Summary: Energy Security of the Expert Group Meeting held at ECES on Monday 15th September (3:00 to 5:00 p.m.)

Mr. Bruno Carre (CEO and Managing Director of Suez Cement):

- Phasing-out of subsidy is a vital decision, and as seen in consequence to the recent reforms (price increases), consumption of energy for industry has been only slightly affected, estimated by 1 percent less.
- For households, consumption patterns have not been affected by the reforms, due to their highly inelastic demand.
- Inflation is expected to double after the recent reforms through direct impact of the products that use energy (e.g. transportation).
- Cement industry is important for the construction sector which is highly needed for the country's infrastructure and job creation, and its energy use makes up to 50 percent of its current costs.
- Without securing energy resources, there will be further foreign direct investments in the country.
- Egypt should begin exploring all energy options without a definite preferable energy mix.
- The timing is very important since nuclear power takes on average 10 years, wind farm (3-5 years) and tiny solar installations will take much shorter periods.
- Egypt's reserves of fossil fuels are expected to deplete within the coming 5-10 years.
- A revision of the current regulations and legislations is needed.
- Private sector shall play an important role in energy investments in the coming period. Without PPP nothing will happen.
- All growth in energy intensive-industries growth (except fertilizers) was geared by domestic demand, not to exports.

Dr. Tamer Abou Bakr (Head of the Committee on Energy, The Federation of Egyptian Industries:

- In the short term, in order to solve the energy problem, there is no way out except to import energy, especially liquefied natural gas (LNG).
- The phasing-out of subsidy should be completed within a maximum of 5 years.
- Nature of consumption in Egypt is such that we have 10-20 percent waste (especially in industry).
- Using smart cards to target the poor that are affected by the reforms through cash compensation (i.e. Egypt has a strong database of the poor people that could be used for this purpose).
- Every time you raise the prices, you can evaluate exactly the saving in Egypt from this increase.
- The estimated savings from the subsidy reform is LE 20 billion per year; 20-30 percent of the savings should be directed to the households (families) through smart cards (around 13-14 million smart cards) to mitigate the impacts (e.g. gas oil for farmers). We can start with compensating each household by LE 100 per month in the first phase. Then we can go up to LE 175 in the second phase till we reach approximately LE 300-350 for each household.
- We should start on all sources of energy, without a preferred mix.
- Through raising the LPG prices, households will tend to use more solar energy in the heating process.
- Using natural gas for industry has to stop and be replaced by coal. Therefore the government should facilitate the use of coal in industry. It was a mistake to use gas for industries like cement. Worldwide, gas accounts for only 4-6 percent of the energy mix for industrial use.
- Although we hear many complaints from industrialists regarding energy, we must differentiate between energy and non-energy intensive industries. For the latter, the cost of energy is no more than 5-7 percent of input costs, but for energy-intensive ones it is as high as 50 percent for cement.

Dr. Iman Al-Ayouty (Senior Economist, ECES)

- With reference to energy intensive industries, would you advise for a discriminatory policy that removes subsidies on energy-intensive industries? In fact, literature has established that this policy has the best distributional impacts – both for rural, urban, upper and lower income groups.

Dr. Tamer Abou Bakr

- Indeed, this is highly recommended and in so going the government to further encourage the use of coal without any hesitation.
- In reference to the energy mix, we can run exhaustive studies about the right energy mix in Egypt and in MENA, but this would not be too beneficial. What counts is that when you price products efficiently, this itself would motivate people to move to solar energy at least for heating water whereby, it is possible to achieve high degree Celsius of water heating with normal investment.

Dr. Mohamed El-Sobki (Professor of Electric Power Systems - Cairo University / Director - Energy Research Center, Energy Advisor – Environics, Environment and Development Advisors):

- The current shortage or deficit in electricity is 20 percent of installed capacity. Even with growing imports, the deficit will still exist.
- Since installed capacity falls short of the amount required, most of industries are not up to their own capacity (i.e. high rate of unutilized capacity).
- The current environment in Egypt is adapting itself to the frequent blackouts and the phasing-out of subsidies.
- The recent subsidy reform was good, but not comprehensive and it lacked transparency. If the government were to announce its plan for electricity prices over 5 years, this may succeed in attracting investments.

