



منتدى الاستراتيجيات الأردني
JORDAN STRATEGY FORUM



Position Paper on Alternatives to Increasing the Electricity Tariffs in Jordan

July 2016

This study is the property of the Jordan Strategy Forum (JSF). For further information please contact the research department at: info@jsf.org or by phone at 06-566-6476.



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The Jordan Strategy Forum (JSF) is a not-for-profit organization, which represents a group of Jordanian private sector companies that are active in corporate and social responsibility (CSR) and in promoting Jordan's economic growth. JSF's members are active private sector institutions, who demonstrate a genuine will to be part of a dialogue on economic and social issues that concern Jordanian citizens. The Jordan Strategy Forum promotes a strong Jordanian private sector that is profitable, employs Jordanians, pays taxes and supports comprehensive economic growth in Jordan.

The JSF also offers a rare opportunity and space for the private sector to have evidence-based debate with the public sector and decision-makers with the aim to increase awareness, strengthening the future of the Jordanian economy and applying best practices.

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@JSFJordan



/JordanStrategyForumJSF



Jordan Strategy Forum

Amman, Jordan



T: +962 6 566 6476



F: +962 6 566 6376

Jordan Strategy forum (JSF) seeks to contribute to making policies that lead to sustainable development in Jordan. JSF also seeks to encourage the optimum use of national resources and empower the private sector to work in a catalyzing environment that will lead to make profit, employ Jordanians, and pay taxes, all of which are means to support an inclusive and sustainable economic growth in Jordan.

Since energy plays a primary role in promoting economic growth for Jordan as a whole and for the companies in different sectors, JSF realizes the importance of identifying main principles to deal with this issue that has been concerning Jordan in the past years. The fluctuation of oil prices and Jordan's dependency on unstable foreign energy resources (97% in 2014)¹ have directly impacted the electricity prices for both the public and private sectors. For the public sector, the energy prices became a serious drain on the general budget, which led to increasing the national debt. In 2014, the energy prices reached around 4480 million JD², which constituted 17.3% of the Gross Domestic Product.³ National Electric Power Company's (NEPCO) debt has exceeded 4.5 Billion JD⁴ in that year due to electricity prices subsidies. This increase had impacted the private sector and increased the operating expenses for most of the companies in different sectors, which led to a decrease in the profits and feasibility of many projects, and resulted in closing some of these companies and laying their employees off.

There is a set of principles JSF considers important and strategic and should direct any policy or procedure or decision regarding energy issues in Jordan, these principles include:

1. The importance of energy security, that includes:
 - Providing a mix of different resources.
 - Heading towards domestic energy and self-sufficiency.
 - Heading towards clean green energy.
2. Provide electricity to consumers for suitable prices in a manner that would stimulate economic growth.
3. Orienting the energy sector from draining the treasury towards supporting it.
4. The energy sector's contribution to implementing Jordan vision 2025 through heading to a green and sustainable economy, creating job opportunities, and increasing Jordan's GDP.

In order to address the challenges of rising electricity prices and the large electricity subsidies provided, the government started a systematic increase in electricity prices in 2013; through the International Monetary Fund (IMF) reform program. This was implemented in congruence with the National Strategic Plan for Reducing NEPCO's Losses to cover the company's debt caused by electricity prices subsidies. This program schedules a systematic increase in electricity prices for 5 years (2013-2017) so as to reach a price level that would eliminate deficit by 2017 and cover the cost that was determined in 2013 according to the electricity prices and oil prices then to be 0.179 JD per kWh.⁵

¹ Ministry of Finance financial monthly bulletin.

² Foreign trade statistics/Department of Statistics.

³ Foreign trade statistics/Department of Statistics.

⁴ Ministry of Finance.

⁵ National Strategic Plan for Dealing with NEPCO's Losses 2013-2017.

However, many developments have occurred in 2015, most importantly:

1. The sharp decrease in the global oil prices where oil price fell to less than 35 USD per barrel.
2. The increased dependency of Jordan's electricity-generating stations on the Liquefied Natural Gas (LNG) that comes from Aqaba's terminal which was inaugurated in July 2015.
3. The decrease in the costs of generating electricity as a result of the dependency on LNG and the decrease in oil and gas prices. The cost of importing energy to Jordan has decreased to become 10.1% of the GDP in 2015 as opposed to 17.3% in 2014,⁶ in addition to a decrease in the cost of generating electricity which was around 0.11 JD per kWh in 2015. All of this resulted in decreasing NEPCO's losses in 2015 by 79% as the company recorded 232 Million JD of losses in 2015 in comparison to 1179 Million JD in 2014.⁷

In spite of these developments, electricity prices remained at the same level in 2016, which resulted in:

