



Feride İnan¹

Director of Geoeconomic Studies Center

Anıl İsmet Aşcı²

Research Associate

ELECTRIFICATION: THE FIRST STEP TOWARDS SYRIAN REVITALIZATION

EVALUATION NOTE

More than a decade has passed since the onset of the Syrian conflict, resulting in one of the most severe humanitarian crises in recent history. Over 50% of the nation's population, which was nearly 21 million before the conflict, has been displaced. Casualties, forced displacements, the destruction of infrastructure, and the disruption of economic connections have led to a collapse in industrial production and trade. In recent years, the economy has been further crippled by economic sanctions, the COVID-19 pandemic, and rising commodity prices exacerbated by the war in Ukraine.

While the conflict continues to severely impact the well-being of Syrian individuals, political solutions have reached an impasse, and the current situation is unsustainable. Syria is in urgent need of an economic solution. Economic revival will also be crucial in facilitating the return of refugees to Syria. An important initial step in Syria's economic recovery is to provide infrastructure support, beginning with the essential infrastructure needed to ensure the provision of electricity.

This concept note emphasizes the crucial need to revitalize the Syrian economy by focusing on the reconstruction of the country's electricity infrastructure. Between 2010 and 2022, the per capita daily electricity access decreased from an already low 4.3 kWh to 1.6 kWh. In Damascus city, the daily electricity supply averages 7.08 hours, whereas in rural Damascus, it can be as limited as 3.8 hours. In Aleppo and Idlib, the average daily hours of electricity supply stand at 11.1

¹ <https://www.tepav.org.tr/en/ekibimiz/s/1298/Feride+Inan>

² <https://www.tepav.org.tr/en/ekibimiz/s/1458/Anil+Ismet+Asci>

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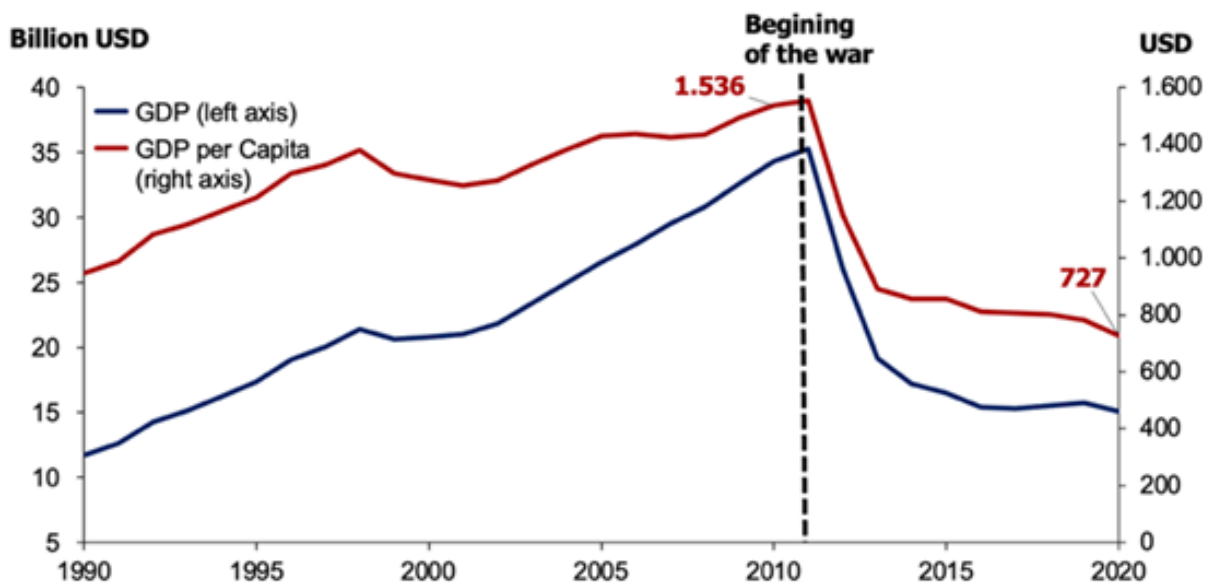
hours, but this figure is significantly lower in rural areas within these provinces. The decline in agricultural productivity and the industrial sector's share in GDP may be indicative of a lack of access to electricity.

Looking ahead, access to electricity plays a pivotal role in facilitating repopulation and establishing the essential productive infrastructure needed to kickstart the economy. Reliable access to electricity will be crucial in the reestablishment of businesses, especially in the former commercial hub of Aleppo, where a substantial portion of industrial activity, particularly in the textile industry and industrial employment, thrived before the onset of the war. Furthermore, the industrial sector, particularly agriculture-based industries, could experience growth through improved access to electricity. As importantly, revitalizing the economy will enable the return of refugees who fled the country.

