Biochar in Central and Eastern Europe (CEE)

Country Study Assessment on Biochar Production and Application – Guidance for National Experts

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Roland Lleshi, TU Berlin

Presentation Overview

1. Overview of the TU Berlin Biochar Research Project
2. Goal of the Country Study Assessment
3. Country Study Assessment Proposed Structure
4. Questions & Answers

1 Brief Overview of the TU Berlin (TUB) Biochar Research Project

“Biochar from Agricultural Residues in Central and Eastern Europe (CEE): Actor Constellations, Structural Framework Conditions, and Innovation Dynamics for Sustainable Transformation Processes”

Project Goals:

1. Coordination and content support as well as scientific analysis of project results and support in deriving overarching conclusions.
2. Promotion of networking and support for the visibility of DBU-funded projects with a focus on biochar in CEE countries.

Funding	Deutsche Bundesstiftung Umwelt / German Federal Environmental Foundation (DBU)
Project Lead	Prof. Dr. Gesa Geißler (TUB)
Project Manager	M.Sc. Roland Lleshi (TUB)
Student Assistant	Lisa Rönnecke (TUB)
Project Duration	01.02.2026 - 31.07.2028





Web link:

https://www.tu.berlin/en/umweltpruefungen/research/projects/biochar

2 Goal of the Country Study Assessment

Goal of the Country Study: to assess country-specific potentials, enabling conditions, barriers, and risks for the sustainable production and utilisation of biochar from agricultural biomass residues.

- DBU and TU Berlin (TUB) aims to have 10 Country Study Assessments
- Focus in CEE countries: with high potential to sustainably produce and apply biochar
- The studies usually follow the factsheets produced by TUB
- They go deeper than a factsheet: state, opportunities, challenges, and next steps
- Method: desk research plus interviews or questionnaires with national relevant actors

Currently on-going work:
- **Albania**.

Potential work:
- **~ 10 other CEE countries**

Keep a similar structure for all ~ 10 country studies – with country-specific context.

3 Country Study Assessment Proposed Structure (13 chapters)

01 **Country and relevant sector baseline**

Country overview, agriculture profile (arable land, size plots), and forestry profile (cover, species, conservation).

02 **Policy, climate, legislation and certification**

Climate targets, carbon markets, biochar standards, agricultural policy, and rules on soil amendments.

03 **Feedstock, environment, and circularity**

Agricultural and forestry suitable residues, soil and water risks, contamination, waste, and circular-economy links.

04 **Relevant stakeholders**

Producers and demand, quality rules, ministries and labs, organisations, incentives, barriers, and acceptance.

05 **Innovation and recommendations**

Research and pilots, regional cooperation, opportunities and challenges, priority regions, and next steps.

***(document will be shared)**

3 Country Study - not only a Desk Research

METHODOLOGY

WHAT DESK RESEARCH GIVES YOU

- General country data, NDCs, climate strategies, CAP plans, agriculture and waste laws
- Official land, crop, and employment statistics
- Published residue (agri & forestry) and soil maps
- Existing standards (EBC, fertiliser rules)
- Known pilots and EU project pages

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WHAT ONLY STAKEHOLDERS CAN GIVE YOU (Interviews / Questionnaires)

- Whether biochar is even on the policy radar
- How residues are really used or burned
- Contamination practices on the ground
- Barriers, subsidies, and farmer openness
- Unpublished pilots, labs, and local partners

3 Country Study – Desk Research and Stakeholders Interview / Questionnaires - Timeline

1. **Map the outline (**1 - month**)**

   Flag what other (official) sources can already answer and where evidence will be thin.

2. **Desk work (**1 - month**)**

   Collect climate, agri, waste, soil, and market documents. Note gaps and contradictions.

3. **Build the interview list** (1 - month)

   Ministries, agencies, municipalities, farmer organisations, researchers, waste actors, and practising farmers.

4. **Run the interviews (**1 - month**)**

   Use the questionnaire as a guide — written or spoken. Keep responses confidential.

5. **Integrate, then recommend (**1 - month**)**

   Place stakeholder evidence inside chapters, where possible. Close with priorities and next steps.

5 – approx months research work

Interviews + drafting of text

3 Semi-structured Interview: 13 Questions. 6 Clusters.

Use as a written questionnaire or as a guide for a semi-structured conversation.
15 – 30 Interviews – in person / online / written format

Q1–2

Opening

Challenges in 1) agriculture, 2) soil health, 3) waste management. Awareness of biochar, or a short explanation if none.

Q3

Policy

Climate, agricultural and circular-economy strategies on soil, carbon removal and biomass. Any mention of biochar (or similar) in law, guidelines or funding.

Q4–5

Residues and current practice

Main residues, regions and land ownership. Current use and competing uses. Fertiliser/compost/manure: practice, cost, who decides. Seasonality, storage and transport.

Q6–7

Risk and rules

Contamination hotspots and polluted water, biomass and soils. Rules for amendments, fertilisers and biochar. Pyrolysis, emissions, EIA and contaminant limits.

Q8–12

Adoption

Incentives and barriers for biochar use. How open farmers, institutions and local organisations would be.

Q13

Forward

Known pilots and research. What would make production and use viable (policy, infrastructure, partnerships). Anything else they want on the record.

***(document will be shared)**

3 Who Must Be Approached for an Interview

Target a mix that can speak to policy, production, soils, waste, and farm-level adoption.
Aim for coverage, not a single representative voice.

Farmers

Practising producers who handle agricultural residues.

Farmer organisations

Associations or cooperatives - the channel for scale and advisory systems.

Ministries and agencies

Agriculture, environment, energy, rural development, and relevant municipalities.

Researchers and labs

Soil science, biomass, pyrolysis, accredited labs, monitoring programmes.

Waste and circular actors

Composters, wastewater, biowaste operators, circular-economy units, industry.

NGOs and associations

Climate, soil, rural development, and any biochar or bioenergy groups.

3 Writing Guidance

Font: Arial 12 pt, 1.5 or double spacing, 2.54 cm margins.

Reference style

Bibliography and citations in APA 7. https://libguides.csudh.edu/citation/apa-7#s-lg-box-22358980
Example: European Commission. (2025). North Macedonia 2025 report. https://enlargement.ec.europa.eu/document/download/267b368e-6b55-4a42-bb72-6395593de4da_en?filename=north-macedonia-report-2025.pdf

Integrate interviews

Use interview findings in combination with desk findings.

Protect respondents - interviewees

Confidential. Used only for the study. List names in Annex 1 only with consent.

Required Annexes

Interviews stakeholders, Summarised questionnaire responses, extra relevant maps – residues, soils, hotspost etc (when not used in the text), other supporting documents

THANK YOU!

Q&A