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Background Paper

Roundtable (4):

**The Electricity Sector: Current Status and
The Need for Reform**

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The Electricity Sector: Current Status and The Need for Reform

1. Background and Rationale

Effective infrastructure is key for development and social well-being and a main driver for private investment. The electricity sector- with its institutions, facilities and legal framework- is one of the elemental parts of infrastructure and the primary criterion for judging the economic status and the state of welfare in a country. The sector comprises a number of fundamental elements; namely power plants, transmission, distribution, power grid, tariff regime, supervisory institutions and legal framework- all affecting the performance of the sector and its contribution to economic development.

In Palestine, additional factors affect the management of the sector and determine its potentials. The political/security situation, investment climate, economic conditions and the legal environment, all have contributed to configuring the Palestinian electricity sector in recent decades.

Debate on the development of electricity sector in Palestine has of late taken center stage, especially with the latest political, economic and, even, social buildup: the ostensible breakthroughs in the peace process and the Palestinian intensified efforts toward reaching a political solution that leads to statehood; the PA's accumulated debts to Israel Electric Corporation; the PA's financial crisis (triggered in part by net lending); and the high poverty and unemployment rates. Special attention, thus, needs to be given to the efforts that seek to identify the status of the sector and the needed reforms that would enable the sector to meet the future requirements of economic and social development.

This background paper sheds light on the electricity sector in terms of consumption, production, producers, providers and distributors, as well as the challenges facing the development of the sector and the efforts/initiatives undertaken for developing it. The paper is expected to inform a worthwhile round-table discussion between various stakeholders on three themes: **first**, reviewing the current state of the Palestinian electricity sector; **second**, identifying the most adverse obstacles to the development of the sector; and **third**, proposing short and medium-term policies/procedures needed to develop the sector.

2. Electricity in Palestine: Facts and Figures

The electricity sector comprises a number of elements that work interactively to shape the sector. Below, we outline the main highlights of the electricity sector in Palestine:

✧ **Legal and institutional framework**

The sector is regulated by Decree No. (13) 2009 which details the terms of reference and functions of the executive and supervisory institutions in the sector as well as the provisions pertaining to granting licenses to producers and distributors. The Decree provides for establishing a national transmission company, and it involves a chapter on sanctions against violations. The 2009 Decree was amended by Decree No. (16) 2012. The amendments were in the first place related to penalties against offenders, specifically replacing the cut of power service with a four-month imprisonment and a fine of up to JD 1,500 for those implicated in electricity theft.

✧ **The amount of electricity available**

According to PCBS 2013 data, with the exception of several residential West Bank communities that Israel deprives of connecting to the public power network, almost all Palestinian households are connected to the power grid, compared with 97.2 percent in 1999¹. While 99.8 percent

¹ Press Release on Household Energy Survey, July 2013. PCBS.

households in the West Bank have a 24-hour access to power, the daily power service for 97.2 percent of Gaza's households is barely 16 hours.

The multi-source amount of electricity available in Palestine was 5,370 GW / hour in 2012 (3,700 in the West Bank and 1,670 in Gaza). The annual per capita consumption of electricity (after deducting transmission loss) is 950 kilowatt/hour, which is well below the rates in neighboring countries²: 2093 in Jordan, 1743 in Egypt and 6926 in Israel in 2011.

✧ **Power Generation**

Palestine depends on external sources for the supply of electricity. Nearly 88 percent (4702 GW/h) of supply comes from Israel, while imports from Egypt and Jordan represent about 4 percent (or 207 GW/h) of total supply. The power plant in Gaza produces around 392 MW/h (7.3 percent of consumption in Palestine or 23.5 percent of consumption in Gaza).

