XXIII EURAGRI members conference 2009, Madrid

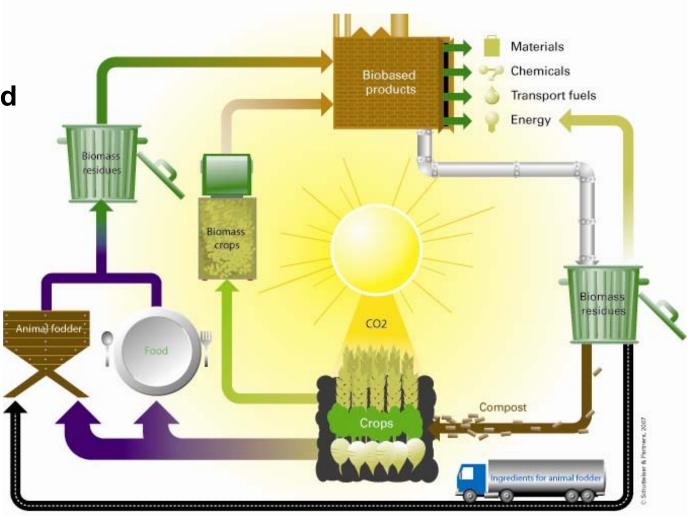
The Bio-based

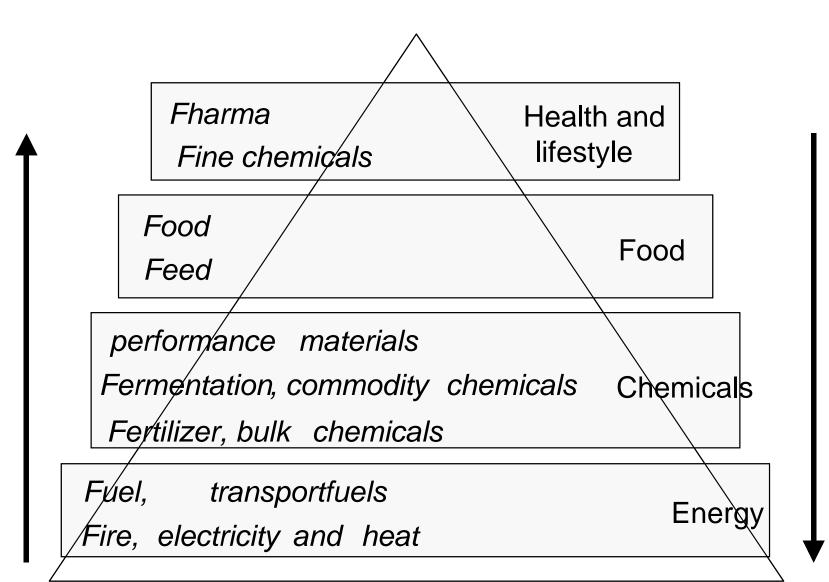
Economy

Roel P.J. Bol

Programme director

Bio-based Economy





Volume

Raw Proproduct cessing materials **Tertiary** materials **By-products Secundary** chemicals by-products Bio-**Primary** mass **Transport**by-products fuels **Algues** Electricity, heat Crops

Drivers of the Bio-based Economy

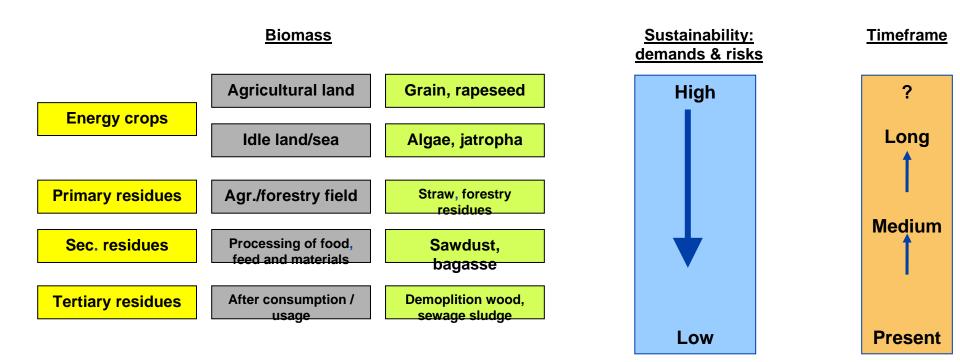
Socio-economical drivers

- Environmental policy Greenhouse Gas (GHG)
- Employment
- Regional and Agricultural policies
- Energy security
- Energy costs

Energy related drivers

- Cofiring of biomass with coal for electricity is easy, scale independent
- Gasification of biomass: large scale electricity production and chemicals
- Biofuels: the only option for substantial replacement of transport fuels without major infrastructural adaption
- Biomass is the only renewable feedstock for the chemical industry

Sustainability - an important driver



Sustainable criteria - EU

FOOD ENERGY FUEL CHEMICALS MATERIALS OTHER

- Greenhouse gas reduction
- Biodiversity
- •Social sustainability and competition in relation to food (via bi-annual report by the Commission)
- Natural resources (soil, water)

EU Renewable Energy Directive