



## Syllabus of Module

# 8. Sustainability and Energy Management

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### Module Annotation

Energy management is one of the key elements of a company's sustainable development strategy. It is very closely related to both main pillars of this strategy: in addition to filling a major part of the environmental concept, it is also a major contributor to the economic balance of every company and organisation. This aspect has become particularly important nowadays when most of the world is facing extreme increases in energy prices.

Sustainability is often so closely associated with efforts to reduce the carbon footprint, i.e. partial or even complete decarbonisation, that the terms are often taken to mean the same thing. We showed that this is not the case. Our task now will be to look in more detail at these specific activities and initiatives from a national and international perspective.

Another permanent trend that is gaining more and more intensity is the effort to reduce energy consumption and, on the contrary, to increase the efficiency of individual production and non-production facilities. But can we continue in this direction indefinitely, or are we already one step ahead of reaching the limits that stem from the very nature of physical phenomena? Is there any long-term solution to this situation?

In the seminar, we will ask these questions and seek answers. We will conclude that the way to meet the increasingly demanding requirements for energy saving and increasing the efficiency of production (but also other processes) is through digitalization, automation and shortening of process chains. Using concrete examples and real-life situations, we will show what such paths can look like and what specific goals they lead to.

The topic would not be complete if we did not at least briefly mention the possibilities of using waste and so-called "green" energy sources. We will learn about the basic legislative framework, again both European and national, and discuss the current situation in our country.

We will also return to the topic of the circular economy, which we raised in Module 1. We will briefly discuss product life cycle management and the basic principles of recycling, upcycling and new directions in waste management.

At the end of the seminar, we will build on the content of the previous two modules on creating a strategy for the sustainable development of the company and add a final piece - energy management. If there is time, we will discuss this strategic plan in its entirety.

### **Module Objective**

- To become familiar with key national and international legislation and initiatives related to the progressive decarbonisation of industry and beyond.
- Demonstrate how energy management plays an important role in the overall management of the company.
- On the basis of existing external pressures, coming from legislation or the market itself, and internal pressures resulting from the individual situation in a particular company or organization, to be able to formulate their own goals in the field of sustainable energy management.
- Introduce digital business transformation as an effective tool to achieve these goals.
- Discuss the advantages, prospects or, on the contrary, the pitfalls and disadvantages of using waste energy sources as well as renewable energy sources.
- Define the product life cycle and relate it to the basic principles of the circular economy.

## Literature

1. European Commission: A European Green Deal, on-line: [https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal\\_en](https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en)
2. European Commission: *The Green Deal Industrial Plan*, on-line: [https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/green-deal-industrial-plan\\_en](https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/green-deal-industrial-plan_en)
3. Fakta a čísla o Evropské unii: *Obnovitelná energie*, on-line: <https://www.europarl.europa.eu/factsheets/cs/sheet/70/obnovitelna-energie>
4. RADOVANIC Mirjana (Golusin): *Sustainable Energy Management*, Academic Press, 2022, ISBN 978-0128210864.