

Master Thesis Brief Description

Thesis Title	Design and Feasibility of a 60MW Wind Farm in Cyprus
Programme of Studies	MSc in Sustainable Energy Systems
Course	MES 580 MSc Thesis
Area of Study	Sustainable Energy Technologies – Wind Energy
Student's Name	George Karagiannis
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Supervisory Committee	Dr Chris Christodoulou, Professor, Mechanical Engineering Department Dr. George Karagiorgis, Professor, Mechanical Engineering Department
Semester	Fall Semester 2022
Short Description	<p>The MSc thesis focused on designing a 60MW wind farm in Cyprus to harness renewable energy from wind sources. The objective of the project was to develop a comprehensive plan for the wind farm's construction, encompassing site selection, turbine positioning, and overall feasibility. The initial step involved identifying the optimal locations for the wind farm. Factors such as wind availability, proximity to electrical grid infrastructure, and environmental considerations were thoroughly analyzed. After a rigorous evaluation of potential sites, the most suitable location was chosen, considering the best combination of these factors. Subsequently, the design phase began, encompassing the selection of appropriate wind turbines, generators, and other essential equipment to achieve the desired 60MW power output. The design had to adhere to regulatory requirements, including safety standards and environmental impact assessments. Collaboration with engineers, architects, and environmental specialists was crucial to ensuring technical feasibility and environmental sustainability. The final phase of the project focused on assessing the wind farm's feasibility. An economic evaluation was conducted, considering construction costs, ongoing maintenance expenses, and wind supply sustainability. Additionally, the project team assessed the potential market demand for the generated electricity and considered any policy changes that could affect the project's viability.</p>