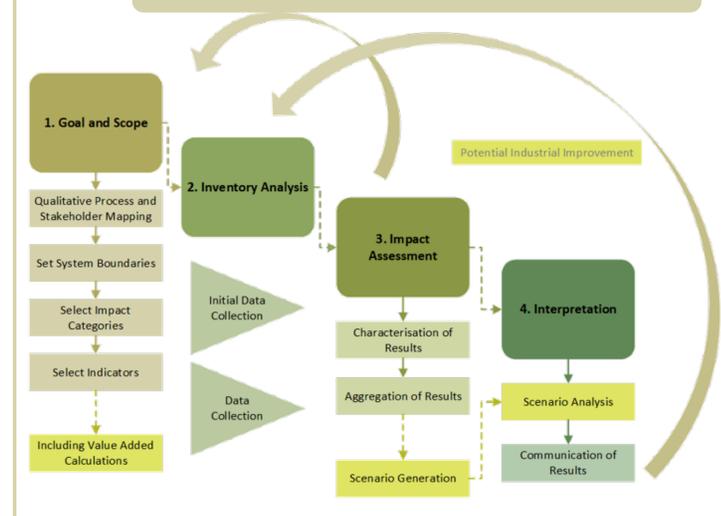# WOOD K PLUS — Dendromass4Europe.eu — D4EU

Social Life Cycle Assessment: a forecasting approach to assess the socio-economic improvement potential during the R&D phase. A case study on agricultural wood-based innovations
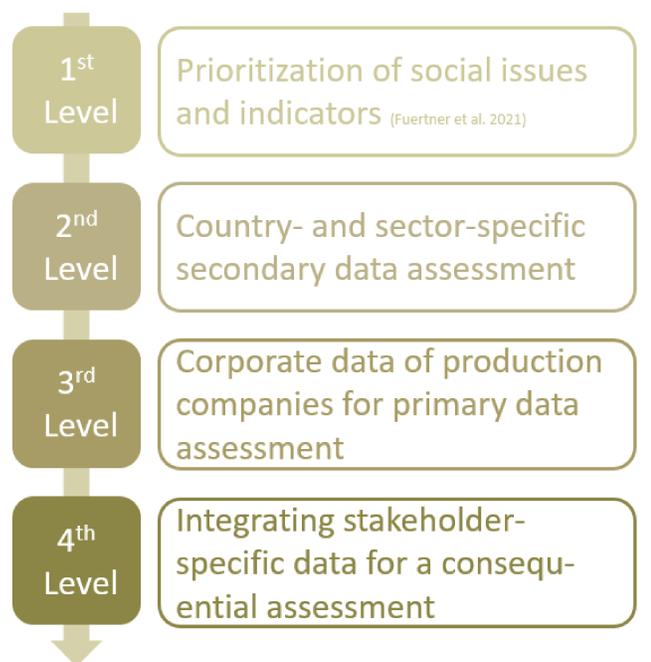
Daniela FÜRTNER[1*], Franziska HESSER[1]

