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Funded by the European Union

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

MED TEST III Jordan

Transfer of Environmentally Sound Technologies

Plastics sector

World Plastics for Construction Industries

Company overview

Number of employees:
63 full-time employees

Key products:
Plastics Pipes (PPR, UPVC, PEX, HDPE)

Main markets:
80% local, 10% regional and 10% international

Standards & certifications before MED TEST III:
ISO 9001

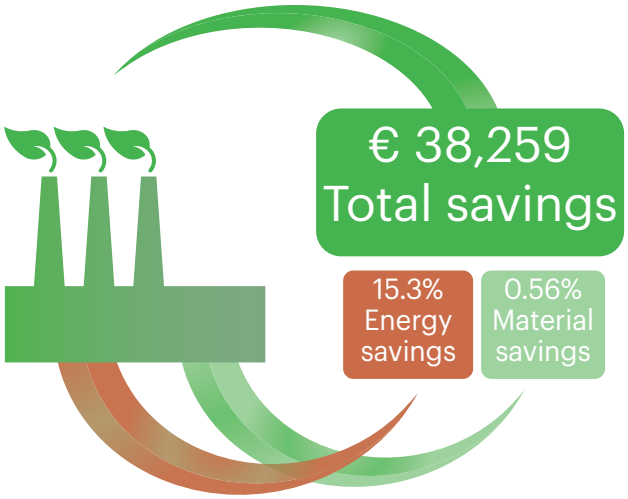
World plastics for Construction Industries has been in the business since 1984 and is considered as one of the leading companies in the field of advanced piping systems. ''World plastics'' is the first company outside Europe that produces Polypropylene Random Copolymer (PPRC) (THERMOPIPE) and the only company in Jordan that manufactures cross-linked polyethylene pipes with oxygen diffusion barrier (PEX 5L). During the last 34 years, ''World plastics'' has gained remarkable experience and recognition from its clients and principles.

Benefits

The MED TEST III project identified total annual savings of 38, 259 Euro* (28,694 JOD) in energy and raw materials with an estimated investment of 63,630 Euro* (47,723 JOD). The average pay back period is 1.7 years, and 50% of the measures are already implemented or under implementation. The identified measures were accepted by the top management for implementation by implementing the same proposed measures or better alternatives.

The identified options will reduce the materials' consumption by 0.56% and energy consumption by approximately 15.3%. Additionally, annual solid waste will be reduced by 6% and CO_2 emissions by 44.2 tons.

Identified annual savings



"We recognize the importance to reduce energy consumption and waste. By drawing on the know-how of the MED TEST III project's team, as well as listening and learning the most important practices to better manage energy and production, the MED TEST III project will be important for developing the company's performance and contribution to environmental conservation."

Eng. Hamza Abdin
Deputy General Manager

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As part of the EU-funded SwitchMed programme, UNIDO demonstrates in the MED TEST III project pathways for industries in the Southern Mediterranean to become more resource efficient and to generate savings for improved competitiveness and environmental performance.

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Saving opportunities**

Actions	Economic key figures			Resource savings & Environmental impacts		
	Investment Euro*	Savings Euro* per year	Payback period years	Water & Materials per year	Energy MWh per year	Environmental impact per year
Materials' saving	5,956	11,616	0.5	5.2 tons	---	Total 44.2 tons CO_2 Total 12.1 tons solid waste
Electricity conservation	30,207	13,183	2.3	---	133.1	
Extrusion machines' upgrading	27,467	13,460	2.0	6.9 tons	107.6	
TOTAL	**63,630**	**38,259**	**1.7**	**12.1 tons**	**240.7**	

*Exchange rate 0.75 Jordanian Dinar (JOD) = 1 Euro
** Numbers based on production value from 2020

Materials' saving

Solid waste, raw materials and product losses could be minimized by several good housekeeping measures such as stopping the old extrusion line that produces the highest wastage rate, and controlling the thermocouples. In addition to group of measures that need investment, such as the installation of process water softener, will provide sufficient cooling and reduce the out-of-the-spec. rate for produced pipes.

Electricity conservation

The consumption of electricity can be reduced by installing monitoring system and sub metering for the machines and utilities, adding thermal insulation on the internal chilled water network and installing a power supply with voltage stabilizer.

Extrusion machines' upgrading

This measure includes the following actions that were identified based on the conducted measurements and assessment of the extrusion machines' OPIs:

- Adding thermal insulation to all non-insulated extruders' heaters.
- Reduce the plastic waste percentages by upgrading the inefficient machines extruding systems, even if this waste is returned to large grinders and millers to be reused as raw material.
- Using multiple outlet dies instead of single outlet dies for small diameters pipes in the extrusion machines.
- Using more efficient cooling free miller instead of the existing large miller.

> “We are thankful for the cooperation with the MED TEST III project team, which led to savings in energy and a reduction of waste. The savings were achieved thanks to the advice and instructions provided by the TEST team and the assigned international plastic expert, including the improvement of our production management. I advise any company to implement this methodology, which will reflect positively on financial savings and help improve their environmental performance.”
>
> Eng. Hamza Abdin
> Deputy General Manager

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