

Scaling-up Renewable Energy and Energy Efficiency in the Tunisian Building Sector (Building NAMA)



Source: GIZ Tunisia

Facts

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|  | Sector | Renewable Energy |
|  | NAMA Support Organisation | Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH |
|  | Implementing Partners | Ministry for Energy, Mines and Energy Transition (MEMTE) National Agency for Energy Conservation (ANME) |
|  | NAMA Facility Funding | EUR 14.5 million |
|  | Duration | 2019-2024 |
|  | Status | Implementation |

Toward a New Paradigm

The Renewable Energy and Energy Efficiency in the Tunisian Building Sector NAMA Support Project (short: Building NAMA) is designed to support Tunisia's uptake of energy efficiency and renewable energy measures across the building sector by supporting the deployment of different components of the PROSOL programme (e.g. PROSOL Economique, PROSOL SWH and PROMO ISOL).

According to its Nationally Determined Contribution (NDC) to the 2015 Paris Agreement, the Tunisian government pledged to almost halve (-42% compared to 2010) its CO₂ emissions by 2030. Tunisia's NDC is mainly based on emission cuts in five carbon-intensive sectors, including energy. Within the latter, the building segment accounts for 27% of the total energy consumption. This number is forecasted to increase to 35% by 2030 due to population growth and rising living standards.

Additionally, in its Energy Transition Strategy, the government laid out a roadmap towards a more efficient energy mix (including a 30% solar-based target). However, as of 2020, solar power generates only a mere 3% while gas-fired power plants continue to supply almost 97% of the country's electricity. Consequently, as it stands, the Tunisian "Energiewende" (energy transition) has a long way ahead.

Therefore, besides the significant contribution to climate change mitigation it represents, by tackling the decarbonization of this sector, Tunisia aims to become less dependent on imported natural gas and slash government spending on fossil fuel subsidies. This represents a great opportunity, as such subsidies still amount to 8.3% of the national budget.

In this context, residential PV systems have the potential to become an economically attractive source of energy for middle-income households, a lucrative business opportunity for the national PV industry as well as a profitable, low-risk investment for local banks.

Change in the Face of Challenges

As of 2020, there are several independent programmes and regulations already in place to foster the increase of renewable energies and energy efficiency in the sector. An example of this is the PROSOL SWH programme, which since 2007 promotes the use of solar water heaters. Another relevant example is the PROSOL ELEC programme, supporting the installation of photovoltaic (PV) systems in residential buildings since 2010, amongst others. Nevertheless, these programmes are still facing financial, technical and communication related challenges that prevent them from reaching their full scale-up potential.

Therefore, the features of the PROSOL programmes (as well as the NSP) aim to tackle these challenges. For example, whilst its successful predecessor program (PROSOL ELEC Classique) mainly targeted high-income households, PROSOL Économique democratizes access to photovoltaic technology. To achieve this, in 2020 PROSOL Économique added small-sized residential PV systems, including inverters, as part of the Tunisian Electricity and Gas Utility's (STEG) approved equipment and thus, it allowed new small solar panels to plug into the national power grid. By making residential PV systems more affordable and widely available in this context, the NSP Building NAMA will help scale the program up to 65,000 eligible households. These households are identified through their annual electricity consumption, which serves as a proxy to determine their income. Thus, a consumption of 1,800 kWh qualifies a household for the interest rate subsidy under PROSOL ELEC Économique.

Another issue targeted is the limited access to financial services many ordinary Tunisians face, resulting in a limited financial margin. Thus, in order to provide tailor-made solutions for the middle class and incentivise commercial banks, the NSP designed a market-based financial mechanism. Thereby, PROSOL Economique fixes the interest rate for PV buyers at 3%, instead of average market rates of around 9%. With little upfront



investment and instalments automatically added to the bi-monthly electricity bill, the NSP's interest rate subsidy makes low-carbon energy affordable and accessible for the Tunisian middle class.

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Achieving Transformational Change

The NSP Building NAMA seeks to transform the building industry to introduce a shift toward more climate-friendly and energy-efficiency technologies. To achieve this, the NSP applies a policy- and market-based approach, based on three pillars:

- i) Introducing the national program PROSOL Economique promoting photovoltaic panels amongst middle-income households,
- ii) Supporting the market expansion of solar water heaters (PROSOL SWH),
- iii) Developing market mechanisms for residential roof insulation (PROMO ISOL).

As PROSOL Economique relies heavily on private-sector lenders and investment, the NSP is already in the process of raising awareness for these business opportunities amongst national financial institutions. Consequently, several commercial banks have thus expressed their interest to participate in a tender for a credit line for residential PV purchase.

At the institutional level, the NSP builds technical and administrative capacities at the Ministry for Energy, Mines and Energy Transition (MEMTE) and the National Agency for Energy Conservation (ANME). An example of this effort is the comprehensive digitalisation assignment started in early December 2020, which aims at introducing a comprehensive MRV system, enabling efficient data sharing and management between ANME, STEG and financial institutions.

Furthermore, from 2021 onwards, the NSP will promote PV among middle-income households. A countrywide awareness-building campaign will advertise solar energy by informing about its benefits with the aim of persuading people to install rooftop PV systems. These activities on the demand side will be complemented by capacity building on the supply side, including workshops on pricing, technical standards, suitable PV systems, rules and regulations as well as other topics. The logic of this two-fold approach is to engage stakeholders at all levels to eventually increase the share of solar energy in Tunisia's energy mix.

Finally, to increase the leverage of private sector funds and adapt to various regulatory adjustments, the financial mechanism was changed to a local-currency debt scheme. The modification was necessary as the hedging costs for foreign currency lending almost doubled to 8.25% in 2020. By shifting towards an entirely local currency financial mechanism, the NSP adapted to newly enforced regulations, increased country ownership and formalised financial sustainability.



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Expected Outcomes

- NAMA Building's primary expected result is a significant reduction of GHG emissions in the Tunisian building sector. By 2024, at least 65,000 middle-income households will have installed PV systems, helping to avoid 915,557t in CO₂ emissions.
- Within 5 years, the project is expected to lead to household savings of approximately EUR 13 million, while the Tunisian government will save about EUR 78 million in fossil fuel subsidies. Fewer energy expenditures will make households (and the government) more resilient towards economic shocks such as the global Covid-19 pandemic.
- In view of this unprecedented health and economic crisis, the NSP Building NAMA is a green recovery stimulus for the PV and energy efficiency industry – a sector dominated by small and medium-sized companies. Hence, the project strengthens Tunisia's green recovery schemes, protects a nascent low-carbon industry, and enables the creation of up to 1,000 semi-skilled and skilled green jobs across the solar industry value chain.
- Over their expected 10-year lifespan, these solar energy panels will save approximately 915,557t of CO₂ which is equivalent to the annual emissions of 300,000 Tunisians.

Contact and Legal Notice

Project Director: Tanja Faller
Tanja.Faller@giz.de - GIZ Tunisia
www.nama-facility.org