The Syrian Economy since 2010

Since the commencement of the conflict, the Syrian economy has experienced a significant contraction. Gross Domestic Product (GDP) per capita has declined by over 50%, plummeting from 1.536 USD to 727 USD in less than a decade.

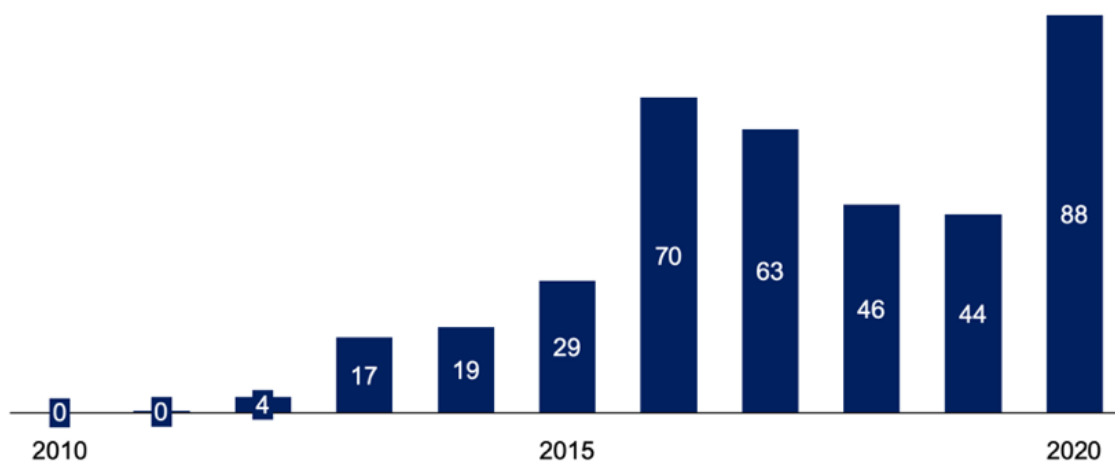
Figure 1. GDP (2015 constant) and GDP per capita of Syria, USD, 1990-2020



Source: World Bank, TEPAV visualizations

The Syrian economy has become increasingly dependent on international aid, with such assistance now comprising the majority of its GDP. Official Development Aid (ODA) inflows, which were non-existent in 2010, reached their peak at 88% of GDP in 2020.

Figure 2. International grants to GDP, %, 2010-2020

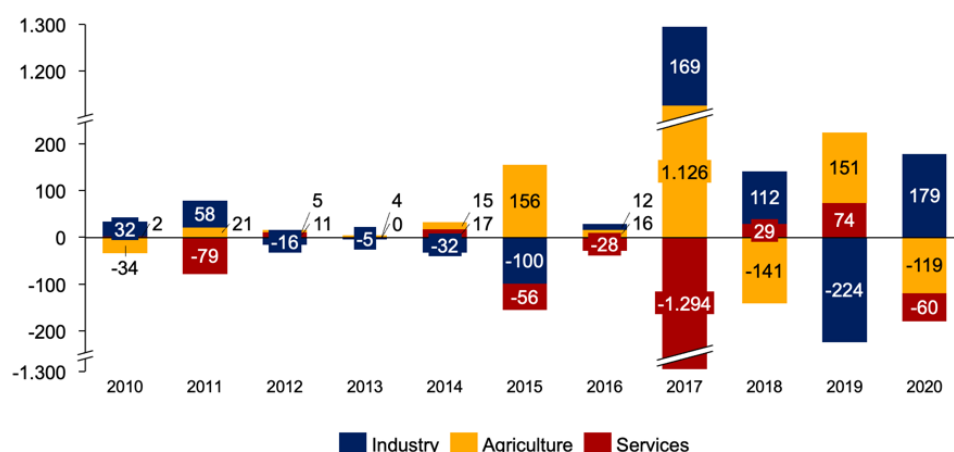


Source: World Bank, TEPAV visualizations

From 2010 to 2020, the industry sector experienced a contraction, and its contribution to GDP turned negative. This is primarily attributed to the decline in mineral production in the industry sector, which is due to the loss of land containing petroleum fields. The decrease in machinery imports (discussed below) may have also negatively affected industrial production. The services sector initially maintained stability (possibly due to the development of services around international aid donors) but began to decline after 2015 due to factors like outward migration and the ongoing state of war.