Ms. Sarah Al-Nashar, Economist, World Bank Egypt:

- It has been estimated that energy subsidies (as % GDP) would reach 4 percent by the end of FY 2014/2015(but, it may be too optimistic to bring down from 7 percent as indicated by **Dr. Omneia Helmy, Director of Research, ECES**).
- The expected savings of the current reform is around LE 40 billion in FY 2014/2015.
- Factors to be taken into considerations in the model are: the development in the international energy prices and international trade and see their fiscal implications.
- Inflation is currently at 11 percent, expected to reach 14 percent by the end of FY 2014/2015.
- Although as mentioned today, we need to import LNG, Egypt still needs infrastructure to do so (as was announced by the government).

Mr. Yasser Sherif (Managing Director, Environics, Environment and Development Advisors):

- Egypt is well beyond the 'cheap energy' phase.
- The model has to take into consideration the structural changes.
- Surveys can be conducted with the poor people to ask about their consumption patterns after reform (if it did not change, this means that they were already at their minimum level of consumption).
- He recommended that ECES carry out studies on how the poor have managed to cope with recent reforms, especially which they did not decrease their energy consumption and by what means did they cope, also how did industry cope with the power cuts and price increases.
- If cement industry used kiln burners, this will decrease the cost of energy input.
- The recent increases in electricity were not high enough for upper classes since they still get electricity at subsidized prices. These classes must pay at least the marginal cost.
- Because there is no officially announced plan regarding intended fuel price changes in the coming phase, sensitivity analysis may need to be carried out in the model.
- The tariffs recently applied by the government to electricity are still much lower than that of wind and solar, hence discouraging the shift to renewables.

- Although the government is currently looking at the positive and negative impacts of subsidy removal, and how to mitigate the effects, this approach has to be changed. We need to move to a new mindset where we are not trying to fix or patch up the existing, but rather attempting to implement a new system where cheap energy is no longer an option. Hence, we need to look at how to decrease our reliance on energy, i.e., energy intensity.

Mr. Ayman Koura (Chairman and CEO, Consukorra):

- The dark gas coming out of refineries (flue) can be channeled to cut engines (turbines) to generate energy. That is another option we should consider.

Ms. Amina Taha (PICO):

- Part of the investment problem in the energy sector in Egypt is the EGPC arrears to the private sector (EGPC delay its payments of dues, hindering further private investment prospects).
- Refineries in Egypt are inefficient and not up to the latest technologies.

Mohamed Shoeib (Managing Director, Al-Qalaa Holdings):

- The government lacks a vision of energy, and it has been monopolizing the electricity sector for a very long time.
- One of the solutions for increasing the use of renewables (to reach the 20% renewables target by 2020), is for the government to oblige industries to direct 3% of all new investments to solar or other renewables.
- By 2029/2030, the electricity demand will be 100 – 120 thousand MGW and demand for petroleum will be 120 million tonnes. We must consider our energy mix in view of that.
- The current deficit in energy is 2 billion cubic feet (taking into consideration that electricity runs at its usual efficiency and also feeds industry).
- The deficit will continue to exist unless there are upstream investments. Without upstream investments production will be held back while demand continues to grow.

- There is a problem in government transparency. We need to assess the true size of our problems in order to face them.
- Egypt must put an energy vision for 2030.
- Reserves are depleting, that's why options are increasingly limited.
- Facilitating loans for household to switch to solar energy.
- There is a high level of inefficiency in electricity generating plants (some operate at 17 percent, others at 30-35 percent). Globally, plants maximum efficiency is at 58-60 percent).
- Solar energy should be a strong viable option for Egypt, to be implemented through production sharing agreements.
- Solar is a risk-free industry, and the current production of solar energy is almost 90 percent less in cost than what it first started worldwide.
- The banking sector may give loans to owners of new residential units in new cities for solar cells.
- The private sector may start to provide electricity. There are means by which it can do that, such as the possibility of gas producing firms like ESSO installing their own electricity generation (fed by own gas), and selling directly to the end consumer/industry. This would create healthy competition in the market.

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