

WORK EXPERIENCE

Credeire Capital LLP

Credit Risk and Energy Analyst

New York/London

Sep 2025 – Present

- Conducted credit risk and capital structure analysis across a range of digital infrastructure and AI-compute issuers integrating leverage, liquidity, refinancing risk, capex intensity, and power-cost exposure.
- Assessed risk and relative value by tying issuer balance sheets to local power-market fundamentals (electricity cost structures, utilization, and capacity additions) to inform convertible-bond selection.
- Analyzed constraints on US data-center expansion by integrating power interconnection queues, build timelines, and critical-material/metal supply exposure into issuer-level risk and valuation views.

Clean Combustion Research Center at King Abdullah University of Science & Technology

Technoeconomic Analyst

Multiple Locations

Feb 2021 – Sep 2024

- Modeled IRR, LCOE, and CO₂ abatement costs for utility-scale ammonia, hydrogen, fuel-blend, and natural gas versus heavy fuel oil across sensitivity cases for efficiency, scale, policy, and financing for Aramco stakeholders.
- Built a discounted cash flow model for a novel maritime fuel desulfurization process, incorporating commodity market research, capital structures, configurations, scales, and projected cost declines from technology maturation.
- Researched the Li-ion battery recycling value chain and global lithium and cobalt markets, including in-use battery stock, LFP vs NMC adoption impacts on future metal demand, mining and recycling capacity, and geopolitical supply risk (export controls, sanctions, supply-chain concentration).
- Built NPV and life-cycle models of a novel LiB recycling technology under varying feedstock (black mass) compositions, benchmarking against competing technologies, commercial feasibility, regional CAPEX/OPEX, supporting commercialization into CirCoLi (battery recycling startup).
- Presented at IEA's 6th Post-Combustion Carbon Capture Conference on emissions, energy penalties, costs, pollutant valorization, and commodity inputs for cryogenic CO₂ capture in hard-to-abate industry (cement, steel).

First Data

Paid Intern, AML and Credit Risk

New York, NY

June 2018 – Sep 2018

- Conducted AML and credit risk assessments for clients and streamlined internal compliance reporting.

EDUCATION

Barcelona School of Economics

MSc, Economics of Energy and Climate Change

Barcelona

Sep 2024 – July 2025

- **GPA: 8 / 10**

Master's Thesis (Grade 9.5/10) [Modeling Spain's Path to 81% Renewable Electricity by 2030](#)

- Evaluated Spain's grid under different investment/policy scenarios (supervised by Energy Economist Mar Reguant).
- Built a full-year hourly optimization model of Spain's electricity grid in Julia with Gurobi, incorporating energy storage, all generation types, marginal costs, EU ETS, fuels, and disaggregated demand elasticity.
- Identified, acquired and integrated four years of time series and geospatial data from ENTSO-E and REE APIs, and calculated emissions, imports/exports, prices, costs, consumer and producer surplus.

Economic Geography Paper (Grade 9.2/10) [Bidding Behavior of Hydropower in the Spanish Electricity Market](#)

- Conducted econometric and geospatial analysis of over 3 million plant-level hourly bids from Spanish conventional and pumped hydro, matched with drought indices and hourly market price-setter data, to quantify how scarcity conditions and pivotality shaped bidding behavior and price outcomes using Python and R.

New York University

BA, Double Major in Economics & Environmental Studies, Minor in Middle Eastern Studies

New York

Sep 2017 – June 2021

- **GPA: 3.5 / 4** Dean's List 2019-2020.
- **Capstone Paper:** Evaluated near-term economic and socio-political risks of climate change across the MENA region through an interdisciplinary analysis supervised by Environmental Economist Gernot Wagner (graded A).

ADDITIONAL INFORMATION

- **Language:** English (Native), Spanish (Fluent), Arabic (Basic)
- **Technical skills:** Excel, Julia, Power BI, Python, R, SQL, Stata, IAMs (Integrated Assessment Models)
- **US Citizen.** GRE: 170 Quant, 164 Verbal.