

Rishikesh Umamaheswaran

MSc. Sustainable Energy Systems, DTU

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Profile

I work on energy and sustainability problems where the answer is rarely just technical. With an MSc in Sustainable Energy Systems, I have worked across techno-economic analysis, energy policy, feasibility studies, EU circular economy programmes, and digital automation. I enjoy bringing different perspectives together, challenging assumptions, and turning complex problems into analysis that supports better decisions.

I work best in collaborative environments where ideas can be questioned and improved, and I bring the same curiosity to life outside work through improv comedy, writing on sustainability and relationships, and public speaking in Toastmasters. I am particularly motivated by using analysis, systems thinking, and digital tools to help move the energy transition from ambition to implementation.

Skills

MS - Excel, Python, Techno Economic Analysis, Sima Pro (Basics), PtX, Energy and process Modelling (DWSIM), Energy Economics, Data-driven decision making, Feasibility Studies, Research and Reporting, Wind turbine O&M, Energy Storage, Improving my Public Speaking and Presentation skills

Professional Experience

EU Project Development Intern, *Circular Innovation Lab* **Copenhagen, Denmark** *Aug 2026 - Present*

- Analyse upcoming EU funding calls and assess their alignment with the think tank's existing projects and partnerships.
- Conduct gap analyses to identify required project roles and distinguish between existing internal capabilities and external expertise needed.
- Map potential project coordinators and partners and identify organisations to approach for missing roles within project consortia.

Part Time Assistant, *Thiim A/S* **Copenhagen, Denmark** *June 2026 - Present*

- Electronics Manufacturing
- PCB Soldering

Student Assistant, *Thiim A/S* **Copenhagen, Denmark** *Aug 2024 - May 2026*

- Working in the Manufacturing of IOT and Energy measuring devices
- Switches and Relays
- Troubleshooting of IOT Devices

Graduate Engineer – O&M Wind Turbines *Regen Powertech* **India** *Apr 2023 – Jul 2023*

- Diagnosed and resolved electrical and electronic system failures, ensuring minimal downtime and operational continuity.
- Executed preventative and corrective maintenance protocols across turbine fleets, optimizing asset performance and longevity.
- Monitored real-time performance metrics and coordinated inspections, contributing to proactive maintenance strategies.

Apprentice Engineer, *Bharat Dynamics Limited* **India** *Mar 2021 - Feb 2022*

- Worked in the SAP Production Module and issued Process sheets.
- Overlooked the physical production processes and made sure proper maintenance was done.
- Worked at the Solar plant and gained knowledge about PV Modules.
- Worked on Solar Design Software PVsyst.

Education

M.Sc. Sustainable Energy, Energy Systems *Technical University of Denmark* **Copenhagen** Sep 2023 – May 2026

Master's Thesis: Techno-Economic Analysis for Upscaling Biomethane to Methanol Production under RED III Framework

Key Coursework: Carbon Capture – Utilisation and Storage • Feasibility Studies • Green Fuels & Power-to-X • Hydrogen Production and Fuel Cells • Energy Economics • Integrated Energy Grids

B.Tech Electronics & Instrumentation *Kumaraguru College of Technology*

Coimbatore, India 2014 – 2018

Grade: First Class

Thesis: IoT Based Solar Power Monitor under €35.

Key Coursework: Circuit Theory • Sensors and Transducers • Industrial Instrumentation • Control Systems • Process Control • Industrial Automation • Object-Oriented Programming

Leadership & Activities: Founding Team Member, Theatre Club • Piano Player & Composer • Entrepreneurship Cohort

Projects

2026.....

Master's Thesis: Techno Economic Analysis for upscaling a Biogas to Methanol Plant under RED III Framework

Conducting feasibility studies and scenario modeling to upscale a small-scale methanol plant to industrial capacity, optimizing technical, economic, operational viability and modelling the willingness to pay in the Shipping industry. URL: [Web Dashboard](#)

2025.....

Global Health Competition by Danish Red Cross

Developed innovative solution to tackle insulin storage and use in conflict-ridden areas for Type 1 Diabetes patients and children. Proposed radiative cooling using thin film reflectors that transfer heat directly into outer space without electricity.

Automated Job Search Agent – N8N

During Christmas break, I was bored and I was tinkering around and made an intelligent automation workflow that aggregates job alerts from email, loads the job descriptions from the career site and performs semantic matching against my CV profile, and assigns compatibility scores (0-10 scale). Results are logged to Google Sheets and I get a notification in Telegram for streamlined opportunity tracking and application prioritization. Demonstrates practical skills in workflow automation, API integration, and data-driven decision making. URL: [Web Dashboard](#)

2024.....

Feasibility Study of Offshore Wind Turbines in HESSELØ Wind Farm

Assessed the feasibility of the Hesselø offshore wind farm project, considering its economic, financial, social, and environmental aspects. Analyzed three auction mechanisms to identify the most suitable option for the project.

Production of Green Methanol and the Cement Industry

Conducted a feasibility study exploring the synergistic integration of an e-methanol plant with an existing cement facility. This innovative approach leverages captured carbon dioxide emissions from the cement plant as a feedstock for e-methanol production.

2023.....

Solar Energy Solutions with Minimum CO₂ Emissions

Analyzed solar emissions across China, Denmark, India, and Iran. Demonstrated that emissions vary from 20-50 g/kWh CO₂ equivalence depending on manufacturing and installation location, with geographical factors having the most impact.

Sustainability Case Competition - Djøf, Valcon and MT Højgaard

Engaged in a diverse team applying structured methodologies to address a real-world sustainability challenge in the construction and civil engineering sector. Delivered a compelling case and practical solution within a 24-hour deadline.

2018.....

IOT Based Solar Energy Monitor

Designed and implemented a low-cost IoT solution for efficient solar panel data management, connecting a legacy solar inverter to the internet to provide real-time data on voltage, current, and energy production. This eliminated the need for daily on-site visits for data collection and enabled intelligent scheduling of panel cleaning to improve power production efficiency. While an external vendor quoted a yearly cost of \$1500 for the same functionality, I completed the project for less than \$110, saving my university more than \$8,000 over the past seven years.

Languages

- **English** [Professional]
- **Danish** [Basic] - Learning
- **Tamil** [Native]