



Energy Efficiency and Renewable Energy in Textile Production



GEFF stands for Green Economy Financing Facility. GEFF in Uzbekistan is a grant supported loan facility, that helps privately owned companies invest in energy efficient and resource efficient technologies and in renewable energy solutions – we call them **GREEN TECHNOLOGIES**.

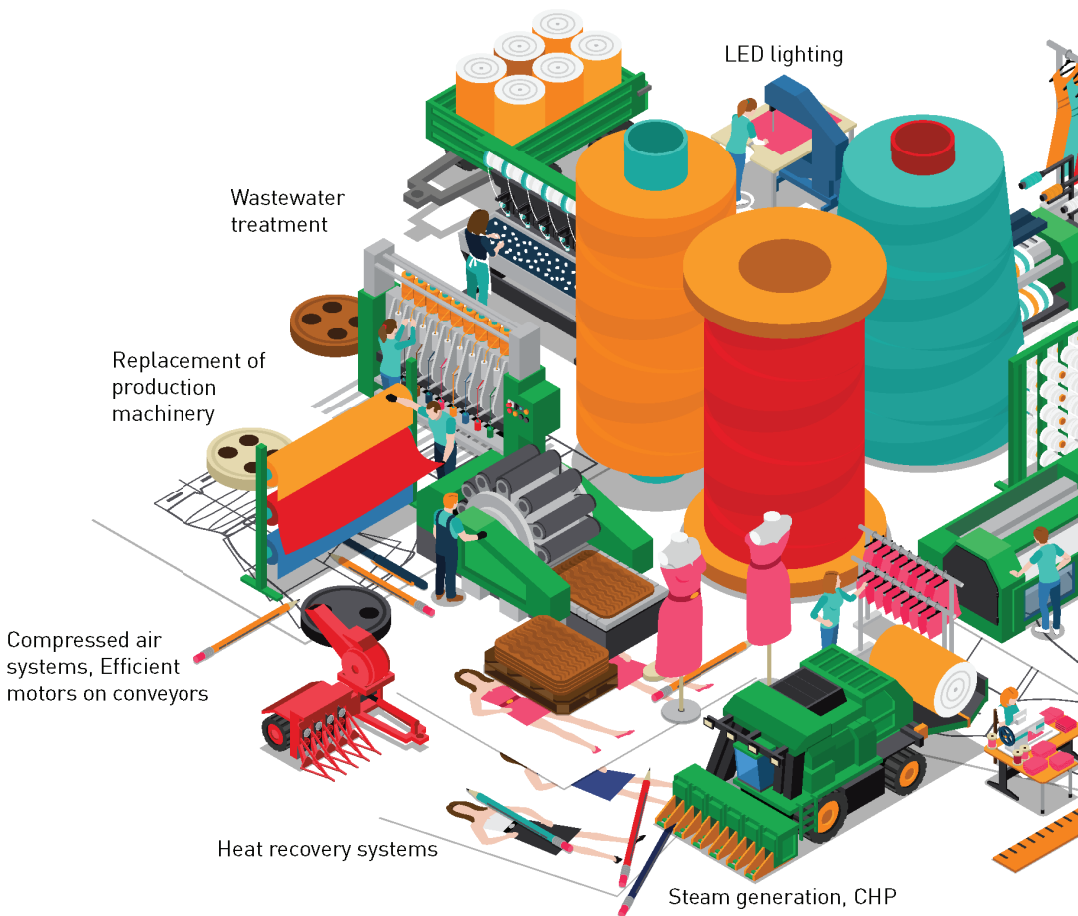
GEFF in Uzbekistan also provides free technical assistance to applicant companies to help them implement the optimal solution.

