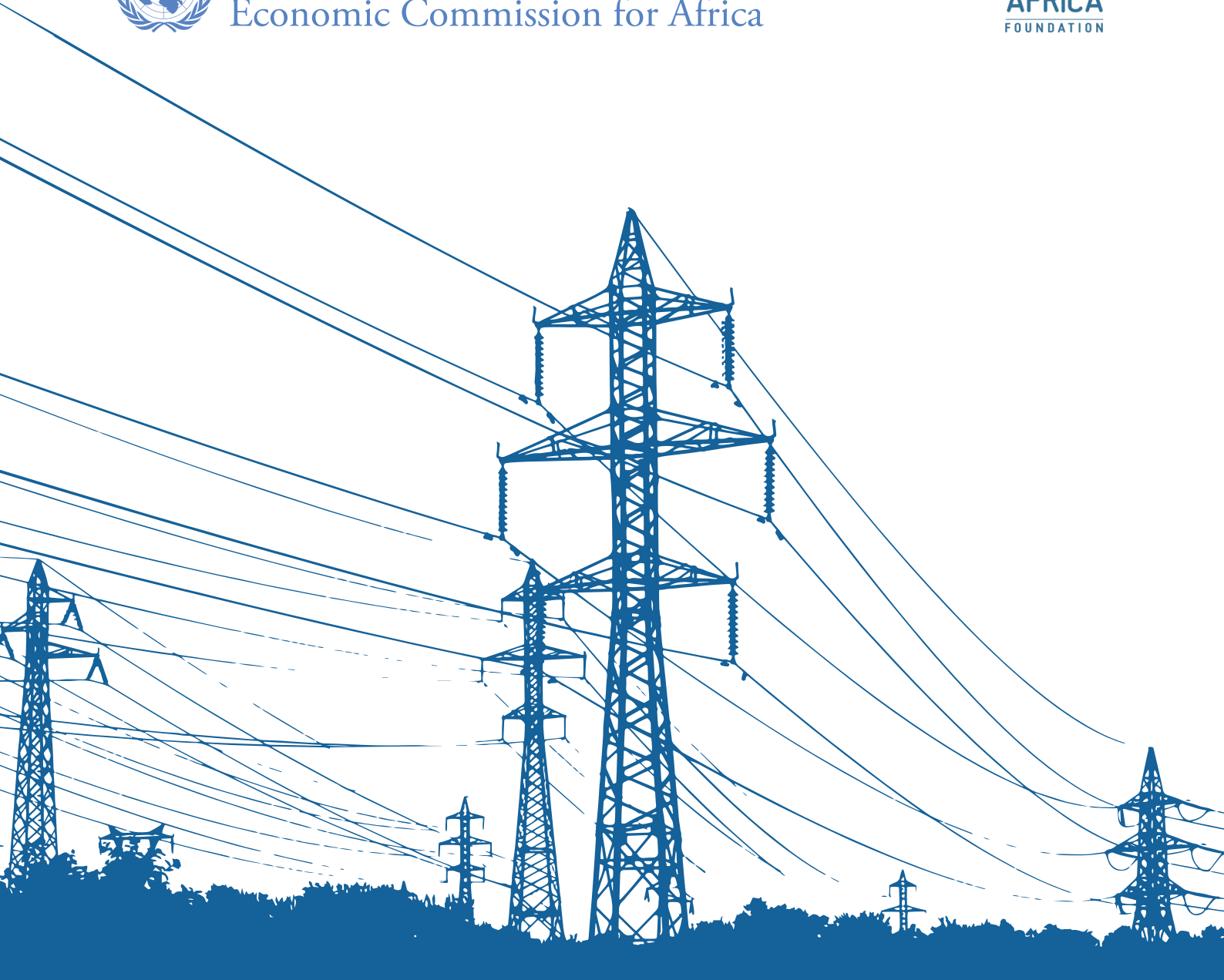




United Nations  
Economic Commission for Africa



# Regulatory Review of the Electricity Market in Egypt:

Towards Crowding-in Private  
Sector Investment



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This analysis is based on policies, laws and regulations adopted until April 2022. Therefore, the results will not consider and/or reflect the impact of policy and regulatory changes adopted thereafter.

