- **The Ministry of Electricity and Renewable Energy ("MOERE")**: MOERE is the principal body responsible for formulating and implementing Egypt's energy policies, including those related to renewable energy. It plays a crucial role in setting out strategic goals and ensuring their alignment with national and international commitments.
- **The Supreme Council of Energy**: This high-level body coordinates energy policies and strategies across different sectors. It ensures that the renewable energy targets are integrated into broader national energy strategies and oversees their implementation
- **The New and Renewable Energy Authority (NREA):** established by virtue of law No. 102 of the year 1986 as a public authority under the Ministry of Electricity. NREA operates under MOERE and is tasked with developing renewable energy projects, conducting research, and fostering investments in renewable energy. It plays a strategic role in the implementation of the government's renewable energy plans and competitive bidding processes for renewable projects.
- **The Egyptian Electricity Utility and Consumer Protection Regulatory Agency ("EgyptERA"):** established in 1997 by virtue of presidential decree no. 326 of the year 1997, as a regulatory body subsidiary of the MOERE. In this regard, EgyptERA has been acting, since redefining its role in 2000 by virtue of law no.339, as the supervising and regulatory authority with respect to all issues related to electrical energy in terms of generation, distribution, transmission, and consumption. It is responsible for issuing the permits and licenses necessary to begin any of the electricity activities or make any expansions related to it.
- **The Egyptian Electricity Holding Company ("EEHC"):** is wholly owned by the government as it is established in 2000 pursuant to law no. 164 of the year 2000. The latter owns a number of subsidiaries including electricity generation companies and electricity distribution companies.
- **The Egyptian Electricity Transmission Company ("EETC"):** is a joint stock company owned by the Egyptian state and is established as a subsidiary of the EEHC which monopolizes the electricity transmission activities and the control and operation of the transmission grid.

On the other hand, there are five (5) main key private sector players amongst others, being the following:

- Infinity Power
- KarmSolar
- Hassan Allam Utilities
- ACWA Power
- SolarizEgypt

5. What are the approaches businesses are taking to access renewable energy? Are some solutions easier to implement than others?

Businesses in Egypt have several approaches to accessing the market of renewable energy in Egypt. These include net metering, wheeling, and self-consumption mechanisms.

In Egypt, the net metering system has recently witnessed some amendments made by virtue of Circular No. (6/2022). This Circular has removed the total capacity limit for net metering installations connected to each distribution company. However, there remains some limitations on the maximum capacity a user can install.

The main incentive of the net metering system is characterized by the possibility for customers to store excess energy into the grid and receive credit on their electricity bill based on a pre-determined fixed rate for excess exported to the grid.

Alongside this, the wheeling system was introduced by EgyptERA's circular number (2/2013). The main advantage that the wheeling system provides, is that it allows the independent power producer to generate electricity off-site as well as the ability to have more than one corporate off-taker. However, the wheeling scheme is not common in practice just yet.

The self-consumption system in Egypt allows for greater independence but lacks financial incentives for exported power. The most recent regulation regarding self-consumption is dated (Circular 3/2023), establishing a licensing process for self-consumption power plants in Egypt.

Currently, it is considered easier to implement a renewable energy project via the net-metering mechanism or the self-consumption mechanism than the wheeling mechanism.

6. Has the business approach noticeably

changed in the last year in its engagement with renewable energy? If it has why is this (e.g. because of ESG, Paris Agreement, price spikes, political or regulatory change)?

Yes, there has been a noticeable shift in the business approach to renewable energy in Egypt over the last year. This is mainly due to Egypt hosting the 27th conference of the parties to the UNFCCC ("**COP 27**"), which took place last November in Sharm El Sheikh, Egypt. This conference has surely incited businesses to take a more proactive role in achieving the conference's global goals. Noteworthy, is that the COP 27 was a great chance for the signature of multiple memorandums of understanding ("**MoUs**") such as the European Union – Egypt MoU on green hydrogen. The latter's scope aims for cooperation on research, technology transfer, and infrastructure development for green hydrogen in Egypt.