On the other hand, the agricultural sector's contribution to GDP increased by nearly 20% during the same period, nearly reaching parity with that of the services sector. This sector exhibited greater resilience, experiencing growth in certain years, particularly in 2017.

Figure 3. Contribution to GDP change by sectors, Billion USD, 2010-2020



Source: World Bank, TEPAV visualizations

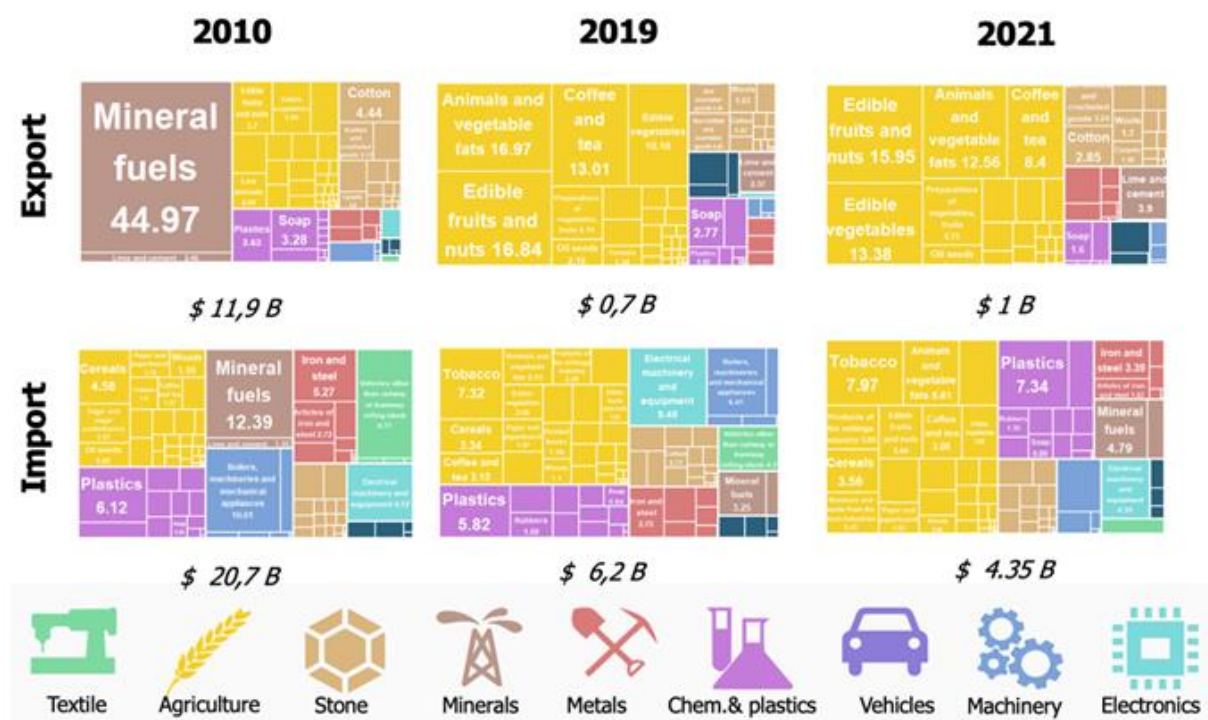
In parallel, the total value of exports has decreased tenfold from 11.9 billion USD in 2010 to 1 billion USD in 2021. In 2010, mineral fuels accounted for nearly half of Syrian exports, a segment that has disappeared over the course of the decade (due to the loss of land containing

petroleum fields as mentioned above). Similarly, cotton exports decreased from 528.4 million USD in 2010 to a mere 28.5 million USD in 2021.

As of 2021, Syria's primary export items include unprocessed agricultural products such as edible fruits, nuts, and vegetables, as well as animal and vegetable fats, and to some extent, coffee and tea. Nonetheless, even the exports of agricultural products have seen a decline, with, for instance, exports of edible fruits and vegetables declining from 440.3 million USD in 2010 to 159.5 million USD in 2021.

The decrease in demand resulting from outward migration and reduced purchasing power, as well as disruptions in economic connections has likewise contributed to a substantial decline in imports. Imports have contracted by over 5 times, falling from 20.7 billion dollars in 2010 to 4.35 billion dollars in 2021. Imports of machinery and electronics diminished significantly, which, among other factors, may be attributed to a lack of electricity.