✧ **Transmission**

Pursuant to the Palestinian Electricity Law, Palestinian Electricity Transmission Company Limited (PETL) was launched in the first quarter of 2014. This public company is intended to develop and regulate the electricity sector, provide additional sources of supply and reduce the PA electricity debts. Under the law, the main functions of the company involve the transmission of electricity from the source to distribution companies and consumers, as well as exporting/importing electricity. The PETL holds, develops and maintains the National Transport Network, and it is expected to replace the West Bank's already existing 230 substations and transformers.

✧ **Distribution companies**

Communities in Palestine receive electricity from 6 distribution companies³ (5 in the West Bank and 1 in Gaza), in addition to the local councils not affiliated with any distribution company. Three of these companies have the legal form of joint stock private companies, while the other three (Southern Electricity Company, Hebron Electric Power Company and Tubas District Electricity Company) still work informally without proper registration at competent departments.

With 204 thousand subscribers, GEDC distributes electricity to all areas in the Strip. In the West Bank, there are 545 thousand subscribers (390 thousand subscribers (or 72 percent) with distribution companies versus 155 thousand subscribers with local councils). Meanwhile, only 316 councils (or 49 percent of total local councils) have already joined the distribution companies.

✧ **Transmission Loss**

Transmission loss is calculated by deducting the amount of electricity sold from the amount produced/imported. According to the annual report by the Palestinian Electricity Regulatory Council (PERC), in 2012 the 5 electricity companies operating in the West Bank purchased 2,949 GW/h, while sales were barely 2,238 MW/h, which means 24 percent of purchase is lost somewhere between the source and the residential/commercial destination. The loss results from either technical issues (worn-out grid/transmission lines) or non-technical issues, basically related to electricity theft. There are, however, no statistics about the distribution of loss by area/community or detailed information about the reasons behind the loss. The proportions of transmission loss in the neighboring countries are by far lower than in Palestine (14 percent in Jordan and 6.5 percent in Israel).

✧ **Producer and consumer prices**

Electricity tariff in Palestine is determined by several factors, mostly external determinants resulting from heavy reliance on external sources for the supply of electricity. The PERC estimated the 2012 import bill at NIS 2.537 billion (NIS 1.923 billion in the West Bank and NIS 614 million in Gaza), with NIS 0.53 (tax inclusive) for KW/h.

²<http://data.albankaldawli.org/indicator/EG.USE.ELEC.KH.PC>

³ North Electricity Distribution Company, Tubas District Electricity Company, Jerusalem District Electricity Company, Hebron Electric Power Company, Southern Electricity Company and Gaza Electricity Distribution Corporation.

The PERC set a new tariff based on four criteria: cost price from the supplier, loss, demands of low-income households; and demands of the productive sectors. Accordingly, the PERC set a new uniform pricing regime which divided residential consumers into five groups instead of three (from NIS 0.465 up to NIS 0.69 per KW/h). The tariff for the commercial sector is NIS 0.63. The industry sector, on the other hand, has two tariffs: NIS 0.5 for low voltage and NIS 0.45 for medium voltage, while the tariff for the agricultural sector is NIS 0.46 and NIS 0.5 for water pumps. The highest price is in the services sector (NIS 0.8). Obviously, these are very expensive prices. In Jordan, for example, the tariff is around one-third of that in Palestine. That in Israel is very close to the Palestinian tariff (we should, however, remember the differences in the standard of living between Palestine and Israel).

3. Key challenges

This part of the paper is based on the reports published by the PERC and the Energy Authority, as well as other reports that examined the Palestinian electricity sector. The paper, accordingly, identifies 8 key challenges to the Palestinian electricity sector:

