

JOATHAM JACOB

Energy and Decarbonisation Engineer

Industrial energy efficiency · Marginal abatement cost modelling · Energy management systems (ISO 50001)

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Italian residence permit, work-authorised in Italy · Open to relocation



PROFILE

Energy and environmental engineer (B.Tech; M.Sc. 100/110, full scholarship) with 2+ years measuring, verifying and reducing emissions for industrial and corporate clients in Italy, the Gulf and India. I rebuild physical baselines from verified data, cost abatement with MACC and techno-economic models (NPV, IRR, LCOE, levelised cost of abatement), and turn the results into staged decarbonization plans that can be financed.

TECHNICAL PROJECTS AND FIELD WORK

Independent analyses built from public data. Baselines from verified regulatory sources; capex and opex figures are modelled engineering estimates, not vendor quotations.

Industrial decarbonisation assessment, Acciaieria Arvedi, Cremona (2026)

Rebuilt the Scope 1 baseline at 434,844 tCO₂ (EU ETS, CY2023) and showed that its net-zero claim rests on 3 accounting instruments and 1 physical reduction.

- Costed a 2030 MACC: 192,494 tCO₂/yr (44.3%) at a modelled €58.0M capex, €11.44 per tonne of steel. The capex and opex are estimates, not quotes.
- Found that 59% of the abatement depends on ~36 kt/yr of biochar, and ETS and CBAM costs rise from €6.9M to €32.6M/yr.

Energy monitoring pipeline (Python, Power BI, 2026):

Ingested hourly meter data, built a weather-normalised degree-day regression baseline, flagged deviations, and reported them in Power BI for auditable, repeatable ISO 50001 reporting.

Decarbonization and reporting web tools | jacob-hub-esg.github.io | 2026

Built 4 live tools: a React MACC and project-finance calculator (payback, NPV, IRR, LCOE, levelised cost of abatement, with a waterfall chart and a carbon-price line, deployed via GitHub Actions), the BuildingCarbon Scope 1–2 benchmark (EU Taxonomy, EPBD, BREEAM), a CSRD readiness assessment (all 10 ESRS), and a CO₂ benchmark calculator.

Field energy, water and safety audits: 8 railway stations, Bihar, India | B.Tech, 25 days

Surveyed 8 sites: load analysis, energy and water measurement, safety assessment, and site-specific reports with prioritised interventions.

Biogas plant performance evaluation and energy audit: Palakkad, India | B.Tech

Assessed an operating plant against its design specification, traced the causes of underperformance, and backed the corrective recommendations with lab tests on feedstock variants.

Renewable energy design and fabrication | B.Tech

Designed and fabricated a solar-powered trash compactor (published thesis, TNAU 2020), a biochar production unit and a solar drying system, and sized and costed a solar PV plant in PV Syst.

PROFESSIONAL EXPERIENCE

ESG Supply Chain & International Project Sourcing Intern – Industrious Feb 2025 – Aug 2025 **Global Technologies, Milan**

Built the company's 2024 Scope 1 and 2 inventory from primary consumption data under the GHG Protocol.

- Set the inventory boundary and emission factors, and ran formal data-quality controls across internal and supplier datasets.
- Screened international suppliers against ESG criteria and flagged efficiency opportunities across operations.
- Built the KPI tracking and periodic reporting used by management.

ESG Measurement Intern — Omtra S.r.l Società Benefit, Milan, Italy Nov 2023 – May 2024

Delivered a cradle-to-grave product LCA for Cartier and supported textile maker Busatti (est. 1842) to a B Impact score of 89.9 (threshold 80; industry average 75.5).

- Ran a cradle-to-grave product LCA for Cartier.
- Calculated Scope 1–3 emissions for client companies from data collected on site, including Busatti's 2 production sites.
- Contributed to Busatti's first statutory Impact Report, reporting –13% gas, –4% electricity and +19% PV self-generation, and setting 2024 targets of 100% renewable electricity and –8% water use.
- Supported B Corp and EcoVadis third-party verification by testing reported data against source evidence.

ESG Analyst (Remote) — Earth Academy Global, Amstelveen, May 2021 – Nov 2022 **Netherlands**

Built an interactive BRSR course in 16 days and turned the internship into a full-time ESG Analyst offer.

- Prepared training materials for client ESG trainings delivered with ISOS Group, including a GRI training in Dubai and an ESG masterclass for Al-Dabbagh Group (Saudi Arabia).
- Supported training for sustainability professionals at Tanmiah Food Company (Saudi Arabia).
- Benchmarked corporate disclosures against 5 frameworks (GRI, SASB, TCFD, IR, BRSR) for international clients.
- Turned BRSR into a 100-slide technical presentation and caught 30+ errors while quality-reviewing the SASB course.

SKILLS

- **Energy & decarbonization:** energy auditing · ISO 50001 (baselines, EnPIs, monitoring) · MACC · industrial energy systems (motors and VFDs, compressed air, steam, process heat) · heat electrification · waste-heat recovery · M&V
- **Analysis & finance:** NPV · IRR · LCOE · levelised cost of abatement · payback · scenario and sensitivity analysis · regression baselining
- **Carbon & regulation:** GHG Protocol Scope 1–3 · ISO 14064-1/-2 · LCA · EU ETS · CBAM · CSRD/ESRS · EU Taxonomy · EPBD · SBTi · B Corp · EcoVadis · GRI · SASB · TCFD
- **Tools:** Excel (advanced: Power Query, pivots, modelling) · Power BI · Python (pandas) · React · Tableau · PV Syst · AutoCAD · QGIS · Articulate Storyline
- **Languages:** English (C1, IELTS 7.5) · Italian (B1) · Malayalam (native) · Tamil · Hindi

EDUCATION

M.Sc. Environmental Change and Global Sustainability — Università degli Studi di Milano, Italy (2022–2025)

- Classe LM-75. Full academic scholarship. Final grade 100/110. Taught entirely in English.
- **Thesis:** Emission Reduction Commitments in Global Agriculture: A Comparative Analysis of Corporate Climate Disclosures.
- **Modules:** Bioresource and Pollution Control Technology (29/30), Chemistry of Natural Processes (28/30), Sustainability Accounting, Environmental Economics. Practical training in LCA and GIS.

B.Tech Energy and Environmental Engineering — Tamil Nadu Agricultural University, India (2016–2021)

- **Thesis:** Design and Fabrication of a Solar Powered Trash Compactor (published, TNAU 2020).
- **Coursework:** energy auditing, renewable energy systems, thermodynamics, environmental impact assessment.

CERTIFICATIONS

- GHG 202: Basics of Project-Level GHG Accounting, GHG Management Institute (in progress, 2026)
- GHG Accounting: Corporate Standard, GHG Protocol (2026)
- ISO 50001 Energy Management Systems, Coursera (2026); willing to pursue ISO 50001 Lead Auditor certification
- Energy Audits and Energy Efficiency Fundamentals
- Schneider Electric University (2026)
- IGBC Accredited Professional
- Earth Academy Practitioner: GRI, TCFD, Integrated Reporting, SDGs