Figure 4. Syria's trade items by product groups, %

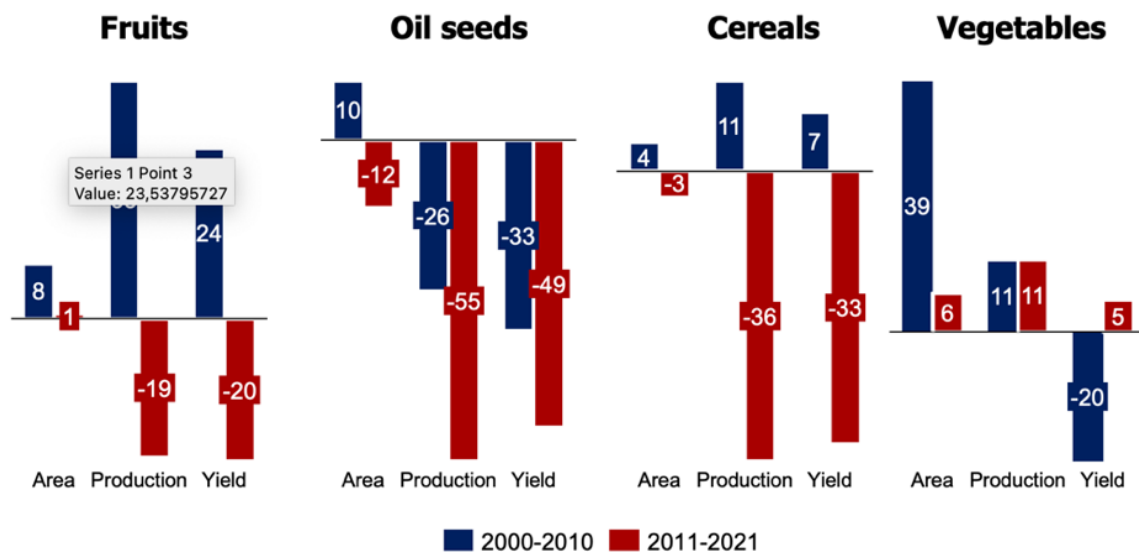


*Classifications are based on HS codes at 2 digits.

Source: The Growth Lab at Harvard University, 2019, "International Trade Data (HS, 92)", TEPAV calculations

A noticeable decline in agricultural productivity has affected various products in Syria, including those for which the country has production capacity and imports. Between 2010 and 2020, the cultivated land area for oilseeds and cereals experienced a reduction, leading to a sharp decline in yield. A similar, albeit less dramatic, decrease in yield was observed in fruit production. In contrast, vegetable production exhibited some improvement in yield, despite a reduction in cultivated land area³. The decline in the import share of machinery (discussed above) may suggest a reversion to conventional agricultural methods due to the absence of electricity, consequently leading to decreased productivity.

Figure 5. Agricultural production in Syria, % Change, 2000-2021



* Yield is calculated as production/area.

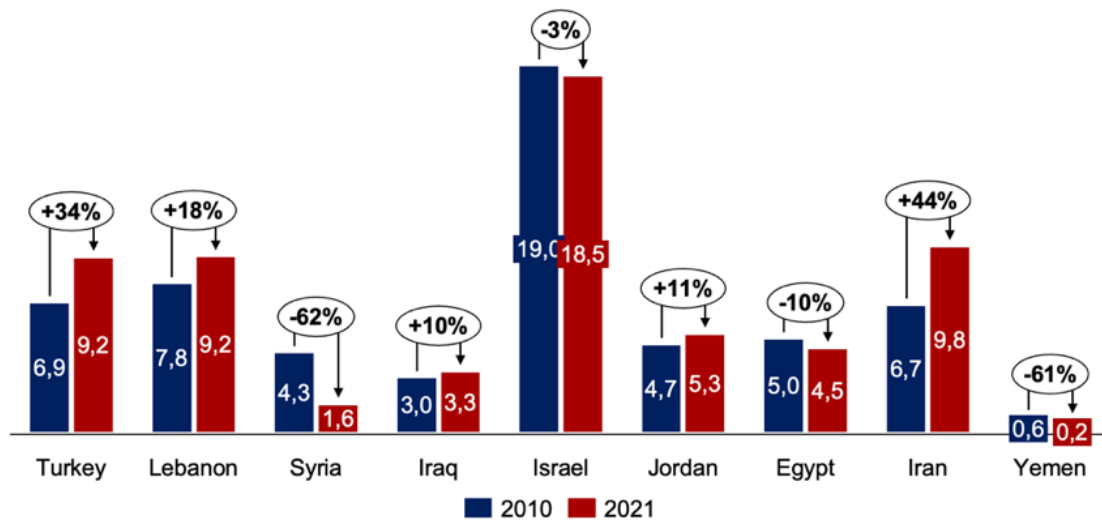
Source: FAO, TEPAV visualizations

A lack of key infrastructure: The case of electricity

Electricity consumption in Syria has undergone a drastic decline, currently ranking lower than all countries in the region except for Yemen. Between 2010 and 2021, Syria witnessed the most significant drop in electricity consumption, plummeting by 62% to a mere 1.6 kWh per capita per day. This figure is higher than Yemen but lower than Iraq's 3.3 kWh per capita per day and significantly below the Turkish average of 9.2 kWh per capita per day.