1. The big electricity consumers who suffer from a relatively high electricity tariff, especially in the telecom, banking, and education sectors, as well as hospitals and mining industry, and who contribute to closing NEPCO's deficit through paying a cross subsidy, they have turned towards producing their need of electricity using renewable energy. This means stopping their consumption of electricity from the grid which is generated from conventional resources and supplied by the NEPCO through the distribution companies, and as a result stopping paying their share of the cross subsidy which NEPCO's plans relies on to close the deficit.
2. Controversy regarding the feasibility of continuing the systematic increase in electricity prices which has originally aimed to cover the production costs, a situation we were actually close to in 2015. Hence, there is no reason to continue with this increase as long as the oil prices stay as they were in 2015.
3. Requests to re-evaluate the electricity costs especially for big consumers who support the electricity tariff through the cross subsidy after the high electricity costs resulted in decreasing the feasibility of their projects.
4. The importance of finding alternatives for Jordan's dependency on oil and gas to generate electricity. This would make the Kingdom less susceptible to global price fluctuations. In theory, if oil prices returned to their previous levels, the issue of pricing would emerge again and NEPCO's deficit will grow. That way NEPCO will again exhaust Jordan's general budget and will add to the government's debt. Hence, there is a pressing need for Jordan to find alternative scenarios that are more sustainable and less dependent on oil imports.

Accordingly, JSF believes that the government needs to re-evaluate the current solutions on the table, which include: keeping the situation as it is, linking the electricity prices to the global oil prices, or keeping the systematic increase of the electricity prices. JSF recommends that the adopted solution shall balance between consumers' needs for fair electricity prices, and the government's needs of protecting the general budget from sudden increases in oil prices. JSF postulates several scenarios that NEPCO can use instead of increasing electricity prices, as mentioned earlier. These

⁶ Ministry of Finance - Financial Monthly Bulletin.

⁷ National Electric Power Company 2015.

recommendations would help NEPCO close its deficit, which can be carried out through remediating any distortions to the current electricity tariff, or limiting government subsidies to certain large consumers and replacing it with sustainable subsidy rather than permanent subsidy. The recommendations also take into account reducing government loss of cross-subsidies as a result of large corporate consumers turning towards renewable energy systems. JSF recommends using these scenarios (some of which are suggested in this paper), they all lead to achieving the main principles that JSF believes in. If adopted, these scenarios will make the following possible:

1. NEPCO's continuation of paying the electricity costs and avoiding getting back to the budget deficit.
2. Supporting many sectors that upkeep the national economy, which will result in economic prosperity that will reflect positively on job opportunities and GDP.
3. Decreasing Jordan's imports of energy, and all its positive reflections of:
 - a. Providing domestic energy.
 - b. Reducing dependency on energy imports.
 - c. Increasing GDP.
 - d. Providing job opportunities and recovering the economy.
4. Implementing Jordan Vision 2025 through heading towards a green and sustainable economy, creating job opportunities, and increasing Jordan's GDP.

JSF believes in the existence of many innovative solutions to overcome the crisis caused by energy prices that would at the same time avoid increasing electricity prices and support economic growth. This paper provides a summary of three opportunities suggested by JSF, which are delineated through 3 scenarios that can be applied simultaneously or separately, as they are considered more sustainable alternatives whether for the Jordanian economy as a whole or for specific economic sectors. This paper will also summarize the current solutions the government is currently negotiating and their results. JSF is publishing this paper based on an extensive research that was carried out and published by the forum, in which these three scenarios are further elaborated.

The First Scenario

Reducing the losses borne by large consumers (banks, telecom companies and mining companies) shifting towards renewable energy systems.

1. This scenario addresses the losses that NEPCO would suffer as large consumers move towards renewable energy systems. In this respect, the JSF suggests that the government should facilitate the adoption of such systems by large consumers, and to replace the direct subsidy provided by these consumers with a surplus of produced electricity. The additional electricity provided by such firms can be directed towards subsidizing smaller consumer segments. This is in addition to charging large consumers for electricity storage fees that the government would then utilize to build storage stations for electricity produced from renewable energy systems.

Generating the electricity consumed by Banks, Telecom companies and Mining companies costs the government, represented by NEPCO, around JD74 million per year.⁸ This amount of electricity, however, is then sold to these firms for approximately JD181 million per year.⁹ Accordingly, government profit from selling electricity to these firms reaches JD107 million per year.¹⁰ It is postulated, however, that if electricity tariff for these consumers remains at these levels, then most of the firms in these sectors would move out of the electricity grid and depend solely on generating what they consume from renewable energy systems. Thus, government would potentially lose the entire profit it makes by selling electricity to these consumers (JD107 million).

