EDUCATIONAL CURRICULA ANALYSIS

Climate Change, Decarborization – Low Carbon Development, Energy Efficiency and Renewable Energy Sources

RESEARCH REPORT AND FINDINGS
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EXISTING EDUCATIONAL CURRICULA DEALING WITH CLIMATE CHANGE, DECARBONIZATION – LOW CARBON DEVELOPMENT, ENERGY EFFICIENCY AND RENEWABLE ENERGY SOURCES

RESEARCH OBJECTIVE AND RESEARCH QUESTIONS

- Identification of targeted institutions (Faculties within Universities) and individuals associated with these institutions dealing with climate change, DECARBONIZATION – low carbon development, energy efficiency and renewable energy sources.
- Identification and list of curricula dealing with climate change, DECARBONIZATION – low carbon development, energy efficiency and renewable energy sources.
  - What are the names of the subjects/modules/courses within selected faculties that have included these topics in their curricula?
  - At what stage this subject/course is being taught (Bachelor's, Master's or PhD Degree level)?

THE SCOPE OF RESEARCH AND METHODOLOGY

In this research targets were selected Faculties within University of Belgrade and University of Novi Sad.
University of Belgrade

- Faculty of Architecture
- Faculty of Civil Engineering
- Faculty of Economics
- Faculty of Electrical Engineering
- Faculty of Mechanical Engineering

University of Novi Sad

- Faculty of Civil Engineering
- Faculty of Technical Sciences

Desk research technique was implemented. Sources of information were

- curricula presented by faculties on their official web pages
- survey

Main sources of information and the most reliable ones were curricula presented by faculties on their official web pages. Upon closer inspection of courses, those which included selected keywords were separated and classified, resulting in four different documents. Each document represents different keyword. Documents are named as Annex 1, Annex 2, Annex 3 and Annex 4 and attached to this report. In each of Annexes, courses are listed by alphabet, covering a specific keyword. In a few cases contents were hard to find because of differences in design and structure of web pages.
Secondary source was supposed to be a survey, sent to detected institutions, but so far there was no response.

SUBJECT OF RESEARCH - KEYWORDS

Searched keywords were

- climate change
- DECARBONIZATION – low carbon development
- energy efficiency
- renewable energy sources

Link to web page of each course is available in file called Annex 0, also attached to this report. All links were accessed and functional on the 14th of February 2017.

SURVEY

Survey was sent to six professors teaching on Faculty of Electrical Engineering and Faculty of Mechanical Engineering (3+3). So far there was no response.
Survey included following questions

- Do you think that academic communities in Serbia are sufficiently informed about the impact of energy sector to climate change and the environment?
- How much do the courses, in which you are involved at the moment, contribute to raising the level of knowledge and awareness about the social importance of the mentioned topics?
- How much are global and national energy situations analyzed through case studies and comparative analysis in your courses?
- How much do your courses inform students about the latest technical solutions when it comes to energy efficiency?
- To which extent are university courses directed towards the use of renewable energy sources?
- Do you expect low carbon development in the coming years in Serbia?
- Do you believe that climate change strategy should contribute to fostering a low carbon development, and how?

The first question is yes/no question. Questions from 2 to 5 are to be answered on the scale from 1 to 5. Questions 6 and 7 are open questions, allowing surveyed to write something they believe in.

MAIN FINDINGS

Total number of identified courses is 200. 54 courses cover multiple keywords.
Number of courses covering each keyword is

- Climate change - 85
- DECARBONIZATION - 1
- Energy efficiency - 90
- Renewable energy sources - 97

Number of courses that cover climate change, energy efficiency and renewable energy sources is approximately similar, on contrary to DECARBONIZATION which is taught at only one course at the Faculty of Technical Sciences within specialist and PhD studies.

CONCLUSION

Main conclusion is insufficient presence of matter of DECARBONIZATION – low carbon development. The rest of searched keywords are almost equally represented. Still there is a lot of space for closer inspection. During investigation we noticed absence of unification of web pages of Faculties within each University.

Further research would provide more detailed analysis of presence of selected keywords in education and context of their presence which opens the door toward making new educational platforms. Education is necessary when we are discussing climate change, DECARBONIZATION, energy efficiency and renewable energy sources. Also, we could increase number of keywords related to environment and sustainable energy development and broaden the scope of research. Good quality research has significant importance. In the end, we have the same sky and we have obligation to be involved in these global problems.