

## Major Notes on the Summarized Final Report of the Integrated National Energy Strategy of Iraq (INES), By Dr. Kamil Al-Adhadh\*

I have read with interest the Summary of the Final Report of the INES. There are certain points that I would like to raise, relating to a few aspects that I consider important. I will restate the essential elements of the Strategy's proposals that invoked my comments.

The opening key to understanding the basic objectives of the INES is to quote the vision statement of the Strategy, given on page 3 of the Summary Report; (1)

**“Develop the Energy sector in a coherent, sustainable and environment-friendly manner to meet domestic energy needs, foster the growth of a diversified national economy, improve the standard of living of Iraqi citizens, create employment, and position Iraq as a major player in regional and global energy markets”.**

So, this statement embodies very substantial set of targets, woven in an integrative approach. Yes, those strategic targets are, indeed, crucial for achieving sustainable development within the time horizon of this Strategic Plan; 2013- 2030; (17) years from now. In terms of sector projects, the INES proposes investment projects in four major sectors; the oil Sector, upstream and downstream, natural gas, power, particularly electricity, and linked Industries Sector, e.g., petrochemicals, bricks, cement, fertilizers, steel and aluminum. For implementation, the Plan proposes an investment ceiling of 620 Billion USD, at 2011 value. But, it is emphasized that the crux of the seeding investment works should be implemented during the first few years, perhaps from 2013 up to the year 2014 or 2016. According to this Strategic Plan, Iraq would tend to raise its crude oil production to 9mb/d by 2020; this is being the medium planning scenario. The evacuation system; that is, the pipe transporting system of oil, is envisaged to be expanded up to 13.70 mb/d: South evacuation up to 6.8 mb/d, North evacuation up to 3.75 mb/d, and the North-south link up to 3.15 mb/d. As for the associated natural gas, again, 3 profiles are proposed, but the medium planning scenario is estimated to rise to around 7bscf from 2020 to 2030, compared to the present production of 1.7bscf. Some gas would be available for

exports, especially after developing the production of free, non-associated gas. Oil refinery would have to be expanded, so as to rise from 800 kbpd to 1400 kbpd by the year 2019. The fuel oil pipeline network and road tanker fleet need to be expanded to convey standard volumes to power plants and linked industries like cement and bricks plants. Gasoline and gasoil storage and production need to be expanded to align with international standards and located so as to provide balanced geographic coverage.

Severe shortage in electric power is identified. So it is envisaged to build 40 new power stations by the year 2016. This would increase electricity generation to 22GW, instead of the present 7GW. The INES plan indicates that wind and solar energy systems should be introduced within the plan timeline, though it neither specifies a certain schedule, nor the required investments. To loosen the grip of rentism, that is the adverse dominance of the crude oil sector, the INES Plan proposes six linked industries; Bricks, Cement, petrochemical, fertilizers, steel and Aluminum. The estimated total investment amounts to 620 Billion USD, (530 as capital expenditure and 90 as operational expenditure). It also assumes that 15% of the total projected investments would be expected to come from the private sector. Of the total projected investment expenditures of the Government, 60% will go toward the production and evacuation of crude oil. 15% of the expenditures will go toward the production and handling of natural gas, and 15% toward the renovation and expansion of the national power system. Expected projected revenue is estimated around 6 trillion USD, with net present value of cash flow over the span of the INES of 5 trillion USD, assuming that this NPV will fluctuate, as the assumed average oil price over the INES time period rises or falls by 20 USD. Employment in the general economy, spurred by governmental reinvestment of energy sector revenue, is expected to rise by 10 million jobs by 2030. The INES maintains that by 2020, economic activity in the non-oil-and-gas sectors of the economy will surpass, in its growth, the growth in the oil and sector. By displacing inefficient power plants, by improving the quality of transportation, by eliminating gas flaring, and improving other infrastructures in the energy industries, the INES will address directly some of the most glaring environmental challenges currently facing Iraq. Finally, the INES postulates

very elaborate recommendations for institutional arrangements and effective governance.

Though the INES plan assumes that its recommendations are valid with low risks, yet it maintains that the execution of the INES is subject to numerous risks because many logistic bottlenecks, resource constraints, and institutional limitations could be faced, hence it emphasizes the importance of institutional alignment with the INES plan.

Now, our comments will have to be selective; they are mainly concerned with some economic considerations with respect to certain issues of the INES plan. Some implications are discerned, regarding the consistency of planning in Iraq. Some notes are made, relating to the degree of realism in the objective of the INES plan to curtail rentism in Iraq. Some of the Plan`s targets are questioned, regarding gas production, evacuation and exports. Diversifying sources of power generation are queried. The INES Plan`s predication about the size of employment, as a result of its proposed investments seem questionable. Apart for this, we fully endorse the institutional and governance recommendations of the Plan, except that the Iraqi government has to frame them in a tight organizational method. As for improving the environmental conditions in Iraq, though we condone it, still we consider this planned endeavor partial and below the actual size of the environmental problems in the whole Iraqi economy.

