

Master Thesis Brief Description

Thesis Title	Cradle to Gate Life Cycle Assessment of Solar Thermal Panels
Programme of Studies	MSc in Energy Systems and the Built Environment
Course	MES 580 Master Thesis
Area of Study	Sustainable Energy Technologies – Biofuels Assessment
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Supervisory Committee	Dr. George Karagiorgis, Assoc. Professor, Mechanical Engineering Department Dr. Byron Ioannou, Ass. Professor, Architectural Department
Semester	Fall Semester 2016
Short Description	The environmental assessment of facilities and equipment used for the exploitation of renewable energy sources constitutes a major challenge of the environmental scientific community. Studies conducted in this field aim to define manufacturing alternatives which could mitigate the negative environmental impacts. The purpose of this study is the implementation of a comprehensive life cycle assessment for the definition of the environmental performance of flat plate solar thermal collectors. In terms of this study four alternative manufacturing scenarios are examined and a comparative assessment of the findings of the individual analyses is performed. The interpretation of the LCA findings leads to some useful conclusions concerning the improvement of the environmental performance of flat plate solar thermal collectors manufacturing.