

# Proposition for tutored project M2 MAFEN

## Physicochemical characterization of spent coffee grounds as a biochar feedstock: Developing quality standards for local biochar production

### Company:

Cafés du Sud SARL

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Specialty coffee roaster based in Southern France, focusing on sustainable agriculture, circular economy, and premium coffee experiences for both local and international markets. The company develops innovative projects around coffee valorization, including biochar production from coffee grounds, cultural events, and partnerships in the office and hospitality sectors.

### Tutor: clement@ooka.fr

Clément RIBEAUD, Founder and Manager of Cafés du Sud SARL. Certified Q-Grader with extensive expertise in specialty coffee roasting, circular economy projects, and agro-food innovation. With over 10 years of experience in entrepreneurship and sustainable development, he is leading European-funded projects on the valorization of agricultural by-products, including feasibility studies on producing biochar from spent coffee grounds.

### Context:

The quality of spent coffee grounds (SCG) as a feedstock can vary depending on bean origin, roasting level, brewing method, and storage. These variations directly influence the yield and properties of the resulting biochar. Understanding and defining the quality criteria for SCG as a feedstock is essential to ensure consistent, high-quality biochar production.

### Objectives:

- Carry out a literature review on SCG composition and its influence on pyrolysis.
- Collect and analyze SCG samples from different sources to determine physicochemical properties.
- Interview stakeholders (coffee roasters, cafés, waste managers) to understand practical challenges.
- Define feedstock quality criteria and propose best practices for SCG collection and preparation.