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The national policy and regulatory data necessary for objective regulatory review, as well as the draft country economic, energy sector, and regulatory context was ably developed by the national consultant, Engineer Hatem Waheed, former President of the Association of Mediterranean Energy Regulators and Executive Chairman of the Egyptian Electric Utility and Consumer Protection Regulatory Agency. The regulatory analysis was based on a large national regulatory and policy database, which was validated by energy experts from the Ministry of Electricity and Renewable Energy, Egyptian Electricity Holding Company, Egyptian Electricity Transmission Company, Egyptian Electricity Regulatory Agency, New and renewable Energy Authority and other relevant institutions represented by the following sector leaders and experts: Eng. Aly Abd El Fattah, Dr. Dalal Helmi; Mr. Kareman Salim; Ms. Madiha Abdel Azim; Ms. Amal Ismail; Mr. Amgad Elhewehy; Dr. Eman Ramadan; Eng. Ahmed Sami; Eng. Ahmed Maher; Mr. Tamer Khattab; Eng. Mohamed Omran; Eng. Randa Mohamed; Mr. Amhed Attia; Mr. Araby Mostafa; Ms. Salwa El-Samannoudy; Mr. Naglaa Khattab; Ms. Ilaria Urbani; Ms. Rima Jreich; and Ms. Chiara Maero.

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## Analysis of Electricity Market Policy and Regulatory Framework

This report provides an analysis of Egypt's electricity sector policies, laws, and regulations in relation to crowding-in private sector participation in developing national electricity infrastructure. The report is part of the United Nations Economic Commission for Africa and RES4Africa Foundation joint program on *Regulatory Review of the Electricity Sector in Africa: Towards Crowding-in Private Sector Investment*.

Egypt entered a new and major phase of electricity sector reform in 2014, which is still ongoing, based on the principle of market restructuring and opening to competition. As often occurs, this new wave of reforms mainly originated from the electricity crisis the country suffered between 2010 and 2014. The reforms were also part of a larger macroeconomic reform plan negotiated with the IMF and the World Bank.

In subsequent years, the electricity policy and regulatory framework changed with the adoption of major strategic documents and legislation, which culminated in the adoption of a new Electricity Law in 2015. The law fundamentally restructured the governance of the electricity supply industry in Egypt. Law No. 87/2015, also known as the new Electricity Law, restructured electricity public service with the purpose of boosting private sector involvement and building a competitive electricity wholesale market. The direction set by this legislation was further strengthened by a new national energy policy in 2016 and the Integrated Sustainable Energy Strategy 2035 which provided strategic orientations for electricity infrastructure development.

Policy and regulatory reforms were adopted to guide progressive market restructuring and opening, which resulted in the establishment of an independent transmission operator in 2019, the empowerment of the national regulatory authority, the diversification of the electricity generation mix, the development of renewable energy capacity, the reform of electricity tariff system, as well as the elimination of subsidies. Overall, the comprehensive reform efforts targeting most of the key elements in electricity policies and regulations have relevance and implications for reinforcing market *openness*, *attractiveness*, and *readiness* towards private sector participation. These include changes in the energy strategy, market framework, competition, business models for private sector participation, tariffs regulation, provision of incentives, grid access, and connection, as well as electricity system operation. It is, therefore, not surprising that the policy and regulatory analysis conducted mostly confirms the ability of Egypt to shape its policy and regulatory framework to widen the scope and enhance the *openness*, *attractiveness*, and *readiness* of the electricity market to scale private sector investment across the market value chain.