Furthermore, Egypt has been streamlining the approvals and licensing process for green ammonia projects in the Ain Sokhna industrial zone since 2022. This has led to the development of significant projects including the upcoming 4 GW green hydrogen project by Masdar, which is expected to produce 480,000 tons of green hydrogen annually by 2030.

On another note, it is believed that the price spikes in fossil fuels has equally played a role in encouraging businesses to resort to renewable energy. This is because businesses are now looking for ways to secure a stable, and a long-term energy supply.

7. How visible and mature are discussions in business around reducing carbon emissions; and how much support is being given from a political and regulatory perspective to this area (including energy efficiency)?

Egypt is constantly making significant efforts towards reducing carbon emissions. These ambitions are supported by political and regulatory efforts. Said efforts include, for instance, the Financial Regulatory Authority (**FRA**)'s approval of the legal framework for issuing green bonds in 2018.

This approval has surely facilitated a number of successful issuances, including the first sovereign green bond in the MENA region by Egypt in September 2020 which was valued at $750 million. This is in addition to the first corporate green bond which was worth $100 million issued by the Commercial International Bank (**CIB**) in June 2021.

Looking ahead to the year 2024, there are current plans for Egypt to issue green bonds worth $700 million through an entity under MOERE with the intention of funding green projects benefiting the private sector or involving public-private partnerships.

8. How are rights to explore/set up or transfer renewable energy projects, such as solar or wind farms, granted? How do these differ based on the source of energy, i.e. solar, wind (on and offshore), nuclear, carbon capture, hydrogen, CHP, hydropower, geothermal and biomass?

In Egypt, the rights to renewable energy projects are governed by a framework that supports both private and public-sector involvement. This framework is designed to facilitate the development of various types of renewable energy projects, including solar, wind (onshore and offshore), nuclear, carbon capture, hydrogen, combined heat and power (**CHP**), hydropower, geothermal, and biomass. The specific processes and regulations for granting these rights can vary depending on the energy source and whether the project is private or public.

There are several factors to consider before setting up a renewable energy project in Egypt, such as securing land whether that be through governmental land allocation or through a private land lease/usufruct agreement. Further, obtaining the necessary permits and licenses is crucial, taking into account the specifics depending upon the project's type and location. These may generally include building permits, grid connection permits from EETC and a generation license from EgyptERA for projects exceeding a certain electricity generation capacity. Important considerations should also be made when the off-taker is a governmental-owned entity.

9. Is the government directly involved with the renewables industry? Is there a government-owned renewables company or are there plans for one?

While there is no single government-owned company solely dedicated to renewables, the Egyptian government is actively involved in the renewables industry. This involvement is evident through the presence of the EEHC as a 100% government-owned off-taker. Further, NREA is the primary government body responsible for the promotion and development of renewable energy projects in Egypt. In this regard, NREA oversees the planning, implementation, and operation of various renewable energy projects, including wind, solar, and hydropower.

As of date, there are no plans for a government-owned renewables company to be established.

10. What are the government's plans and strategies in terms of the renewables industry? Please also provide a brief overview of key legislation and regulation in the renewable energy sector, including any anticipated legislative proposals?

The Egyptian government adopts a multifaceted strategy to develop its renewables industry. With an ambitious vision for 2030, Egypt aims to achieve 42% of electricity generation from renewable sources by 2030 while focusing on sustainability and reducing dependency on fossil fuels. Furthermore, the integrated sustainable energy strategy ("**ISES**") for 2035 includes detailed roadmaps to increasing renewable energy production, focusing on the development of solar, wind, and hydroelectric power. The strategy encompasses both large-scale projects and decentralized energy solutions.

Egypt's different strategies to promote renewable energy include offering feed-in tariffs as incentives for private sector investments. Several legislative sources are relevant to the renewables industry in Egypt, including the Electricity Law No. 87 of the year 2015 aiming to restructure the electricity sector, promoting private sector participation and competition. Its provisions establish independent power producers (**IPPs**), liberalize the electricity market, and set guidelines for the generation, transmission, and distribution of electricity.

The Renewables Law No. 203 of the year 2014 aims to stimulate investment in renewable energy by offering various incentives. Its provisions include streamlined land allocation processes for renewable energy projects.

