

This series showcases success stories of PaCT (Partnership for Cleaner Textile) partner factories in the Bangladeshi textile sector that have implemented cleaner production projects.

The textile processing industry, especially washing, dyeing and finishing (WDF) factories, involves major water consumption. This can be significantly reduced by optimizing processes in WDF factories. PaCT II in-depth cleaner production focuses on process water saving. For example, changing capital machineries can save both water and energy. The latest technological development in washing machines—Jeanologia and ozone wash—have radically changed the level of water and energy consumption in the denim wash process.

Ozone wash

The ozone wash system allows treating garments with ozone both in water and in air. Compared to other traditional systems, this system can attain higher concentrations of ozone from lower oxygen input as well as lower electrical energy input. Ozone is one of the strongest oxidizing agents in nature. It acts on indigo molecules by breaking it into two products—isatina (typically yellow) and anthranilic acid—resulting in a discoloration effect (bleaching).

Ozone is dissolved into water by:

- Cleaning the processing water from the indigo
- Ecological and steady bleaching process

Factory status

Cutting Edge Industries Ltd. has 24 machines for washing and two for deep dyeing garments, with 2.16 ton/batch production capacity. The average time it takes to complete washing garments is 2.5 to 3 hours. The washing consumes 67.8 liter of water per kilogram. Average liquor to material ratio is 1:6, which varies with the process.

Process Optimization

Cutting Edge Industries Ltd. improved its bulk production performance by changing process machineries. The annual savings is \$44,000 with a five-year payback period.



Investment	Annual Savings	Payback Period
USD 216,000	USD 44,000	5 years

Environmental Benefits



**8,042 m3/year
water saving**



**41,188 m3/year
natural gas saving**



**16,139 kWh/year
electricity saving**



**35 tons/year
chemical saving**



**58 tCO2e/year
GHG avoided**



“The PaCT team recommended that we upgrade process machineries with latest technological advancement in resource efficiency. It really improved our process by minimizing water consumption and energy. We have plans to increase the number of ozone machines in the near future.” – Cutting Edge Industries Ltd. Factory Management.

Annual Savings:

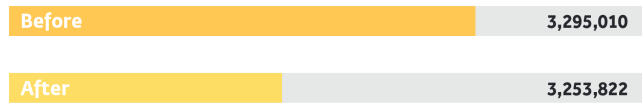
Water Consumption (m³/year)



Gas Consumption (m³/year)



Electricity Consumption (kWh/year)



Chemical Consumption (Ton/year)



IFC-led Advisory Partnership for Cleaner Textile (PaCT)

is a holistic program that supports the entire textile value chain – spinning, weaving, wet processing and garment factories – in adopting cleaner production (CP) practices. PaCT engages with brands, technology suppliers, industrial associations, financial institutions, and the government to bring about systemic and positive environmental changes to the Bangladesh textile sector and contribute to its long-term competitiveness and environmental sustainability.

WHAT PaCT DOES:

- Chemical Management Assessments
- Basic Cleaner Production Assessment
- In-Depth Cleaner Production Assessment
- Water & Energy Management
- Rooftop Solar PV Pre-feasibility Study
- Rooftop Solar Calculation
- Online Resource Monitoring

DEVELOPMENT PARTNERS



IMPLEMENTING PARTNER



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IMPLEMENTER



Creating Markets, Creating Opportunities