



On behalf of:



Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety

of the Federal Republic of Germany

TEXTILE NAMA – a climate strategy for Viet Nam’s textile industry

1. Context: mitigation actions in Viet Nam

Viet Nam is undertaking efforts towards its pledge under the Paris Agreement to reduce its greenhouse gas (GHG) emissions by 8% by 2030 compared to a business-as-usual scenario, and by up to 25% with international support. To achieve this goal, the Government is fostering the development of sector-specific climate strategies, also known as **Nationally Appropriate Mitigation Actions (NAMAs)**.

2. Context: energy use in the textile industry

Textile and garment production includes multiple processes, from yarn spinning over shuttle weaving to circular knitting, dyeing and finishing of products. These processes are energy-intensive and may account for up to 25% of production costs. These adverse impacts are aggravated by the use of outdated technologies and inefficient patterns of consumption. The textile industry contributes significantly to Viet Nam’s GHG emissions.

Key facts about Viet Nam’s textile industry

- The second largest export industry in the country (after crude oil)
- The world’s top 5 textile and garment exporter
- Main commercial partners: the USA (41%), the European Union (12%), Japan (10%), and South Korea (8%)
- Around 2.5 million people work in the sector
- Annual growth rates have been >10% over the last 10 years
- Largely dominated by small and medium-sized enterprises (SMEs)

3. Objective of the Textile NAMA

The climate strategy for Viet Nam’s textile industry – hereafter referred to as the Textile NAMA – aims to **reduce energy consumption from the grid** through a combination of **energy efficiency (EE)** measures, with the use of **rooftop photovoltaic (PV) systems**.

It envisages removing key economic and regulatory barriers that have hampered the uptake of EE and PV to date through policy instruments and financial incentives. At company level, the Textile NAMA will contribute to shift investment towards low-carbon equipment, technology alternatives, and applied energy management.

4. Outcomes of the Textile NAMA

The Textile NAMA will benefit the Vietnamese textile industry and increase its competitiveness in the global market, while at the same time contributing to Viet Nam’s efforts to mitigate GHG emissions.

Economic benefits:

1. Reduced production costs due to energy savings
2. Response to consumer calls for enhanced sustainability along the textile value chain

Environmental benefits:

3. Cumulative mitigation potential of 6.3 MtCO₂e (2020-2030)

Further benefits:

4. Enhanced energy management and process control
5. Creation of skilled jobs in the field of EE and PV
6. Reduction of fossil fuel imports



Department of Energy Conservation and Sustainable Development
MINISTRY OF INDUSTRY AND TRADE

Implemented by

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

5. Technology measures in the Textile NAMA

While this NAMA focuses on the textile industry, its measures and approach are also applicable to other industries.

Energy Management Systems (EMS)

EMS enables no cost/low cost energy saving measures. These energy savings typically result from improvements in how textile plant equipment and utility systems are operated and maintained.

- Requires commitment from management and staff to implement and sustain operating and maintenance practices
- Includes control system improvements, sub-metering, EMS software, and training of staff
- Enables on-site framework to catalyse the adoption of larger, more capital-intensive EE measures

Variable speed drives (VSDs)

VSDs (also known as inverters or variable frequency drives) change the speed with which a motor rotates. Only the amount of power that is actually needed is used, which makes motors more efficient than when using dampers or control vanes.

- Enables better process control
- Can be applied to heating, ventilation, and air conditioning (HVAC) devices, pumps, winding and dyeing machines, air supply and exhaust fan motors, and colour tank stirrers

Efficient electric motors

Energy efficient motors reduce energy losses by virtue of their design and the materials from which they are made.

- Enables long-term benefits compared to rewind motors and standard efficiency motors given that rewinding motors tends to reduce efficiency

Efficient lighting

Lighting is required in all components of the production process and is an important element affecting overall employee productivity and safety. Light Emitting Diodes (LEDs):

- Are more efficient than fluorescent (tube-lights) and Compact Fluorescent Lamps (CFLs)
- Enhance lighting in production facilities
- Have a longer lifetime (i.e. up to 50,000 operating hours)
- Reduce heat generation

Rooftop solar photovoltaics (PV)

Although substantial solar resources are available, this technology has been mostly used for off-grid projects.

- Substantial availability of surface area on roofs of textile factories
- Considerable potential for PV power generation
- Decision No. 11/2017/QĐ-TTg (effective since June 2017, in force until June 2019), introduced net metering and feed-in tariff schemes

6. Approach of the Textile NAMA

The Textile NAMA seeks to work through a mix of policy and economic instruments.

Mandatory energy efficiency codes and standards

Minimum energy performance standards (MEPS) for specific technology and equipment such as more efficient electric motors:

- Change market rules and create the necessary enabling conditions to invest in EE
- Compel companies to invest in more efficient machinery

Performance standards linked with guarantees

This mechanism provides guarantees to companies that invest in technologies that have a higher efficiency than those prescribed by the MEPS, or to companies willing to accelerate the timeline for the uptake of MEPS technologies.

- Reward for increased energy saving investment
- Enhance access to capital
- Provide partial coverage of risk of losses in case of underperformance and energy savings lower than estimated

Support to Energy Service Companies

Setting an enabling environment for energy service companies (ESCOs) through:

- Financial de-risking instruments such as guarantees
- Development of project guidelines and energy savings assessment tools
- Demonstration projects

Financial incentives to support solar PV

Incentives could include both grants and guarantees.

- Grants: Reduce gap between generation cost of electricity through rooftop solar PV and the price for grid electricity
- Guarantees: Reduce the risk for financial intermediaries financing solar rooftop PV

Background: Energy Service Companies (ESCOs)

ESCOs provide performance-based services and design energy solutions for customers:

- Conduct energy audit design
- Provide access to finance (e.g. third party financing)
- Identify the most suitable EE / PV technologies and measures
- Implement EE projects

Types of ESCOs:

- ESCOs are normally rewarded with a share of the energy savings (through EE measures / energy generation (through solar rooftop PV))
- Other types of agreement are possible between the ESCO and the host company