Hence, the Jordan Strategy Forum suggests that amendments be made to the regulations related to generating electricity from renewable energy sources so that firms subsidizing the tariff and categorized under the large consumers segments are requested to produce more than their average annual consumption. According to JSF's assessment (after examining four different scenarios), the additional production could be set at 15%, at which these firms would directly subsidize the government with electricity (generated from green sources), rather than subsidizing the cost of conventional electricity production. The renewable energy projects for these purposes will not only amplify Jordan's use of green energy, but will also help these companies reduce running expenses and will help in creating jobs in the economy. Additionally, the government shall charge these consumers JD0.01 per Kwh as storage fees (also after examining four different scenarios). This would help in reducing the costs associated with storing electricity from renewable sources. Calculations made by JSF assert that these recommendations would reduce the government's potential losses from JD107 million per year to JD88 million per year¹¹; savings equivalent to JD19 million per year.

At the private sector side, these recommendations would reduce the annual electricity cost ensued by banks, telecom companies and mining firms from JD181 million per year to JD62 million per year; total savings of JD119 million per year¹². These savings will improve the financial positions of these firms, which shall ultimately lead to a positive externality on the Jordanian economy, as well as increase Jordan's production of renewable energy and significantly reduce oil and gas imports.

⁸ Analytical Study: "Alternatives to Raising Electricity Prices in Jordan," The Jordan Strategy Forum, 2016

⁹ Ibid

¹⁰ Ibid

¹¹ Ibid

¹² Ibid

The Second Scenario

Discontinuing subsidies to those households that consume more than 600 Kwh per month.

2. Charging households that consume more than 600 Kwh per month the entire cost of electricity for all of their consumption, including that under 600 Kwh. This measure would ensure that subsidies are only granted to smaller households that are in need of assistance.

According to the analytical study conducted by JSF, subsidizing the electricity tariff of those households that consume more than 600 Kwh per month costs the government an average of JD40 million per year. This is although these consumers are considered privileged and are probably able to pay the full cost of their electricity consumption, as their electricity bill already exceeds JD50 per month. Accordingly, JSF suggests that all households whose consumption exceeds 600 Kwh per month must pay the full cost of their electricity consumption under this threshold. In other words, the recommendation is to apply the currently adopted water tariff model to the electricity tariff. This would mean that all these households would have to pay an additional JD22 per month to their electricity bills. As calculated by JSF, this recommendation would affect 152,000 households out of around 1,537,500 households; 10% of household consumers¹³ in Jordan.

The Third Scenario

Directing the subsidy granted to Agricultural consumers and Hotels towards generating electricity from renewable energy systems rather than subsidizing the cost of supplying them with electricity generated from conventional resources .

3. Replacing the subsidies provided to certain large consumers like Hotels and Agriculture consumers with subsidies directed towards paying off the costs of renewable energy systems.

The government subsidizes the electricity bills of agricultural consumers and hotels with around JD41[1] million per year as it sells these consumers' electricity below the cost price. In this regard, JSF suggests that the government is better off by directing these subsidies towards helping these consumers set up and pay the costs of solar energy systems so that they are able to become self-sufficient in generating electricity. Under the current electricity tariff, the government subsidizes each kWh consumed by agricultural consumers with 5 piasters. JSF's recommendation under this scenario postulates that the government subsidizes each kWh generated from renewable energy systems with 5 piasters over the span of 5 years, during which agricultural consumers would pay off the cost of the renewable energy systems (and this can be applied to hotels as well although at different rates). Through this measure the government would pay the subsidy it currently provides these consumers with for 5 years; the time needed to pay off the cost of the renewable energy systems needed in collaboration with these segments of consumers. After the 5 years, however, these consumers will be self-generating the electricity they need at a very nominal cost for them and the government. This means that the government will be able to suspend electricity tariff subsidies for hotels and agricultural consumers after five years of implementing this recommendation and will only bear the costs of distribution and operational costs (the cost of one kWh includes the price of oil, capacity costs, operations

¹³ Preliminary Data fom EMRC

and maintenance costs, as well as distribution companies' costs). According to ERC, maintenance and operational costs constituted 0.9 piasters of the total kWh cost (11 piasters), whilst the costs of distribution constituted around 1.1 piasters of the total kWh cost. In other words, operational and distribution costs are estimated at 2 piasters for 2014. If these consumers install renewable energy systems and would presumably return around 50% of the electricity they produce to the conventional grid until it is used (this percentage is over-estimated and in reality could be much lower). This means that the government will incur a cost of 1 piaster per kWh produced by agricultural consumers and hotels, compared to 5 piasters the government currently pays as a subsidy for agricultural consumers and 2 piasters paid as a subsidy for hotels.