However, ten years after the introduction of the new Electricity Law and taking into account that the law foresees the achievement of the transition towards a fully liberalized and unbundled electricity market by 2025, the electricity supply industry in Egypt is not yet profoundly different than it was a decade ago. State-owned generation and distribution companies, Egyptian Electricity Holding Company (EEHC) subsidiaries, are still dominating the generation

and distribution services, while the new Electricity Law gives a monopoly on the transmission service to Egyptian Electricity Transmission Company (EETC), also a state-owned utility. Private sector participation is advancing on the electricity generation side, notably thanks to the success of the feed-in tariff rounds, the build-own-operate contracts with the EETC and a few embedded generation projects supplying energy to industrial consumers and touristic projects. But market restructuring at the distribution and retail level has been slower than expected with multiple extensions of the transition period. Egypt is also confronted with structural challenges in moving towards full cost-reflectivity for electricity prices, despite major progress also on this side. As a result, the underpricing of electricity is preventing fair competition between market actors at the generation and retail levels, limiting optimal development of private sector participation in these markets.

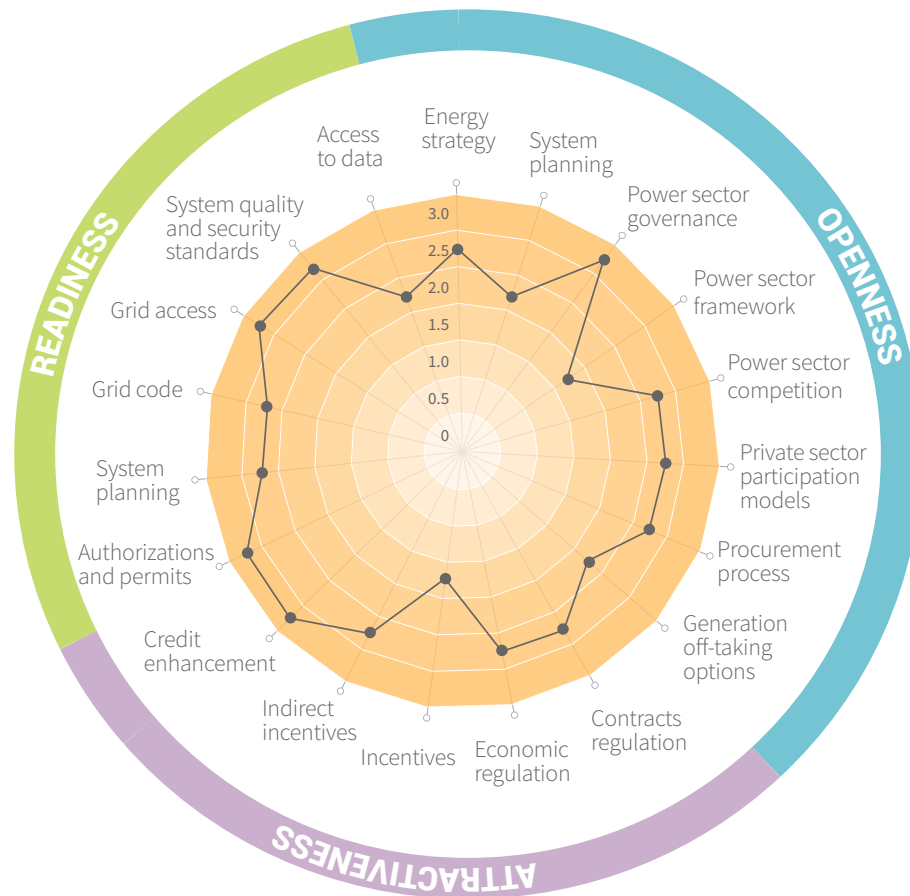
The purpose of this regulatory review is to pinpoint the main strengths and gaps of the policy and regulatory framework currently in force related to private sector participation in the entire electricity market. It further aims to offer concrete recommendations for regulatory improvement and reform towards attaining a competitive, resilient, and sustainable electricity market.