Technology examples and their benefits in textiles

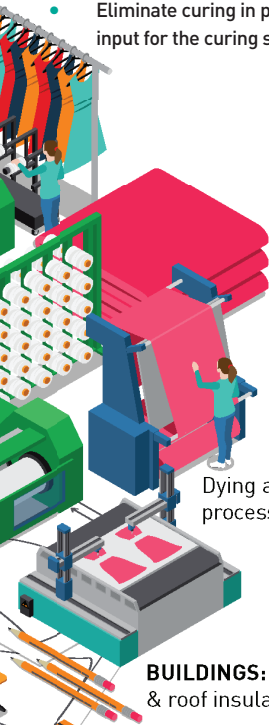
Much of the equipment discussed here are standard solutions that can be found in our Technology Selector – the list of automatically eligible equipment, which meets the **GEFF** Uzbekistan requirements. Invest in any of the technologies listed in the Technology Selector and obtain a **10% cash-back grant**. The Technology Selector also includes renewable energy technologies such as Solar PV and Solar Water Heaters, which are eligible for a **20% cash-back grant**.

- Installation of high-efficiency motors can save 30% energy.
- Reducing leaks in the compressed air distribution system can save 30% energy.
- LED lighting may offer payback of 18 months.
- Variable Speed Drives (VSD's) on motors can easily save 50% energy.

ROOF: Solar PV and solar water heaters



- Install Cold Water Storage: cool and store water when energy is cheaper and use the cold water from storage tanks when energy prices are highest.
- Insulation of steam pipelines can reduce heat losses by 90-95%.
- Install V belts in electrical engines, which reduce energy consumption.
- Install low-loss transformers and minimise losses due to constant power supply.
- Introducing Point-of-Use Water Heating in continuous washing machines and save up to 50% energy savings.
- Replace oversized pumps against correctly sized pumps and save 15% - 25% electricity.
- Install parallel pump arrays for highly variable loads and save up to 50% electricity
- Vacuum roll extractors save 70-75% in energy
- One bath bleaching may reduce electrical inputs by 70%.
- A lower number of ends/turns jiggers may help in saving around 20% electrical input
- Eliminate curing in printing and save 100% electrical input for the curing step.



Dyeing and washing process equipment

BUILDINGS: high performance wall & roof insulation, windows, HVAC

Examples of TEXTILE Companies that went 'Greener'

LIGHTING

As a pilot project, a textile company tested the installation of LED lighting in a separated area, which covers about 20% of their production facility. With 58% the electricity savings were very satisfactory. The test also confirmed that there was no negative influence on the microclimate and that the new lighting improved the quality of the working conditions. The company has rolled out the conversion to LED lighting throughout the plant.

MICROWAVE DYEING EQUIPMENT

A textile company invested approximately USD 360,000 in Microwave dyeing equipment and saved 90% energy in comparison to the old beam dyeing machine.

HEAT RECOVERY EQUIPMENT

A company that invested around USD 300,000 into heat recovery (air/water), where exhaust air heat is now used to heat up service water for wet finishing (for example washing, dyeing, and bleaching saved 30% of stenter energy used).



GEFF in Uzbekistan provides grant supported loan finance and technical advice to privately owned companies that aim to make their business resource efficient and improve their competitiveness through investments in high performance technologies and practices:

SMALL-SCALE INVESTMENTS - UP TO US\$ 300,000

For small-scale investments we offer a simple process, which enables companies to reap the benefits of energy savings much quicker. Choose your desired equipment from our Technology Selector, which contains a vast selection of pre-approved technologies.

LARGE-SCALE INVESTMENTS – UP TO US\$ 5 MILLION

For larger investments or complex technical solutions that lead to improved energy and resource efficiency performance, companies can apply for loans up to US\$ 5 million.

Apply to one of the GEFF Partner Finance Institutions for a GEFF loan and receive a cash-back grant upon successful project implementation:

10% grant for energy efficiency projects

20% for renewable energy projects

Do you need ideas or assistance? The **GEFF** package also includes advisory services provided by an international team of experts. The technical assistance package is free of charge to clients.



GEFF

Green Economy Financing Facility



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