The overall calculated costs of the needed renewable energy systems for these consumers divided over 25 years (the lifetime for these systems), then the subsidies extended by the government will amount to JD8.4 million per year; resulting in savings of around JD32.4 million per year. Consequently, Jordan's energy imports will be reduced by around JD75 million a year and will save consumers in these segments around JD45 million. Through this measure the government would transform its subsidy to hotels and agricultural consumers from a permanent direct subsidy to sustainable support¹⁴.

The Benefits Bestowed by Implementing the Three Scenarios Suggested by JSF

The First Scenario: Reducing the losses of the National Electric Power Company accrued as large corporate consumers switch to renewable energy systems by JD19 million per year.

The Second Scenario: Achieving revenues equivalent to JD40 million per year.

The Third Scenario: Achieving revenues equivalent to JD32.4 million per year.

In other words, the implementation of these scenarios is expected to save the National Electric Power Company (NEPCO) around JD91.4 million per year. This is in addition to other benefits that are equally important, particularly in pertinence to the overall well-being of the economy:

- Reducing the total expected losses due to large corporate consumers moving from the traditional electric system to renewable energy systems.
- Converting a large proportion of the electricity consumed in Jordan from traditional sources to renewable energy sources (approximately 1650 GwH per year). This would translate into reducing Jordan's imports of energy sources utilized to generate electricity by around 9%; which would have a positive impact on the Kingdom's Gross Domestic Product (GDP)¹⁵.
- Contributing to achieving Jordan's two strategic objectives in the energy sector: energy security and diversifying the energy mix.
- These solutions will help large corporations (whether those subsidizing or being subsidized) become self-sufficient and liberated from depending on the relatively high electricity costs.
- NEPCO will be able to meet some of the requests made by the International Monetary Fund (IMF) without having to resort to raising electricity prices.

However, if the government implements the suggestions that are being currently explored:

¹⁴ Ibid

¹⁵ Ibid

1. [Keeping the electricity tariff as it is today](#) would lead to losing large corporate consumers who are considered subsidizers of the electricity tariff, which means losing the total subsidy, which is equivalent to around JD107 million per year. This is whilst other consumers currently being subsidized by the government (such hotels and agricultural consumers) will continue to exhaust the general budget by around JD41 million per year. Additionally, subsidizing large household consumers (above 600 kwh per month) will continue to burden the government's treasury by around JD40 million¹⁶. In sum, the government will be potentially subject to losses of around JD188 million per year.
2. [Continuing to follow the National Strategy to Reduce NEPCO's losses](#): Recent developments particularly in terms of global oil prices have made it imperative to revisit this strategy. Continuing to raise electricity prices incongruence with the abovementioned strategy or due to an increase in oil prices will exert negative influences on non-household consumers, which would incentivize many of them to resort to renewable energy systems, resulting in grave financial losses for NEPCO. This strategy would also increase the costs ensued by such consumers, which would potentially lead to the closing of business and laying-off workers. Although this scenario is expected to raise NEPCO's annual revenues by JD152 million¹⁷ (as per 2015 figures), it does not take into account the losses that would occur due to large corporate consumers leaving the traditional grid. This way the government would lose the subsidies extended by large corporate consumers which has been calculated at JD107 million by JSF (taking the examples of banks, telecom firms and mining & quarrying firms). Additionally, the government will jeopardize its ability to achieve the numerous non-financial benefits previously delineated to only make revenues of around JD45 million¹⁸ per year (which can be achieved through solely implementing Scenario 2 in this paper).
3. [Tying the electricity tariff to oil prices](#): This means that all consumers will be subject to increases in the electricity tariff in the case that global oil prices increase. Thus, this solution would impact a large number of household consumers who would be vulnerable to such increases. This will also affect the subsidized consumers of the private sector, such as factories, hotels, farmers and many others. Similarly, it would influence those consumers who are subsidizers of the electricity tariff as it will raise the prices even further. In sum, this will have a trickle-down effect on investments, as investors will not be able to fix the prices of electricity in their financial forecasts as they would be subject to constant fluctuations. Therefore, following this scenario will increase the negative effect of electricity prices on consumers and will reduce the chance of reaping all the other non-financial benefits discussed above. Additionally, all the large corporate consumers (those examined in Scenario 1) will presumably shift towards renewable energy systems in order to become self-sufficient and liberated from vulnerabilities due to fluctuations in electricity prices and to reduce operational costs. This means that the government will potentially lose JD107.

¹⁶ Ibid

¹⁷ The National Strategy to Reduce NEPCO's Losses 2013-2017

¹⁸ Analytical Study: "Alternatives to Raising Electricity Prices in Jordan," The Jordan Strategy Forum, 2016



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