

# OPPORTUNITIES AND METHODS FOR ENERGY SUBSTITUTION, SAVINGS AND EFFICIENCY IMPROVEMENTS IN THE HOTEL INDUSTRY (2015-2017)

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УНИВЕРЗИТЕТ  
„ГОЦЕ ДЕЛЧЕВ“  
ШТИП

# Goce Delcev University – Stip, Macedonia

- Established by the Assembly of the Republic of Macedonia in 2007 (State university)
- Second ranked in Macedonia
- 19,000 students; over 100 study programs: Undergraduate, Graduate & Doctor studies
- 12 faculties:
  - Faculty of Electrical Engineering
  - Faculty of Tourism and Business Logistics
  - Faculty of Agriculture
  - Faculty of Natural and Technical Sciences
  - Faculty of Computer Science
  - Faculty of Mechanical Engineering
  - Faculty of Technology
  - Faculty of Medical Sciences
  - Faculty of Economics
  - Faculty of Law
  - Faculty of Educational Sciences
  - Faculty of Philology
- 3 Academies: Academy of Music, Art Academy, Film Academy



УНИВЕРЗИТЕТ  
„ГОЦЕ ДЕЛЧЕВ“  
ШТИП

# Faculty of Electrical Engineering Goce Delcev University – Stip, Macedonia

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- **The only faculty in this field in the Eastern Macedonia**
- **3 Departments:**
  - Department of industrial electronics and automatics
  - Department of electrical measurements and standards, and
  - Department of industrial process computers
- **Undergraduate study programs:**
  - Renewable energy sources
  - Systems for automatic management
- **Graduate study programs:**
  - Automation and process
- **Technological core for supporting S & M size businesses and developing new laboratories for research**



УНИВЕРЗИТЕТ  
„ГОЦЕ ДЕЛЧЕВ“  
ШТИП

# Faculty of Tourism and Business Logistics Goce Delcev University – Stip, Macedonia

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- Enrolls 900 students annually
- 3 Departments:
  - Department of tourism
  - Department of business logistics
  - Department of administration
- Undergraduate study programs
  - Tourism
  - Gastronomy
  - Hotel management
  - Business logistics
  - Business administration
- Graduate study programs
  - Tourism
  - Gastronomy
  - Business logistics
- PhD study programs:
  - Tourism
- Students have professional practice in the country and abroad

## OPPORTUNITIES AND METHODS FOR ENERGY SUBSTITUTION, SAVINGS...

### MAIN OBJECTIVES OF THE PROJECT

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- Comprehensive analysis of current utilization of energy and locating costs related to energy sources and energy in the hotel industry
- Identify major factors (*technical, operational and environmental*) that have a dominant influence on the energy efficiency of the hotels, determining their effects on overall performance of the hotel industry
- Analysis of the feasibility and economic viability of replacement (*substitution*) of classical fossil fuels with renewable energy sources in this industry
- Establish a set of measures and methods to increase energy efficiency, reduce costs for energy and maximize energy savings ensuring sustainability of the industry
- Identify the current energy policy in hotel business and tourism in general, as well as determining the draft measures and Action Plan for the improvement of the Energy Efficiency in this economy sector

## ➤ EXPECTED RESULTS

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- To identify the draft model of so called "*energy-efficient hotel*"
- The obtained results would provide more detailed information on the organization, functioning and effects of the energy policy of the hotel industry in Macedonia
- To identify future recommendations in which direction to develop environmental policy in the hotel industry
- To define specific guidelines for energy upgrading of existing hotel facilities and construction of new and modern energy efficient and energy sustainable hotel facilities

## RESULTS OF SCIENTIFIC CHARACTER (published papers):

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- **Cingoski, V., Petrevska, B., Trajkov, N., Golubovski, R. & Gelev, S.** (2015). Energy improvements in the hotel industry, *Jökull Journal*, 65(8), 145-150.
- **Petrevska, B. & Cingoski, V.** (2015). Environmental protection and energy efficiency concept in five star hotels in Macedonia, Conference proceedings from 6<sup>th</sup> International Symposium on Industrial Engineering, Belgrade, Serbia, 24-25 September 2015, 210-213.
- **Petrevska, B. & Cingoski, V.** (2015). Renewable energy for sustainable tourism: assessment of Macedonian hotels, Conference proceedings ICONBEST, Skopje, Macedonia, 9-10 October, 2015.
- **Cingoski, V., Petrevska, B. & Trajkov, N.** Assessment of energy efficiency practices in the hotel industry (*submitted for publishing*)