³ It is important to highlight that the decline in yield for fruits, oil seeds and cereals has been more pronounced than the reduction in available cultivation area. This suggests that factors such as inadequate infrastructure (e.g., electricity, and consequently water pumps for irrigation), insufficient access to inputs, and labor shortages have had a significant impact on production.

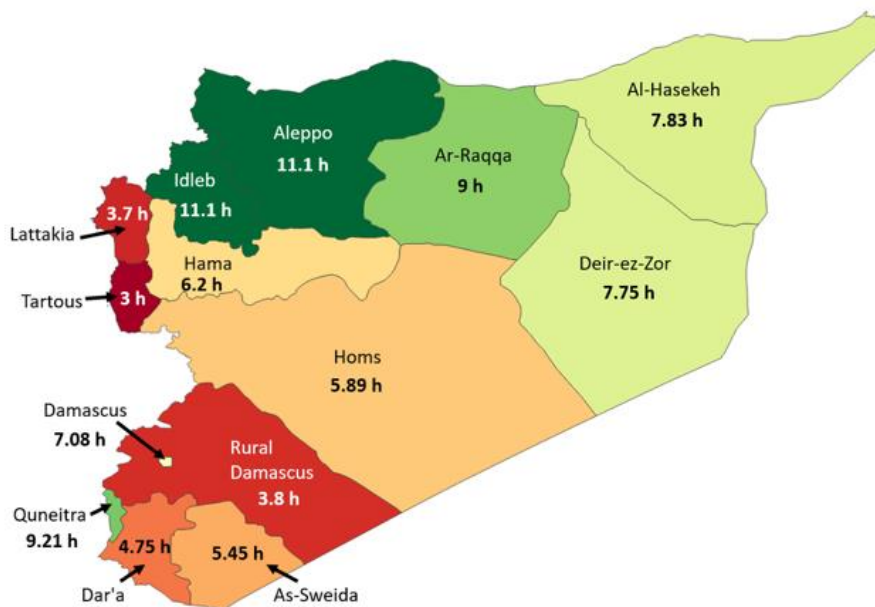
Figure 6. Electricity consumption, kWh per capita per day, 2010-2021



Source: countryconomy.com, TEPAV visualizations

Provinces which were previously key economic centers of the country, face challenges in maintaining reliable access to electricity. In Damascus city, there is an average of 7.08 hours of electricity per day, while in rural Damascus, it's as low as 3.8 hours. In crucial provinces like Aleppo and Idlib, which are also significant for agricultural production, and industrial activity, the average daily hours of electricity amount to 11.1 hours. In Hama and Homs, also important for agriculture, the average daily hours of electricity is as low as 6.2 and 5.89 hours, respectively. In Ar-Raqqa and Al-Hasakah, where agriculture occurs along the Turkish border, the average daily hours of electricity stand at 9 and 7.83 hours, respectively.

Figure 7. Average hours of electricity per day, 2022



Source: MSNA 2022, OCHA, TEPAV visualization

The way forward

Syria is confronted with an urgent economic imperative, beginning with the crucial task of rebuilding the country's vital infrastructure to reinvigorate industrial activity in key cities, starting with Aleppo, and rekindle production. Further research is necessary to assess the damage and determine the essential infrastructure requirements for the main electricity grid- an initial step in the long process of the much needed early recovery and local development of livelihoods. To move forward, a comprehensive analysis of the main electricity grid infrastructure will help determine the most strategic areas for directing investments. Such intervention is pivotal for establishing the requisite productive infrastructure to kickstart the economy.

Having discussed the critical importance of electricity in Syria's economic recovery, it is evident that economic revival is a key factor in paving the way for the return of refugees to Syria. Current discussions on Syria understandably center on a political settlement that would enable normalization in Syria. However, even before a political settlement, an important starting point in engaging with Syria is to provide infrastructure support. Within the realm of infrastructure support, the provision of daily electricity to Syria emerges as a reasonable starting point.

Given that the Turkish electricity grid has already been connected to the Syrian grid, Turkey is well-positioned to play a pivotal role in jumpstarting economic activity in Syria by supplying additional electricity. This initiative would positively contribute to both Syria and Turkey.