

EnaTex – Energy and Sustainability in the Textile Industry

CLIENT II – International Partnerships for Sustainable Innovation

In compliance with internationally binding sustainability goals, Indonesia finds itself in the transformation process of significantly defossilising its energy supply in the power and heat sectors. The Indonesian textile industry is making its contribution to this process and is being supported by the EnaTex project in the areas of energy efficiency and renewable energies by means of innovative solutions from the areas of plant technology and process optimisation as well as the use of regional renewable energies and residual materials. Through applied research and the networking of stakeholders in the German and Indonesian textile industry with the involvement of textile research and integration of sustainability aspects, solutions are to be developed and implemented in the network. By establishing a holistically effective Cooperate Social Responsibility Strategy (CSR), the project results will be made permanent in the German and Indonesian companies.

Goals of the EnaTex project

The EnaTex project will pursue the goal of researching innovative solutions and concepts for saving at least 15 percent primary energy and converting the energy supply so that it is based on 100 percent regional renewable energies for textile production processes in wet and dry finishing. The research results will be evaluated according to social, ecological and economic aspects and the results will flow into the sustainability management (CSR) approach of the Indonesian and German research and business partners. The EnaTex project will assure that the research results have a holistic effect that go beyond a purely technological or energy related approach. All results will be incorporated into jointly-developed recommendations for action and studies for politics, business and society. The technical innovations and concepts will open up new business fields for German textile machinery manufacturers and make suppliers aware of renewable energy solutions.



Project Team STTT Bandung.

Results and Innovations

On the technological side, the ultrasonic process aims to shorten the process of dyeing a textile in terms of time with a view to using new types of dyeing agents in an energy-efficient manner. The minimum application process is also intended to minimise the use of water and the operating temperature when applying features such as moisture protection to a textile surface. The project team expects this to result in significant energy savings for drying the textile surfaces. In this context, novel processes for the provision of drying energy are also being investigated.

The 100 percent supply of textile machinery by renewable forms of energy in the electricity and heat sector is to be investigated from both conceptual and practical points of view. Regional potentials for saving energy are to be determined and compared with the requirements of the production processes. An on-site demonstrator in Indonesia will implement selected solution approaches.

Solutions in the area of optimising the energy supply system for textile machinery are being developed, among other things, by utilising both waste heat and energy-related potentials from production wastewater and waste in order to increase overall efficiency.

The partner companies are also being scientifically supported in the development of sustainable business processes within the framework of CSR, with the integration of the researched solution approaches.

Project network

The joint project consists of German and Indonesian partners from research and science as well as from industry who are striving for a climate-neutral and energy-efficient textile industry.

All the results arising from the research approaches will be brought together by the project partners and completed by means of accompanying investigations. In particular, the policy in Indonesia and the measures within the framework of the European Green Deal will be compared here, as European regulations are becoming increasingly internationalised within the framework of the EU Product Passport.

An international project advisory board will ensure strong links between business, science and politics. The project results will be made public in conferences, professional publications and studies to support the transformation processes in the international textile sector. Bachelor's and master's theses in collaboration with Indonesian universities will serve to transfer the approaches to scientific education in both countries.

Sustainability goals

The technical solutions from the fields of energy efficiency and renewable energies will address SDG 9 "Industry, innovation and infrastructure" as well as SDGs 7 "Affordable and clean energy" and 13 "Climate protection measures". The CSR focuses sustainable corporate action within the framework of SDG 12 "Sustainable consumption and production" and will therefore have a direct impact on the needs of people addressed in SDGs 3, 4 and 5.



Project Team Sritex.

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Contact

Bernhard Wern
IZES gGmbH
Altenkesseler Strasse 17, Gebäude A1
66115 Saarbrücken, Germany
Phone: +49 681 844 972 74
E-mail: wern@izes.de

Project partner

Hochschule Niederrhein; ifeu GmbH; SUNFarming AG; Brückner Textilmaschinen GmbH & CO. KG; Atma Jaya Catholic University; Polytechnikum STTT Bandung; Textilunternehmen Harapan Kurnia; Textilunternehmen Sritex

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