

Tech Venture Challenge – ReduCO₂

Developing a Supply Chain Management and Distribution Network for ReduCO₂ within a Research Transfer

Challenge description

ReduCO₂ is rethinking how we produce one of the world's most critical materials, graphite, by turning CO₂ into a resource instead of waste. As demand for graphite in batteries and clean technologies rises, supply remains carbon-intensive and heavily dependent on China, which controls about 90% of the market. Driven by the rapid growth of electric vehicles, the graphite market is expected to grow 2-3× over the next decade, reaching 70 billion EUR in 2035. At ReduCO₂, we are developing a breakthrough process that mimics natural geological graphite formation to create high-quality, carbon-negative graphite without harmful reagents. This enables safe, long-term CO₂ storage and supports the transformation of the mobility sector.

Thesis Focus

Within your master thesis, you will work on research related to:

- The role of supply chain management in enabling the commercialization of graphite in Germany and the EU.
- Integration of regulatory compliance frameworks for raw material procurement and product distribution within the graphite industry.
- Analysis of logistical challenges and strategies for efficient distribution networks tailored to graphite-based materials.
- Case studies of successful graphite supply chains and their alignment with German and EU environmental regulations.
- Barriers to establishing sustainable, compliant supply chains for graphite, and actionable strategies to address them.
- The impact of sustainability metrics and optimization tools on enhancing the efficiency of graphite distribution networks.
- Opportunities for leveraging renewable energy and circular economy principles in graphite supply chains.

Profile and process

You apply with a motivation letter and a CV (but no project draft) and write a master thesis suitable to your study program. You should have:

- Demonstrated motivation to innovate and drive change in the graphite industry.
- Background in business, supply-chain management, or a related field.
- Experience or interest in supply chain management, logistics, or the graphite industries would be an advantage for navigating the graphite market.
- Exceptional analytical and creative problem-solving skills.
- Willingness to take responsibility and work independently.
- Strong team player attitude.

- A strong commitment to sustainability and a genuine interest in contributing to the transition toward a greener, more responsible industry.
- Ambition to join ReduCO₂ and help transform cutting-edge research into impactful real-world solutions.

Upon successful application, you will become part of the TUM Entrepreneurial Masterclass and enjoy all its benefits.

TUM Entrepreneurial Masterclass

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