

## **From National to Local: Clean Energy as the Key to Economic, Social, and Environmental Challenges**

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Tunisia is a North African, Mediterranean developing country with a population of fewer than 12 million people. Its economy is diversified, encompassing agriculture (olives, dates...), tourism, mining (phosphates), along with a strong services sector and several low value-added industries, (primarily textiles, agri-food, and electromechanical manufacturing). Since the Jasmine Revolution, Tunisia has faced high social demands coupled with low economic growth. This situation has been further exacerbated by international conflicts, political instability, and the COVID-19 pandemic.

Moreover, the countries face energy shortages and remains heavily dependent on oil and gas imports (principally from Algeria). The lack of fossil resources and the subsidies of electricity and fuel for all citizen was between the cause of budgetary deficit and High level of browning. The decline in the energy self-sufficiency rate has further exacerbated the country's dependence on external sources, highlighting a critical situation that intensifies pressure on public policy to address energy security and sustainability.

As a Mediterranean country, Tunisia holds significant potential for renewable energy, particularly in solar and wind power. Its geography, featuring a vast desert in the south and an extensive coastline, offers favorable conditions for harnessing these resources. This natural advantage presents an opportunity not only to reduce energy dependence but also to position the country as a future energy exporter. However, Tunisia has yet to fully exploit this potential, with renewable energy accounting for only 5.1% of electricity generation. The slow pace of the country's energy transition is largely due to financial constraints and the prioritization of other urgent national challenges.

Since the Tunisian revolution, decentralization, participative decision making and bottom-up governance have been widely demanded and were enshrined in the 2014 Constitution. Local governance and development emerged and were democratized in the country following the organization of the first post-revolution municipal elections in 2018, after the adoption of a new and revolutionary Code of Local Authorities. This experience proved beneficial and has dynamized local communities' interaction. However, the political situation in 2021, combined with the President's intervention, has disrupted and detoured the process of decentralization and democracy in the country.

Since that, Local authorities are obliged and expected to support national efforts through their decisions and actions to protect the environment and ensure development, primarily by managing waste, ensuring the cleanliness of public spaces, and through urban planning and the

management of local territories. As administrative entities, municipalities also align with national strategies aimed at improving energy efficiency within public administration and promoting the use of clean energy, notably through a program launched by energy management agencies in 2021.

As an example of a Tunisian locality, the city of Sousse Known in Tunisia as the "Pearl of the Mediterranean", Sousse is a historic, modern, and beautiful metropolis, renowned for its pleasant climate and attractive beaches and majesty. The city is among the best tourist destinations and stands out for its significant coastal potential. It also hosts a commercial port, adding to its strategic economic importance. This natural and economic appeal contributes to a high population density, driven by massive internal migration and a large influx of tourists principally during the summer season.

Sousse City alone is that third most important city in the country. Its attractiveness is reflected in its high population density, drawing a significant share of the active workforce, which drives strong demand for goods and services. The region is marked by sectoral diversity and significant employment opportunities. Despite covering only 45 km<sup>2</sup>, the city has one of the highest population densities in Tunisia over than 5,753 inhabitants per km<sup>2</sup> and compared to the national average of 77 inhabitants per km<sup>2</sup><sup>1</sup>. This high density is supported by touristic zones, industrial zones and a maritime port and is further intensified during the summer season when tourist numbers surge, contributing to increased energy consumption and economic dynamism in the area.

Sousse not only leads in terms of economy and population density but also in electricity consumption, particularly in the domestic and industrial sectors. This high energy demand can be explained by several factors, including the city's dense urban fabric, the presence of diverse and dynamic economic activities, seasonal tourism flows, and intensive consumption of services. The steady year-over-year increase in electricity usage highlights both the region's growing attractiveness and the pressure placed on its infrastructure and energy system. Between 2013 and 2023, electricity consumption in Tunisia rose sharply, particularly for domestic use. In Sousse, this increase is even more marked, largely due to population growth and internal migration. By 2023, each inhabitant of Sousse would consume on average 64% more electricity than the national average. This shows the importance of the city in the country's economic activity.

