

## Climate Partnerships with the Private Sector

### Project Factsheet: Integration of the POLY CALOGRAPH® DP PLUS as a heat recovery system in the Turkish textile production industry

On 30 September 2015, Turkey announced its Intended National Determined Contributions (INDC), with a greenhouse gas reduction target of up to 21% in 2030. With currently implemented policies, Turkey is expected to achieve emissions levels of 1,107 MtCO<sub>2</sub> in 2030. Electricity consumption in Turkey has been growing rapidly—by approximately 10% a year and the industrial sector accounts for almost 56% of the total electricity consumption. In Turkey, the textile industry is estimated to be the third most energy intensive sector after iron/steel and cement industries. Textile and woven industry consume 5.9% of the total energy consumption in Turkey. About 85% of the energy consumed in the textile production is used in heating and boiling processes.

The project has the goal to increase the energy efficiency and therefore to reduce the carbon footprint of the textile industry in Turkey. Most boilers in the Turkish textile factories are still relatively inefficient and have no heat recovery systems installed. The project will introduce the heat recovery system POLY CALOGRAPH® DP PLUS in the textile industry in Turkey to recover heat from the exhaust steam of boilers and demonstrate the potential of heat recovery in the industry. The material of the heat exchange surfaces of the POLY CALOGRAPH® DP PLUS is graphite. The graphite tubes are very resistant to corrosion and have superior heat transfer performance with minimum space requirements. In addition, the POLY CALOGRAPH® DP PLUS can be connected to several heat circuits simultaneously and, with its modular design, can be easily scaled up for different industrial processes. The technology has one of the highest energy recovery rates in its class, can lead to energy savings of up to 35% and has won the “Industrie Preis 2016”. The POLY CALOGRAPH® DP PLUS is therefore an ideal technology to showcase the potential of heat recovery in industrial processes in the textile industry in Turkey.

THERMICON GmbH is a young Research and Development company (in existence since 2013), which has taken over the patent of the POLY CALOGRAPH® DP PLUS technology from the founder of the technology, who passed away. Currently, THERMICON has about 100 existing clients in Germany. Lamberti GmbH is a provider of high-quality kitchen, heating and sanitary solutions in Cologne (in existence since 1963). Both companies are closely intertwined as THERMICON has been using Lamberti's staff and expertise for the installation of the POLY CALOGRAPH® DP PLUS.

This project is financed by the International Climate Initiative of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB).

<b>Country:</b>	Turkey
<b>Implementation:</b>	DEG - Deutsche Investitions- und Entwicklungsgesellschaft mbH, Köln
<b>Private sector partner:</b>	THERMICON GmbH, Lamberti GmbH
<b>Total project costs:</b>	451.157 €
<b>BMUB-funding:</b>	198.509 €
<b>Project duration:</b>	12/2016 – 11/2018

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INTERNATIONAL CLIMATE INITIATIVE (IKI)



**KFW** DEG

based on a decision of the German Bundestag