

## Thesis Brief Description

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<b>Thesis Title</b>	<b>Carbon Capture and Storage in Cyprus' Power Plants</b>
<b>Programme of Studies</b>	BSc in Mechanical Engineering, Frederick University
<b>Course</b>	OG 405 Senior Project
<b>Area of Study</b>	Process Engineering
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<b>Students Reg. Number</b>	13887
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<b>Supervisory Committee</b>	Dr Chris Christodoulou, Professor, Mechanical Engineering Department Dr. George Karagiorgis, Professor, Mechanical Engineering Department
<b>Semester</b>	Spring Semester 2021
<b>Short Description</b>	<p>In the face of mounting concerns over global warming, Carbon Capture and Storage (CCS) has emerged as a pivotal solution for tackling emissions. This technology holds the potential to curb carbon dioxide emissions emanating from industrial sources, thereby countering the effects of global heating. The process involves equipping industrial chimneys with solvent filters to capture emitted carbon dioxide. The captured carbon dioxide can then be transported and stored underground or repurposed in either gaseous or liquid forms. Despite the existence of approximately 20 global commercial CCUS projects, further endeavors are imperative to comprehensively address carbon emissions. Notably absent are European initiatives, even though the European Council has outlined plans to advance CCS through the European CCS Demonstration Project Network. This thesis is dedicated to the application of CCS to Cyprus' industrial sector, entailing a comprehensive assessment of diverse global methodologies. By identifying and implementing the most suitable approach, this research has the potential to yield a reduction of Cyprus' carbon emissions by more than 30%, thereby fostering economic growth, energy efficiency, and environmental sustainability.</p>