



University of Zagreb Faculty of Textile Technology & AMCA TTF

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# LECTURE

entitled

## Energy Consumption in Garment Production, Evaluation of the Performance through Energy Key Performance Indicators

by

**Elmira FEJZO (DUMISHLARI), PhD**

**on Wednesday, May 8<sup>th</sup>, 2024 at 11:30 AM**

in lecture hall **B-316**, Prilaz baruna Filipovića 28a, Zagreb

### Abstract:

The energy consumption in apparel sector is very important because all machinery work with electricity. Replacing electricity with other sources of energy will not bring profit in this sector because of the high cost they have. The main purpose is to evaluate initially the step by step energy consumption for the production of an article (10 products), and then analyzing the results to identify opportunities to reduce energy consumption. Monitoring and acting on basic energy consumption data in garment production does not provide information about performance improvement. The use of an energy Key Performance Indicator or metric is an effective method for overseeing, analyzing, and optimizing any process related to energy. Typically, these performance indicators are employed by manufacturers who rely on energy as a crucial input in their production. Nowadays, for all garment production companies in Albania, energy is a key input in production and all are interested in having low energy Key Performance Indicators. The second purpose of this study is to evaluate the performance of a garment production company time to time, through energy Key Performance Indicators and discuss the results. The study has shown that the energy Key Performance Indicators help optimize any kind of energy relevant process and by comparing energy Key Performance Indicators the company's performance can be evaluated time to time. From the results for two different periods, the second year showed better energy efficiency or performance. Comparing the Key Performance Indicators of the same months over two years resulted in a significant decrease in the second year, however, different factors can influence (the complication of models, operators leave, etc). Average KPIs decreased by 68.38% in the second year. The company has been able to produce more and use less energy. The fastest and most cost-effective ways to save money can be achieved by utilizing energy more efficiently. Taking different measures led to a decrease in KPIs (new efficient technologies, PV system implementation, awareness raising, which will be discussed in future studies), which means better energy efficiency or performance.

### Biography:



Elmira Fejzo is lecturer from 2005 at the Textile and Fashion Department, Polytechnic University of Tirana. She gained the title Textile Engineer in 2004 from the Polytechnic University of Tirana, Faculty of Mechanical Engineering; in 2010 MSc at University of Tirana, Faculty of Natural Sciences, Department of Industrial Chemistry; and PhD in 2015 at Polytechnic University of Tirana. In Textile and Fashion Engineering she is engaged in teaching, scientific research, design and implementation of study programs, management of diplomas at Master and Bachelor level. She participated in training programs in Greece and Sweden, project teams on EU and US funded projects. She is the author and co-author in many publications/presentations/study papers. Her research interests are energy efficiency in garment production, textile structure and testing, and knitting.