Goal and scope definition:
Purpose: assessing CF and the most urgent environment impact;
System boundaries: ① coping paper: from pulping to recycling, ② printing service: from raw material production to delivering books to the customers;
Functional unit: ① coping paper: 1000kg of copying paper, ② printing service: 1 sheet of plate in pre-press step or 1 sheet of paper in other steps;
Criteria: PAS 2050, ISO 14040
Secondary sources: Ecoinvent Database, KCL ECO software

Inventory analysis:
① copying paper: consumption of wood chip, water, energy resources, gas emission, Water emissions, solid waste, transportation;
② printing service: consumption of printing ink and glue, energy resources, gas emission, Water emissions, solid waste, transportation;

Impact assessment:
Selection of the most urgent environment impact (MUEI) by the method of AHP;
Classification: assigning inventory data to CF and MUEI category;
Calculation: \[ E = \sum E_i \]

Interpretation:
① The main aim of this study is to estimate the carbon footprint and identify the hot spots in the life cycle of copying paper and printing services in China;
② There are some differences between products and services in functional units;

Fig.1 LCA phases of copying paper and printing services