1. Just recently, the Iraqi government approved a new five year National Development Plan, (NDP), for the years 2013- 2017. (2) This Plan covers all the economic sectors of the economy, including the energy sectors, as depicted in the INES Plan which covers the same time frame of the present NDP, but goes beyond; i. e., for 17 years, 2013 to 2030. The INES Plan proposes total investments to be expended during its time span will be 620 Billion USD; with an average annual expenditures of about 36.5 Billion USD. The NDP, however, allocates 357 Billion USD, 21% of this amount is assumed to come from the private sector, that is about 71 Billion USD. While the INES Plan assumes the share of the private sector will be about 15% of the total

investments, that is about 93 Billion USD. While the NDP assumption about the private sector share in its total investments projections is considered, in our view, unrealistic during its time horizon, the similar assumption of the INES Plan seems to be even more unrealistic. However, the INES Plan allocates 60% of its total envisaged investment, that is about 372 Billion USD toward crude oil production and evacuation. It assumes that most of this amount is destined to be expended during the early years of 2013 to 2016. Now, this amount alone is greater than the entire projected government investment of the NDP for the whole economy during its entire time span, (2013 to 2017), by 90 Billion USD! Hence, we can conclude that consistency is lacking between those two plans. Therefore, to prevent contradictions and failures to achieve consistent planning in Iraq, these two Plans must be made complementary to each other, and investment estimates and priorities must be made consistent. Therefore, both Plans have to be revised.

The INES Plan estimated total revenue during its time span to be about 5-6 trillion USD. This is based on the assumption of a price per Barrel of crude oil in the international market of 110 USD, with 18% probable fluctuation. The NDP estimates expected revenue on the basis of 85 USD per Barrel of crude oil. There are two points to indicate here;

a- Maintaining uniformity in methods and assumptions of basic parameters could lead to consistent results. This approach must be followed in rational planning.

b- The estimates and calculations of both Plans are based on the US Dollar. This international currency is now under severe pressures to lose value with the growing money printing by the US Federal Reserve through its system of QE to appease and forestall the intensive bangs of the international crisis which is still raging in the US and European economies. (3) The position of the US dollar as a World Reserve Currency is questionable to-day. Besides many

countries are now diversifying their trading currencies. So, why rely on the Dollar for projecting your revenues from crude oil exports.

2. The INES Plan assumes, on page 3 of the Summary Report, that it aims at diversifying the economy, presumably to reduce the adverse impacts of rentism, i.e., the intense reliance on a single sector, the production and export of crude oil. For this purpose it proposes the establishment of six linked industries which depend on oil for heating and processing; Bricks, Cement, petrochemicals, fertilizers, steel and Aluminum. Now, how effective are these industries in reducing the adverse impacts of heavy reliance on the one sector, crude oil production and export? The Plan does not convince us. Yes, these industries are needed to retain more crude oil for local consumption rather than for exporting, but how much they will contribute to import substitution at the present time? This requires some analysis of the import bills of the country for several recent years. This may lead to identify that private final consumption goods constitute a substantial weight in the total import bills. It is easier and, perhaps, less costly to give a priority to develop the relevant industries for increasing the local production of these goods. This would go a long way toward achieving a significant share in import substitution. Linked Industries and all downstream industries should also be incorporated. This calls for linking the INES Plan with the present NDP, as indicted earlier.
3. The INES Plan describes Iraq's potential for gas production and disposal for both local consumption and exports as very promising. It puts the present endowment of Iraq's gas at 112 Trillion standard cubic feet, (Tscf). With major investments to utilize associated gas; capturing and evacuation of dry gas and Liquid petroleum gas, (LPG), it would be possible to increase gas potential to 280 Tscf, especially after developing the fields of non-associated gas in the Western part of the country. The INES Plan delineates that total gas production will increase from the present 1.7 bscfd to around 7 bscfd between 2020 and 2030. Within this period Iraq can export excess gas, since its local consumption will be much smaller than its production of gas.

But, this does not seem to be convincing. First, because no indication or an estimated figure was given in the INES Plan about the expected size of the potential non-associated gas. Second, the NDP proposed very modest investments in the non-oil sectors. Hence, in the years that go beyond the terminal year of the NDP, the non-oil industries would grow at much higher rates. This means that the domestic demand for gas would tend to rise substantially. So it seems to us that the scenario of gas production and disposal of the INES Plan up to the year 2030 is questionable.

4. The INES Plan detailed the investment schedule for the development of the power sector, particularly electricity generation. It stated some recommendations to develop the wind and solar powers without specifying the investment magnitudes in this important subsector of the power sector. This reflects a gap in its scope and coverage.
5. The INES concluded in its summary Report that the overall consequence of its planned investments in the energy industries would create about 10 million jobs. This seems to us as baseless contention, because the Summary of the INES Plan does not state or indicate any model or justified calculations to clarify how the figure of 10 million jobs is derived or arrived at?

Concluding Remarks and Recommendations: Generally speaking the INES Plan is commendable. The energy Sector, as described and analyzed in this Plan is of vital importance for the sustainable development of Iraq. The characteristics of the energy sector are presented briefly in this Article. Some observations are made.

The main recommendation to suggest here is to call for the responsible bodies in Iraq to consider the pressing need to revise both the NDP and the INES Plan, so as to make them not only consistent but also complementary. It seems essential that rational planning should not be segmented in two plans with different time

frames, conflicting targets, assumptions and projections in various areas.

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Some References: 1. Summary Report of the NIES Plan, 2013-2030, received on 13-June 2013

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Iraqi Economists Network 20 June- 2013

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