The regulatory analysis is undertaken following a comprehensive UNECA and RES4Africa regulatory review methodology, which was developed with the participation of African and international regulatory experts. The approach enables three broader assessments: the degree of *openness* of the electricity market to the private sector based on an evaluation of the power sector structure and governance; the *attractiveness* of the market based on an assessment of sector economics, fair competition, and overall economic regulation; and the *readiness* of the market based on an assessment of technical regulations.

### Main findings related to the Generation segment

Policy and regulatory frameworks governing the electricity generation market are effective in crowding-in private sector investments and enabling a conducive environment for electricity generators. Furthermore, the unbundling of transmission activities as well as the presence of a national regulator have further boosted the positive outcome of the analysis of the *openness* Dimension related to the generation segment. The generation market is also adequately attractive, as demonstrated by the participation of several independent power producers. However, the *attractiveness* of the generation market could be further enhanced both on *incentives* and *economic regulation* Topics. Electricity tariffs have not yet achieved full cost-reflectivity while technology-based incentives, such the ones for renewables, could benefit from the enactment of new executive regulation. The generation market is also largely ready in terms of technical regulation. Indeed, the availability of national transmission and distribution codes with clear rules for system operation, grid access, and the contractual relationship between system operators and system users supports the integration and secure operation of new infrastructure within the national electricity system.

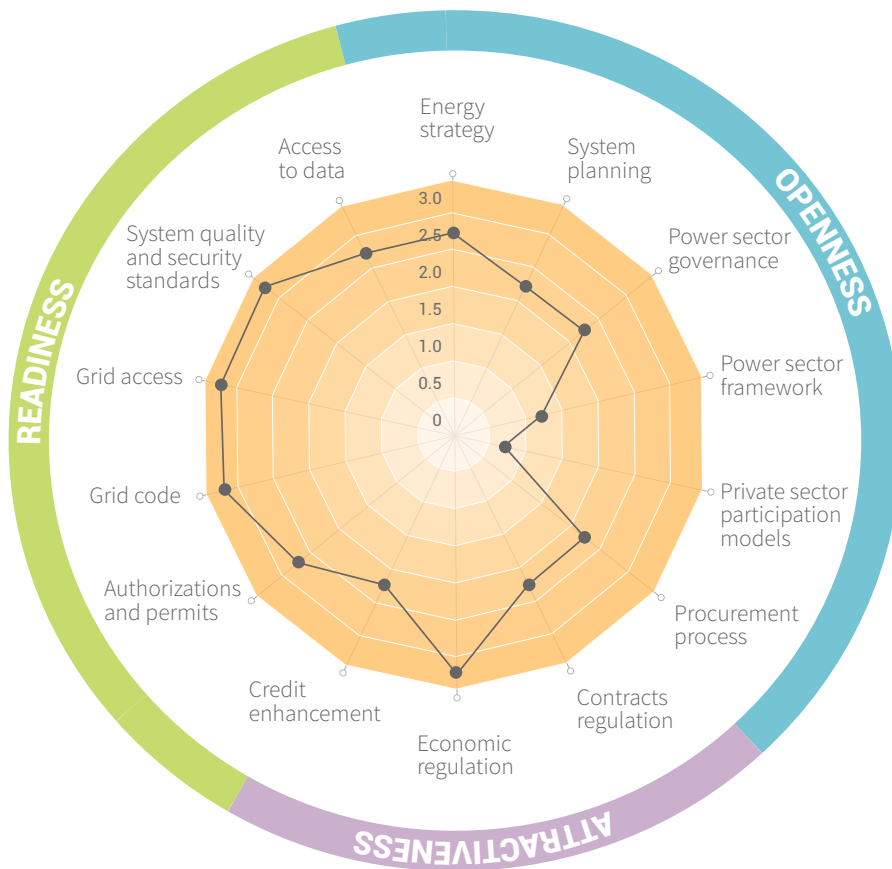
Figure 1: Overview of the generation segment