The city of Sousse, with its high population density and the growing number of residences, villas, hotels, and industrial zones, has strong potential to become a self-producer of solar electricity through rooftop installations. Its coastal location also offers a promising opportunity to develop offshore wind energy. regarding its natural beauty and charm, Sousse could evolve into a clean and sustainable energy city, attracting more visitors while offering them an environmentally friendly experience.

By February 2025, the installed domestic photovoltaic (PV) capacity in Sousse had reached 7.4 MW, representing 2.4% of the national total. Notably, the growth rate in Sousse has outpaced

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<sup>1</sup> [Recensement Général de la Population et de l'Habitat 2024 | INS](#)

the national average (69%), with a 100% increase over the past 20 months. This rapid expansion reflects a growing awareness among citizens of the potential benefits of clean energy. The National Agency for Energy Management (ANME) has supported this transition through nationwide incentives, including grants and subsidized loans. However, no region-specific programs have been implemented to date.

Unfortunately, the municipality and local decision-makers do not have the legal authority or financial capacity to provide subsidies or operate directly in the energy sector. Their role is limited to managing their own internal energy consumption. In this area, the municipality of Sousse city has made commendable efforts. These include the renovation and digitalization of the public lighting system by replacing outdated mechanisms and lamps with LED technology, which is an optimal solution due to its low energy consumption, resulting in a reduction of electricity costs by more than 20%, according to municipal staff.

Moreover, the international partnerships and the integration of the municipality of Sousse into global cooperation frameworks have contributed significantly to these achievements. Within this international cooperation, a digital solution has also been developed to monitor and manage public lighting. Additionally, the municipality has implemented a digital internal platform for procurement management, which enables better control over fuel consumption and improves purchase management. This shortcoming is primarily due to limited funding and legal framework complexity, which hampers the acceleration of the energy transition process. This efforts of the municipality and a reflection of its strong local commitment to offer a sustainable condition to its citizens and visitors.

The slow pace of the energy transition in Tunisia is primarily due to the lack financial resources and secondly to the centralization of efforts within a single national institution. Enhancing the effectiveness of this transition requires broader engagement from multiple stakeholders and institutions that can contribute to accelerating the process. Municipalities have the potential to play a vital role. Currently, the communication of energy transition programs and the explanation of procedures related to installation and subsidies are not effectively reaching citizens. The complexity and opacity of administrative procedures remain key obstacles to broader adoption. As the closest public institutions to citizens and local business, municipalities can act as intermediaries, explaining procedures, hosting relevant services, and facilitating access to support mechanisms. Their regular interactions with residents place them in an ideal position to demystify the transition process.

Building on the experience of the primary school in Makthar, known as the “Makthar Boarding School”, this institution, located in an agricultural area, has successfully achieved energy self-sufficiency. It is equipped with 140 solar panels and 50 solar water heaters, generating a surplus that is four times its own consumption. By efficiently managing this surplus, the school is able to cover building maintenance costs and supply electricity to three other schools in the region. The energy transition in Tunisia is expected not only to support public finances and stimulate economic growth but also to address important social dimensions. In particular, it can reduce electricity bills for low-income households. Furthermore, the shift to clean energy sources can

help businesses lower operational costs, thereby increase profit margins and encourage further investment.

Therefore, accelerating the energy transition should be a national priority, especially as the country struggles with economic challenges and growing social demands. Local engagement and the integration of regional programs can significantly impact the acceleration of the green energy transition. Regional and local competition and communication are often more effective and adaptable, offering flexibility in how procedures are applied, and maximize citizens understand. Improved information flow and a shared sustainable objective and sense of regional interest can strengthen local and regional integration in the implementation of green practice, leading to more effective outcomes at the national level sustainability.

- Recommendations:

Tunisia Country Climate and Development Report 2023 [Tunisia Country Climate and Development Report](#)

Tunisia's Energy Strategy Towards 2035 [synthèse\\_stratégie\\_2035.pdf](#)

A virtuous cycle of green, affordable, and financially viable energy production [Green Energy Production in Tunisia: The World Bank Group Assistance](#)

- travel with us

[Top 10 des Endroits à Visiter à Sousse en Tunisie - Voyage Vidéo - 4K](#)

[Guide de voyage Sousse Tunisie - YouTube](#)

[SOUSSE Tunisia 2024 / feat. Port El-Kantaoui & Kantaoui Bay Beach](#)