Introduction

- **Early stage Social Life Cycle Assessment (SLCA)** provides several benefits in the R&D of new products or production processes.
- **Negative social implications** can be identified and consequently be eliminated or improved in the course of product development.
- **Positive social effects** can be also identified and may be strengthened.
- **Scarcity of data** in these early stages is limiting the results and makes SLCA challenging.
- A **4-tier SLCA** in various depths supported by a continuous feedback loop throughout the R&D phase is explored to address the precautionary principle.
- **Objective** of the study is to apply the 4-tier SLCA on a wood-based value chain during R&D to assess socio-economic impacts on four levels, describing leveraging effects as basis for decision-making.
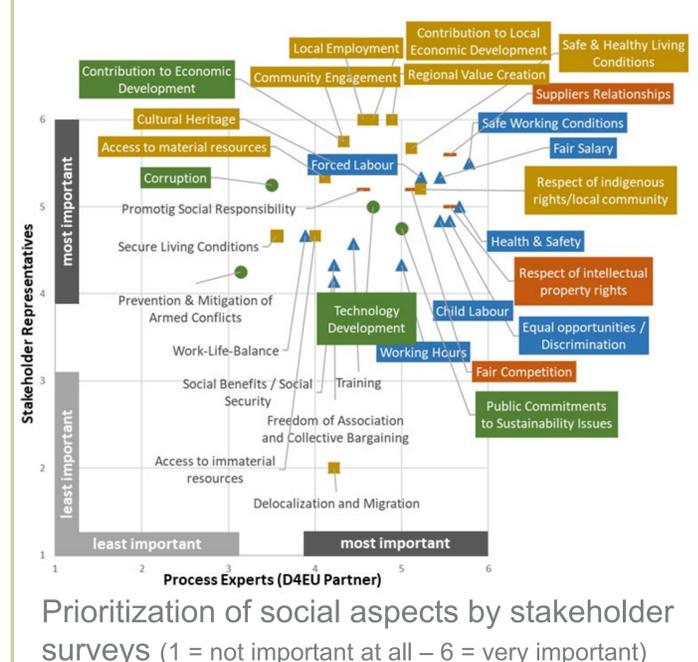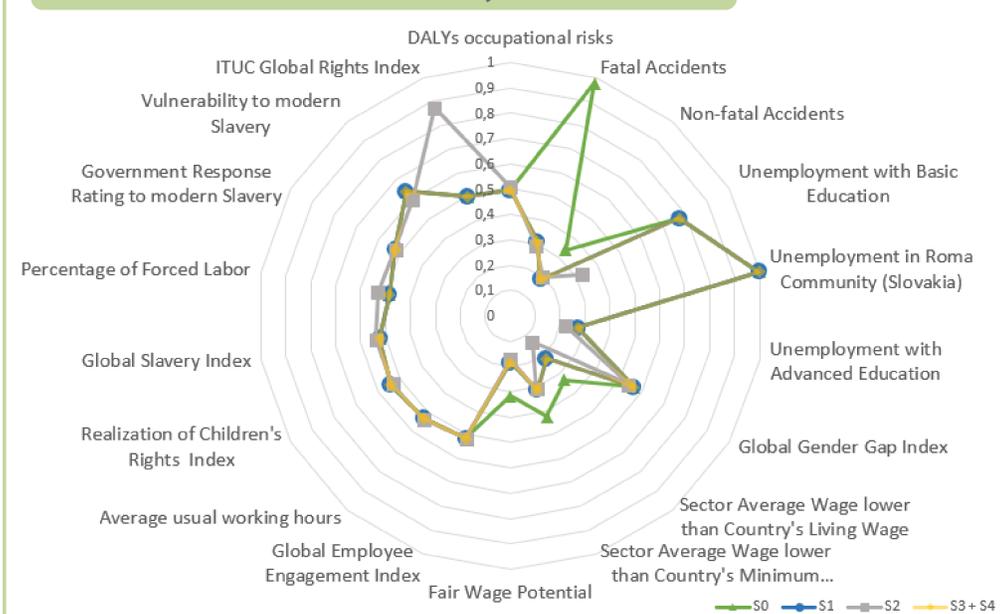
Assessment Framework

Method

1st Level — Prioritization of social issues and indicators (Fuertner et al. 2021)

2nd Level — Country- and sector-specific secondary data assessment

3rd Level — Corporate data of production companies for primary data assessment

4th Level — Integrating stakeholder-specific data for a consequential assessment

Case Study

S0: Short Rotation Coppice Dendromass (AGRI/SK)

↓ Poplar Logs

S1: Lightweight Boards (WO/SK)

↓ Bark/Chips

S2: Eco-fungicidal moulded fibre parts (PP/PL)

↓

S3 + 4: Wood Plastic Composite Boards/Granulate (CH/SK)

AGRI= Agriculture | WO = Wood Industry | PP = Pulp and Paper Industry | CH = Chemical Industry || SK = Slovakia | PL = Poland

1st Level Results

Prioritization of social aspects by stakeholder surveys (1 = not important at all – 6 = very important)

2nd Level Results: 'Workers'

Outlook

- Different companies within the same sector or country can cause **diverse impacts** – the consideration of different levels in SLCA enables more accuracy.
- Quality and informational value of the results depends on the **depth of the data basis** (4 levels).

In this study, the following levers for minimizing the social risk potential could be identified so far:
- Creating job opportunities for people from Roma communities and less educated people
- Implementing measures to prevent accidents in agriculture
- Promotion of the equality of men and women in the workforce
- Giving priority to fair salaries especially in the agricultural context

LCM 2021