EgyptERA also offers regulations including for instance the net-metering regulations, which provide a credit mechanism where excess power exported to the grid can be used to offset future electricity bills. Further, EgyptERA self-consumption regulations, which although still under development, aim to include financial incentives, reduce regulatory barriers, and technical support to promote the adoption of self-consumption practices. Finally, EgyptERA Peer-to-Peer (**P2P**) Energy Trading regulations were issued in March 2023. Currently, there haven't been any official announcements regarding any future legislative proposals.

11. Are there any government incentive schemes promoting renewable energy (direct or indirect)? For example, are there any special tax deductions or subsidies offered? Equally, are there any disincentives?

Yes, the Egyptian government offers various incentive schemes aiming to promote the renewables sector. These incentives can be broadly categorized as general and specific incentives.

General Incentives: Investment Law No.72 of the year 2017 (the "**Investment Law**") provides a number of general incentives to all companies incorporated under its auspices, including (i) exemptions from stamp duty and authentication and notarisation fees for a period of five (5) from the date of incorporation of the company for all incorporation contracts, facility, mortgage, final real estate sale, and purchase agreements; (ii) a reduced customs duty tax of 2% from the value of all machinery and equipment necessary for the establishment of the investment project.

Special Incentives: The investment law equally provides special incentives in the form of a deduction from net taxable income that is either 50% for activities falling within the scope of Sector A (covering areas with the highest developmental needs) and 30% for Sector B (covering the remaining areas of the country or covering certain industries including electricity generation).

Additionally, the investment law provides an expedited approval process for qualified projects, including green hydrogen ones, through the issuance of a golden license. This comprehensive permit streamlines project establishment, operation, and management, including building licenses of such a project and the allocation of the real property required for it.

On the other hand, renewable energy projects can benefit from specific incentives compared to other conventional power projects. Notably, the EETC prioritizes renewable energy during grid congestion or access limitations.

The key disincentive for renewables projects in Egypt mainly lies in navigating the regulatory framework. Obtaining all the necessary licenses and approvals for a renewable energy project can be challenging and time consuming.

12. Has your Government had to continue to help with the basic cost of energy over the last year

and has that led to any discussion about de-linking the gas price and renewables prices?

Yes, the Egyptian government has decided to extend the electricity subsidy removal plan until 2025 instead of 2021-2022. This has had a direct impact on reducing the planned increase in electricity tariff bands.

There haven't been official discussions regarding delinking gas and renewable energy prices. However, considering the global energy market dynamics and the local policy adjustments, such considerations might be that such considerations could be part of future energy strategy discussions.

In Egypt, while specific discussions on de-linking gas and renewables prices have not been prominently highlighted, the broader context of global energy market dynamics and local policy adjustments suggest that such considerations could be part of future energy strategy discussions.

13. If there was one emerging example of how businesses are engaging in renewable energy, what would that be? For example, purchasing green power from a supplier, direct corporate PPAs or use of assets like roofs to generate solar or wind?

While choosing one emerging means for renewable businesses in Egypt is challenging, the current landscape includes a few schemes. One approach is direct corporate power purchase agreements ("**PPAs**"). Another practical approach is the use of assets like roofs to generate solar power which allows businesses to harness renewable energy on-site. These roof-top solar projects are usually undertaken under either the net-metering scheme or the self-consumption scheme.

14. What are the significant barriers that impede both the renewables industry and businesses' access to renewable energy? For example, permitting, grid delays, credit worthiness of counterparties, restrictions on foreign investment.

Significant impediments to renewable energy projects in Egypt stem from various factors as follows:

Regulatory Challenges: Hurdles mainly relate to the complex process of obtaining the necessary permits and licenses for renewable energy projects which can be time-consuming and complex. Furthermore, securing land for renewable energy projects presents another obstacle.

Infrastructural Barriers: Additionally, there remain some barriers pertaining to connecting renewable energy projects to the national grid and the limited capacity of the existing grid infrastructure.

15. What are the key contracts you typically expect to see in a new-build renewable energy project?

In a newly built renewable energy project, several key contracts are typically expected to ensure the project's successful development, financing, construction, and operation. All of which simultaneously ensure the efficient process of the project.