### Main findings related to the Transmission segment

Private sector participation in the transmission segment remains restricted. EETC is the sole owner and operator of the national transmission network. As a result, private sector participation in the operation of transmission assets is excluded, as no model such as concession or privatization is made available. Private entities can, however, take part in the construction of new transmission assets as engineering, procurement, and construction (EPC) contractors. Beyond the barriers in the *openness* Dimension, the analysis reveals an advanced stage of development of national policy and regulatory frameworks in most of the Topics covered by the *attractiveness*, and *readiness* Dimensions. The Electricity Law as well as its Executive Regulation define principles and responsibilities for tariff determination and administration while EgyptERA is responsible for setting the rules and economic principles for tariff calculation. Furthermore, the national transmission grid code offers further regulatory clarity and predictability ensuring the stable and safe operation of electricity networks.

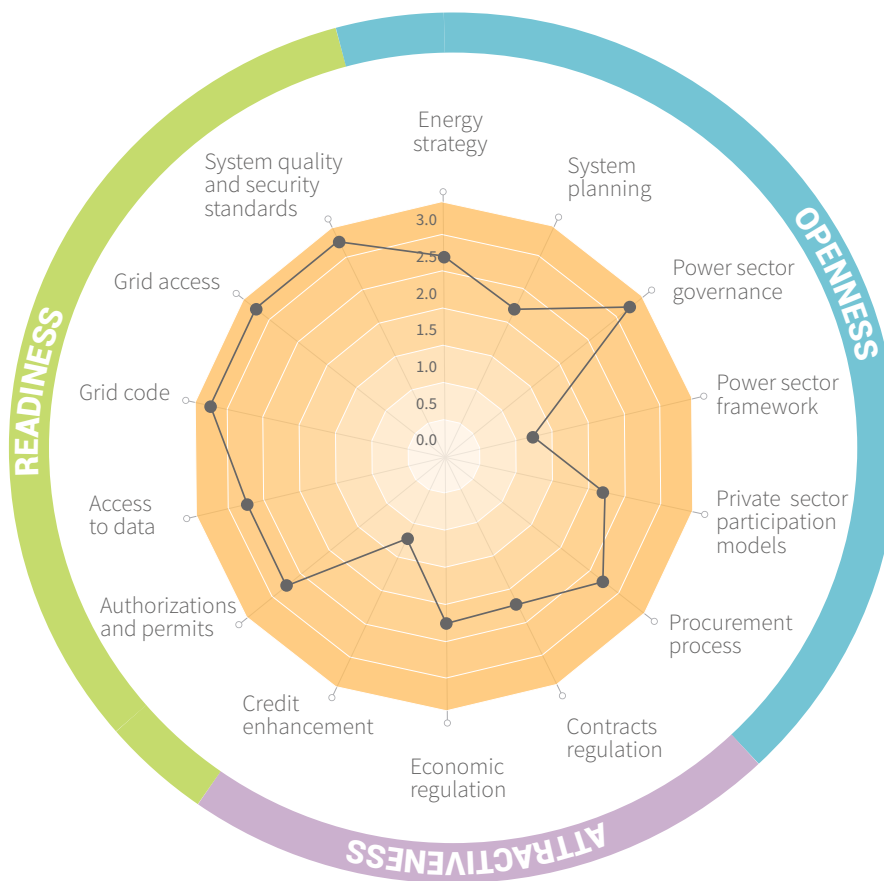
Figure 2: Overview of the transmission segment



### Main findings related to the Distribution segment

According to the provisions of the Electricity Law, the distribution segment is open to private sector participation. Distribution licenses are accessible to private entities wishing to distribute or sell electricity. Furthermore, the Electricity Law also provides for the full unbundling of the power sector. However, while vertical unbundling of transmission activities has already been implemented, distribution and electricity retailing services remain bundled. Furthermore, the restructuring of EEHC distribution subsidiaries, a key step in the market reform process, is experiencing delays thus explaining the moderate performance in the *openness* Dimension. Distribution license rights and obligations are well established by the Electricity Law as well as the rules for accessing licenses approved by EgyptERA. The law clarifies the contractual regulation and standardized distribution licenses to the benefit of interested private entities. Tariff policy principles, based on the true costs of electricity services, are well stated by the Electricity Law; however, the absence of clear and transparent rules for electricity distribution pricing, currently under review by EgyptERA, diminishes the *attractiveness* of this market segment to private investors. The *readiness* Dimension shows areas of strengths related mainly to the presence of the national distribution network code which covers all the main aspects related to the safe operation of distribution networks. In addition, third-party access to both the national transmission and distribution networks is permitted by the 2015 Electricity Law.

