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## Introduction

Species-rich grasslands are seriously threatened in many European countries. For the conservation of these areas an extensive grassland management is required, but most conventional recovery systems are inapplicable to use the quite lignified biomass because of:

- Low nutritional value to ruminants and economic returns through extensive grazing
- Low energy efficiency in conventional biogas plants due to low degradability
- Technical constraints in combustion systems due to high mineral and nitrogen concentrations

An innovative technical approach has been developed to produce solid fuel with improved combustion characteristics (IFBB system, Fig. 1). Within the European wide PROGRASS project, this bioenergy system will be demonstrated and investigated on a pilot plant scale.

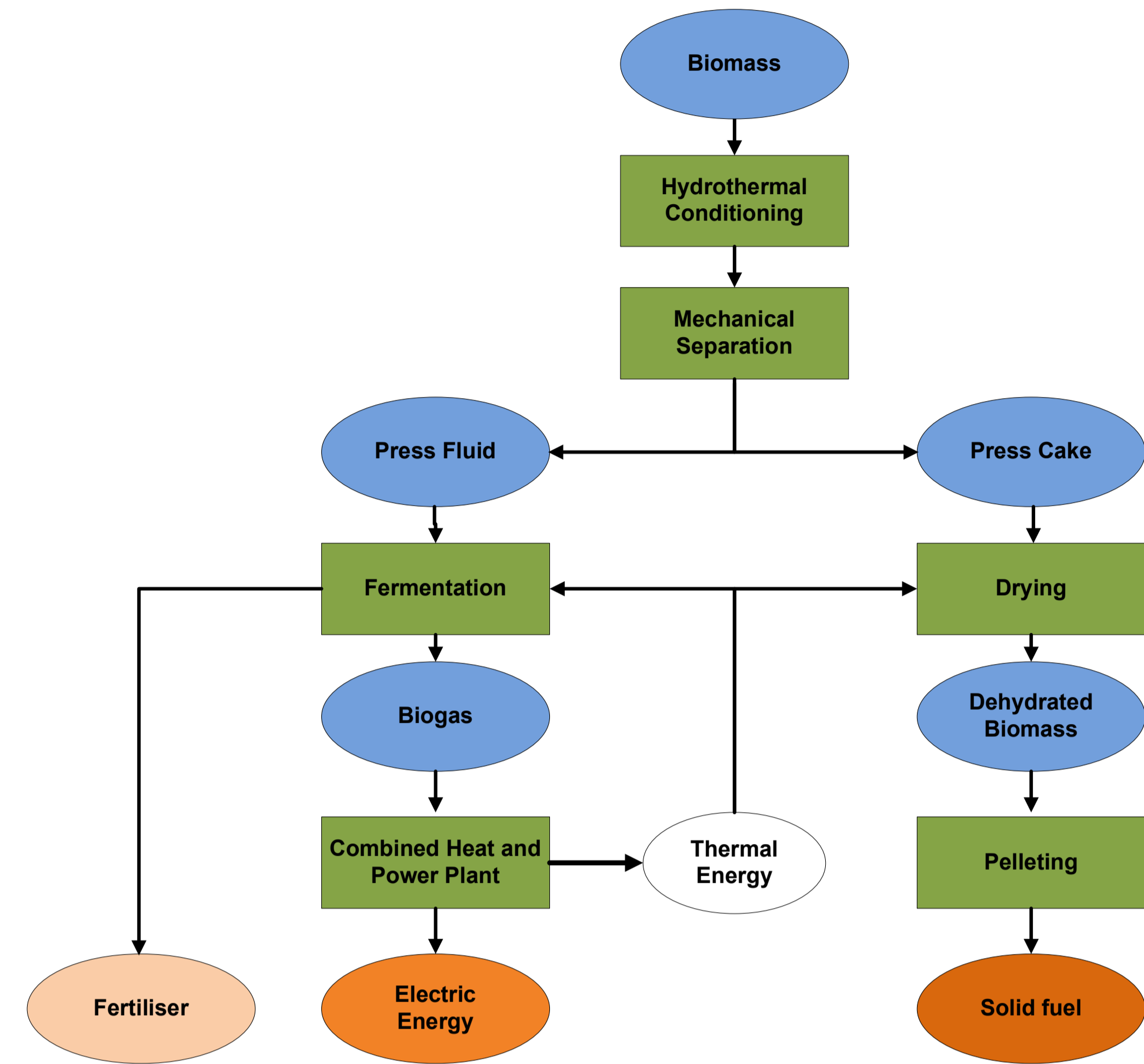
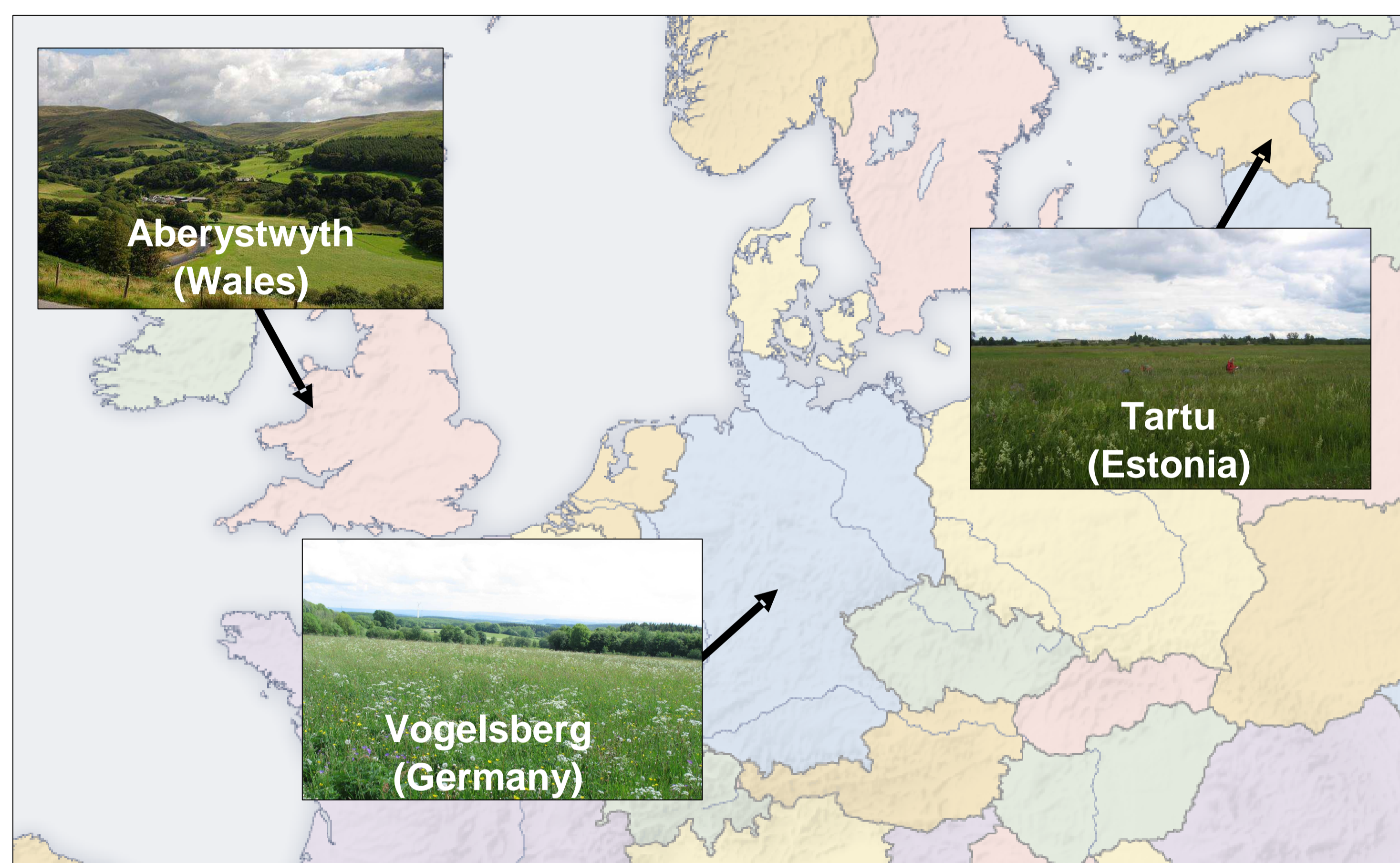


Fig. 1: IFBB: Integrated generation of solid fuel and biogas from biomass



## Objectives and implementation

- By means of each six grassland sites in the partner regions Germany, Wales and Estonia the following parameters are investigated: productivity of the sites, silage and press cake quality, methane yields of press fluids, development of biodiversity by different management systems
- Verifying the feasibility of the technical approach by a mobile prototype plant (Fig. 2 and Fig. 3)
- Demonstration of the IFBB system to varied target groups
- Economic evaluation of the approach