- ✧ Though clearly defined in Decree 13 of 2009 (and its amendments in Decree 16 of 2012), there are no definitive borderlines between the executive and supervisory bodies in the sector. Duplication of powers still exists, especially in terms of tariff setting and approval as well as matters related to grid code, distribution and development of specifications and standards. This is further exacerbated by the PERC inability to achieve financial independence, where all its revenues are transferred to the PA treasury in return for inadequate allocations. The Executive Board is headed by an employee on secondment from the Energy Authority, which might create power overlap and conflict of interests. The coordination between the PERC and government institutions/ministries is still minimal. For example, the ineffective coordination between the Ministry of Local Government and the PERC restrains information sharing⁴.
- ✧ Despite the uniform tariff regime, compliance by distribution companies and local councils is still inadequate, probably due to poor mechanisms of control/implementation and irresolute enforcement of sanctions against culprits⁵.
- ✧ The quite high proportion of local councils not subscribing with distribution companies impedes the development of the sector and the application of regulatory strategies/policies.
- ✧ The high rate of technical/non-technical loss further depletes the already limited economic resources and exacerbates the financial crisis of the PA and distribution companies. Strikingly, part of the loss results from meter theft and direct hooking from the line, which signals a disregard of the financial, social and cultural adverse consequences. Also, the poor performance of the distribution companies in terms of collecting dues maximizes the non-technical loss, especially in Gaza.
- ✧ The amounts of money Israel deducts from the clearance account (and later transfers them to Israel Electric Corporation) further compound the PA's financial burden (net lending) and might in the short or long-terms lead to halt power supply to the Palestinian Territory. Starting from 2009, Israel Electric Corporation stopped providing the Palestinian Finance Ministry with detailed invoice of discounts, which restrains the Ministry's ability to collect debts from local authorities and distribution companies that wouldn't, in turn, voluntarily offer to pay their debts.
- ✧ The ratio of the total number of subscribers in the distribution companies/local councils to the total population in Palestine is only 16 percent (compared to 32 in Jordan and 25 in Israel). An increase in this ratio (within better conditions) would improve the financial situation of companies/local councils, at least through connection fees.
- ✧ The biggest challenge facing the electricity sector is its heavy reliance on external sources for the supply of electricity. Such overdependence (especially on Israel, with economic/political debunked interests), along with the resulting forceful tariff regime, harms investment in

⁴ PERC: Annual Report- 2012.

⁵ Ibid

strategic projects. It also squanders opportunities to take advantage of the indirect benefits of a local power-generation source. Israeli obstacles have so far foiled local/ international initiatives to build power plants in the Palestinian Territory (e.g., the case in Gaza), either indirectly (through the adverse impact such obstacles leave on the investment climate) or directly (by denying the necessary licenses). However, there are also some internal public/private delinquency: the absence of policies that seek to build strategic projects, especially the manifest overlooking of the electricity sector in the Israel-PLO agreements⁶, or the inability to direct external initiatives (from donors and foreign investors) to invest in the electricity sector.

- ✧ The challenges the electricity sector encounters go beyond the current threats to touch the future outlook. In addition to the natural increase in demand for electricity (6 percent), the economic growth rate of 0.22 percent (resulting from a 1 percent GDP growth⁷) will further rise the demand for electricity, suggesting further challenges to policy making and implementation.

4. Efforts, initiatives and future plans

In light of the current state of the electricity sector, the impact of the immense challenges and the direct influence of this sector on all Palestinians, efforts are being made to regulate the sector and improve its indicators. Below is a summary of these efforts/initiatives together with future plans:

- ✧ **Legal and institutional framework:** The 2009 Electricity Law was the first step to regulating the electricity sector. The 2012 amendments came to put teeth to the law and tighten sanctions for violations. To what extent these regulations are effective basically depends on the ability to enforce them, particularly through developing methods of application: executive regulations, effective judicial system, strong executive agencies that can properly enforce court rulings and political safeguard when possible. Accordingly, the PERC powers must be explicitly stated in a way that eliminates duplication of responsibilities with the Energy Authority. This must be coupled with granting the PERC more financial independence.
- ✧ **Launch of the National Transmission Company:** The National Transmission Company is instrumental to controlling the activities associated with the transmission subsector. The Company was registered at the Companies Controller Department as a public company with a capital of USD 2 million. The future business (as stated in the law) would contribute to addressing many of the imbalances the sector suffers.
- ✧ **Building local power plants:** An initiative to build a power plant in the Jenin area has recently surfaced. According to preliminary data, the plant will be established by the Palestinian private sector, while local authorities, as per Council of Ministers Resolution, can join with 25 percent of capital⁸. The plant is expected to reduce the price of KW/h to NIS 0.35, and to supply power to northern and central West Bank⁹ with a production capacity of 200 MW (about 20 percent of current available electricity) that can increase to 400 MW in a later stage.
- ✧ **Renewable energy initiatives:** In light of the heavy reliance on external sources (especially Israel) for the supply of power, the high costs of electricity and the environmental impacts associated with using and expanding traditional energy sources to generate electricity, efforts