Figure 3: Overview of the distribution segment



## Recommendations



### To enhance the *Openness* of the electricity market



Energy strategy

- ⚡ Enforce policy updates and review their implementation periodically and ensure periodic updates of strategic documents for the energy sector.
- ⚡ Consider adopting specific electricity sector targets in dedicated legislation to strengthen enforceability and accountability.



Power sector governance

- ⚡ Adopt license conditions and rules for new market participants (such as electricity traders and re-sellers) to facilitate market entry of electricity traders and other market intermediaries.
- ⚡ Adopt market-related regulations related to market operator rules, eligibility rules for qualified customers, and last resort rules.





Power sector framework

- ⚡ Further, implement the restructuring of distribution companies and the separation of retail and distribution activities to facilitate greater private sector participation.



Power sector competition

- ⚡ Clearly define the phases for market opening, detailing: (1) the procedures required for complete liberalization of the market, along with the associated timeline; (2) the investment costs required for each phase; and (3) the standards of moving from one phase to another.



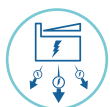
Private sector participation model

- ⚡ Pave the way for investments in merchant projects by facilitate access to electricity sale license, private-to-private power selling agreements and access to national grid infrastructure.
- ⚡ Facilitate private capital flows towards the electricity distribution service and companies by allowing shared ownership of distribution assets.



Procurement process

- ⚡ Provide clarity and improve predictability about procurement plans to potentially interested stakeholders by publishing medium-term tender schedules.



Generation off-taking options

- ⚡ Evaluate costs and benefits for the evolvement of market design towards the establishment of an electricity spot market.



## To enhance the *Attractiveness* of the electricity market



Contracts regulation

- ⚡ Adopt standard form for power purchase agreements (PPAs) differentiated by technology and approved by EgyptERA to facilitate contract negotiation.



Economic regulation

- ⚡ Unbundle electricity tariffs and define differentiated, transparent methodologies to set the price points related to electricity services – generation, transmission, and distribution – to stimulate competition and target incentives.
- ⚡ Empower EgyptERA to approve final tariff decisions.



Incentives

- ⚡ Ensure a timely update of RE regulation (i.e. FiT levels, RE-dedicated tenders) to ensure renewable energy deployment is aligned with national targets.



Indirect incentives

- ⚡ Assess the feasibility of introducing a national carbon pricing mechanism to meet climate objectives and encourage sustainable energy development.



Credit enhancement

- ⚡ Simplifying the governmental procedures for providing guaranteed loans.
- ⚡ Facilitate the use of the Central Bank of Egypt (CBE) convertibility guarantee for both large scale and small RE projects.



### To enhance the *Readiness* of the electricity market



System planning

- ⚡ Increase the transparency about system planning by the involvement of market participants along the process, also through public consultation process, and making the generation and transmission expansion plans accessible for interested parties.



Grid code

- ⚡ Complement the connection and operating rules with market rules.
- ⚡ Introduce remuneration schemes for ancillary service providers, also to support the development of system flexibility sources with market-based mechanisms.

As Egypt takes further bold steps towards its energy sector regulatory reform, the UN Economic Commission for Africa and the RES4Africa Foundation remain committed to partner with Egypt in addressing any of the identified regulatory and policy gaps. They also commit to supporting regulatory capacity development, as well as any area of particular reform interest of Egypt towards greater *openness*, *attractiveness*, and *readiness* of the electricity market.





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