## Prototype plant

- The mobile pilot scale plant (Fig. 2) is installed in two containers and designed to process at maximum 400 kg silage per day with an output of 90 kg press cake and biogas power of 7 kW
- After start-up in March 2010 the prototype will be operated one time per year at each of the three partner sites in 2010 and 2011 for demonstration purposes, gaining informations on technical feasibility and processing defined material for scientific interpretation

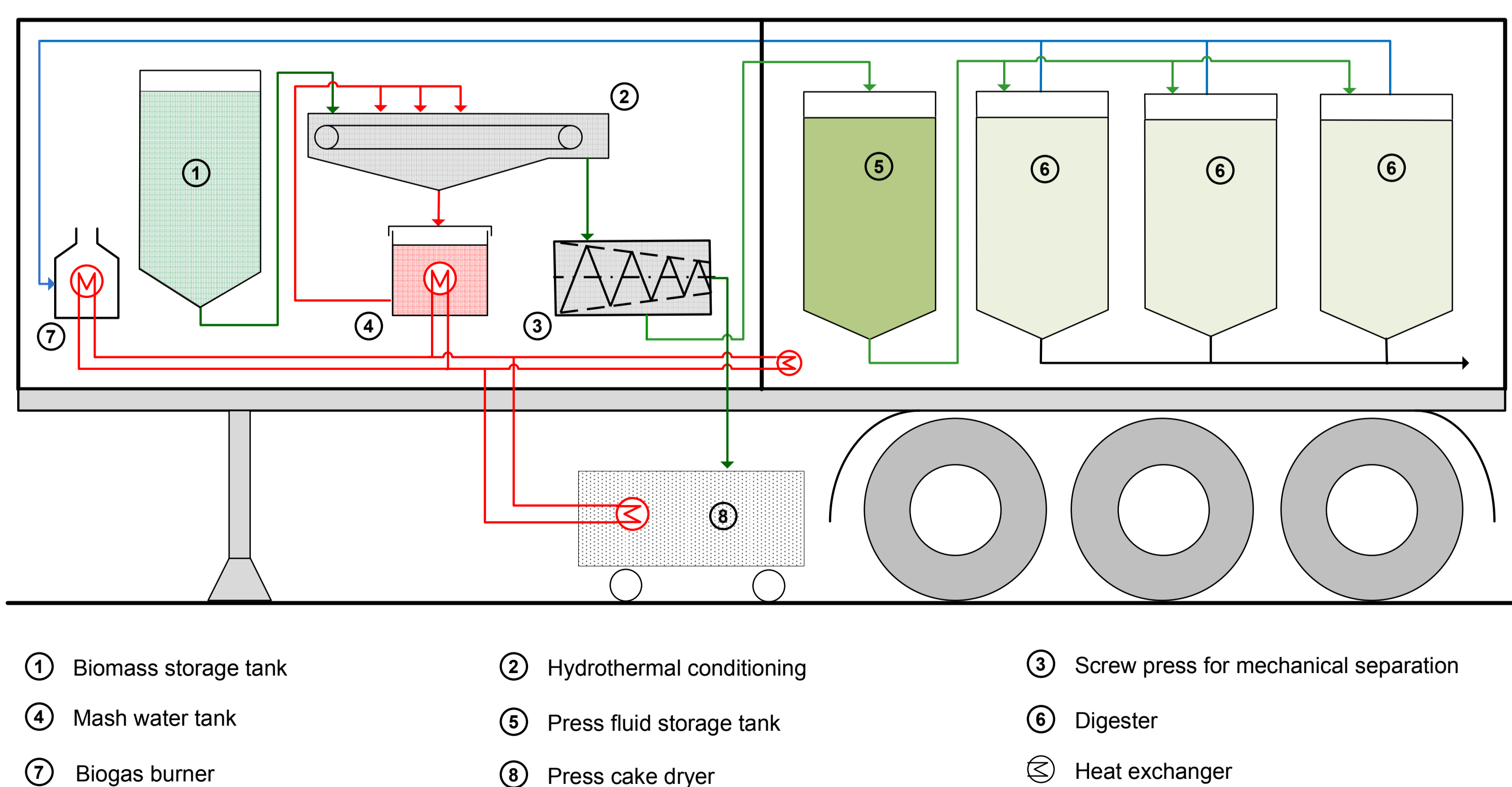


Fig. 2: Technical set-up of the plant



Fig. 3: Start of operation of the plant