One important agreement is the power purchase agreement ("**PPA**"). This long-term agreement is entered into by the renewable energy project developer and the off-taker in order to outline the terms of purchasing the electricity generated at a pre-determined price.

Another different mechanism is the engineering, procurement, and construction ("**EPC**") agreement. The EPC agreement assigns the design, procurement of equipment, and construction of the renewable energy facility to a single contractor. Thus, making the contractor responsible for delivering a fully operational project by a certain date and within a specified budget.

16. Are there any restrictions on the export of renewable energy, local content obligations or domestic supply obligations?

As of date, there are no significant restrictions on exporting renewable energy from Egypt. This aligns with Egypt's ambitions to become a regional hub for renewable energy.

On such a note, Egypt is actively trying to build interconnection projects with neighbouring countries. For instance, the Egypt-Sudan joint electricity grid has officially commenced operation in 2020. This interconnection project aims to maintain 15,000 MV of surplus power. Furthermore, in March of 2023, Egypt agreed with Jordan to create a maritime communications bridge to connect the Jordanian city of Aqaba to Taba in Egypt, thus establishing infrastructure between the two countries.

Similarly, the Egyptian government has recently partnered with a consortium led by ACWA Power, a Saudi Arabian energy company. The signed agreement is set to develop a 1.1. gigawatts wind energy project in the Gulf of Suez and Gulf of Zeit regions. With significant investments amounting to 1.5 billion dollars.

Further, no local content obligations or domestic supply obligations have been expressly set out.

17. Has deployment of renewables been impacted in the last year by any non-country specific factors: For example, financing costs, supply chain or taxes or subsidies (like the US's Inflation Reduction Act)?

Although there have been no specific reports or statistics to suggest the occurrence of any deployment of renewables in Egypt during the last year, one should consider that the global rise in prices of critical materials, coupled with the vital fluctuation in the Egyptian currency might have had an impact on material prices such as steel and copper used in the renewable energy infrastructures.

18. Could you provide a brief overview of the major projects that are currently happening in your jurisdiction?

Egypt is currently undertaking several major projects (for a specific detailed list, please refer to question 1), including notably El Dabaa Nuclear Power Plant. Established as a cooperative project between Russia and Egypt, El Dabaa Nuclear Power Plant, situated in Matrouh province on Egypt's Mediterranean coast, consisting of four VVER-100 reactors operational from around 2028 to 2031. The plant is expected to majorly and significantly contribute to Egypt's renewable energy production. This is in addition to the Green Hydrogen initiatives as mentioned under question (6) above.

19. How confident are you that your jurisdiction can become a leader in newer areas like offshore wind or hydrogen?

Egypt is emerging as a potential leader in new energy sectors such as wind, PV solar, and green hydrogen, leveraging its significant natural advantages, including abundant sunshine and high wind speeds, particularly in the Gulf of Suez, which is ideal for wind farms. The Egyptian government has ambitious plans to utilize these resources to establish itself as a major player in the renewable energy sector.

In the wind sector, Egypt plans to build one of the world's largest wind farms, with a capacity of 10 GW, starting in 2024. This project, supported by a consortium including Masdar and Infinity Power Holdings, is expected to be completed by 2030. The wind farm will cater to domestic energy needs and has the potential to export electricity to Europe and Saudi Arabia via existing and planned interconnectors.

Regarding green hydrogen, Egypt has made significant progress by signing multiple agreements with international developers. The Suez Canal Economic Zone (**SCZONE**) is central to these projects, which are anticipated to attract investments totaling around $40 billion over the next decade. Major companies such as ACWA Power are involved in developing large-scale green hydrogen facilities, aiming to produce substantial quantities of green ammonia and hydrogen for both local use and export.

20. How are renewables projects commonly financed in your jurisdiction?

The main source of financing comes through development financial institutions (DFIs) such as EBRD and IFC amongst other financial institutions as well. Furthermore, financing comes also through local banks based in Egypt through deploying commercial loans. There are also some grants that are offered from time to time through international or local institutions based in Egypt.

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