⁶ Jabary Salamanca, O. (2014) "Hooked on electricity: the charged political economy of electrification in Palestine". Paper presented at the New Directions in Palestine Studies Workshop: Political Economy and Economy of the Political. Brown University, February 28th.

⁷ Abualkhair, Ayman (2006). Electricity sector in the Palestinian territories: Which priorities for development and peace? University of Geneva, Switzerland.

⁸ Council of Ministers Resolution No. (02/35/14) 2013.

⁹ A statement by the President of the Palestinian Energy Authority at a hearing session hosted by AMAN on January 23rd, 2014. <http://www.maannews.net/arb/ViewDetails.aspx?ID=667747>

are now centered on finding safe alternative sources that can supply adequate and sustainable energy, taking into account cost-effectiveness, environmental concerns and strategic dimensions.

Institutional building is key for the success of renewable energy initiatives, and now there are many alternative-energy research centers/institutions in the Palestinian Territory, including the Palestinian Energy & Environment Research Center at the Energy Authority and the Energy Research Centre at An-Najah University. These centers have so far conducted pioneering renewable energy research/practical initiatives and implemented solar power small pilot projects.

At the official level, two renewable-energy strategies have been approved since 2011 with specific goals and a target of covering 50 percent of the Palestinian needs by the year 2020. Recently, the Council of Ministers has approved the Palestine Solar Initiative which aims at producing 5 megawatts of solar power by 2015 through installing 1000 solar panels on homes' roofs.

Despite these considerable efforts, the achievements in alternative energy sector are still negligible. According to the PERC, there are 24 solar energy projects with a total production capacity of 0.63 MW, with the biggest shares contributed by Jericho's project and Tubas project (0.33 MW and 0.12 MW, respectively). A promising power-producing plant in Hebron is expected to produce 0.25 MW. The development of these initiatives, however, are constrained by several hindrances, particularly the absence of a law regulating alternative energy; the lack of technical expertise and human resources; the high costs of investment; and limited areas available for building large renewable energy projects.

5. Key Discussion Questions/Themes

- ❖ Questions directed to the representative of the Energy Authority
What are the Energy Authority future policies for the development of the electricity sector? Are the proposals to establish power plants still on the table, and if yes, at what stage? What are the latest arrangements for establishing the National Transmission Company? What is the Energy Authority attitude towards alternative energy? What are the latest updates on the power regional interconnection projects, and what is Palestine's role in them?
- ❖ Questions directed to the representative of the PERC
How do you assess the legal framework governing the electricity sector in Palestine? Are there positive prospects for overcoming obstacles impeding the progress of the sector? What are the actions the PERC has taken to set affordable, balanced tariff regime? What are the policies needed to promote and regulate the sector in congruence with the development requirements?
- ❖ Questions directed to the representatives of distribution companies
What are the achievements you have so far made, and how are these achievements attested in the quality and prices of services? What are your future plans in light of the talk about building new power plants within your franchise territories? What are the hindrances to your development?
- ❖ Questions directed to the representative of the JDEC
What are the main obstacles to your work? Do you have plans to develop your company into a power plant, thus phasing out dependence on the Israeli provider? What is your vision for developing the electricity sector in the central West Bank? What is your assessment of purchasing electricity from Jordan?