

**Knowledge Based Bio-Economy
towards 2020 conference**
turning challenges into opportunities

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working together to address the NEEDS
research and innovation
feedstocks for the KBBE

CHALLENGES

increasing GHG emissions

population growth

climate change

urbanisation

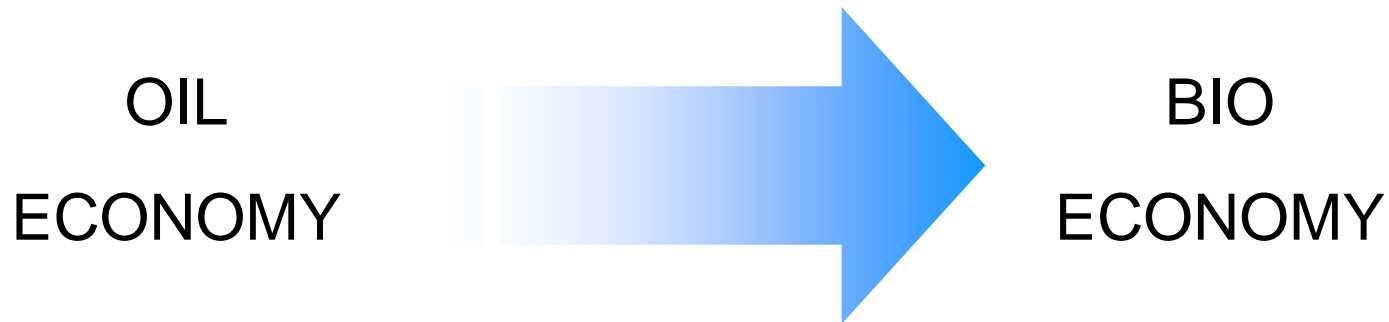
decline in fresh water

loss of biodiversity



decline of fossil reserves

SOCIETY IS IN TRANSITION



implications for land-use, the environment,
rural development, agriculture and the use
of agricultural feedstocks

solar energy



photosynthesis

ancient sunlight

today's sunlight

ancient sunlight



fossil reserves

oil...refineries

photosynthesis

today's sunlight



bioproducts

bio...refineries

fuel chemicals materials food animal feed

the full potential of the plant production system



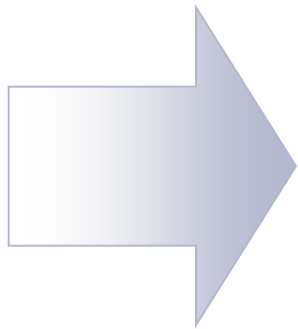
towards 2020...

food animal feed chemicals materials fuel

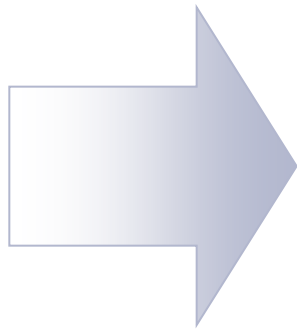


multiple demands on agricultural feedstocks

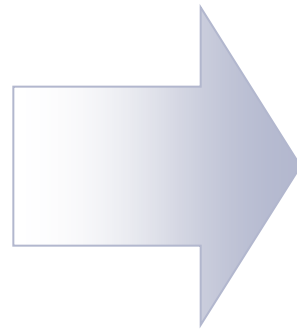
need for productive land ... use of marginal land ... politics / policies of
virtual water ... food security and quality ...



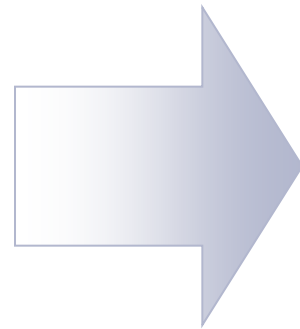
discovery



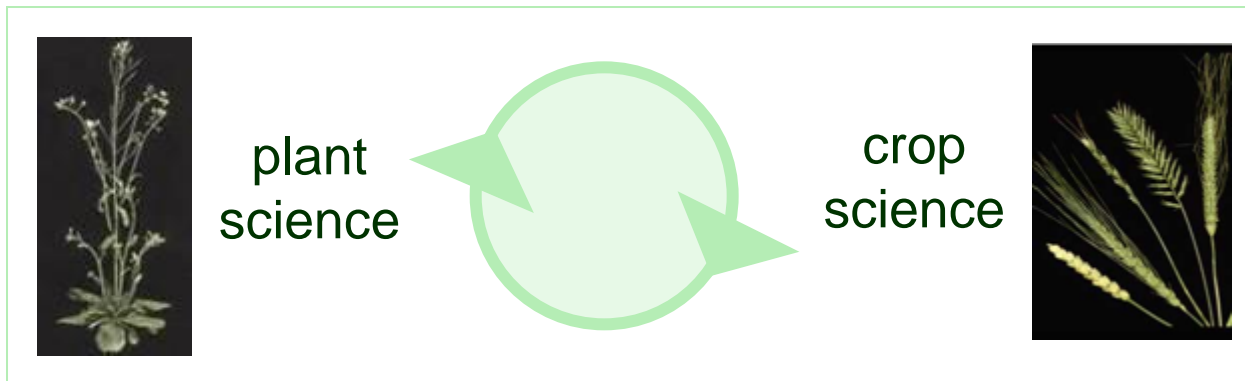
development



demonstration



deployment



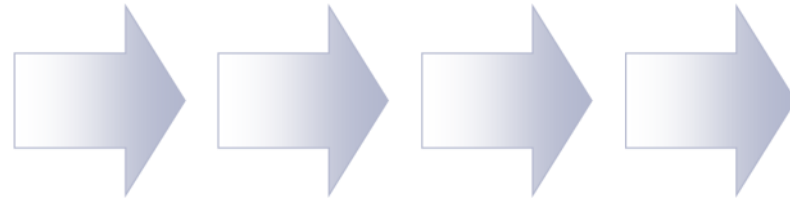
the need to integrate research into application

fundamental plant biology ...
arable agriculture and food crops

plant biotechnology



increased yield
defence and resistance
drought tolerance
low inputs
higher utility



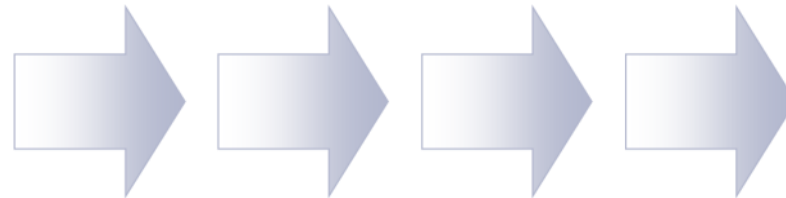
close working relationship between the research community,
the growers and the users of the feedstocks

plant biotechnology

bio-based products ... non-food crops



increased yield
bulk chemicals
energy
higher utility
improved processing



close working relationship between the research community,
the growers and the users of the feedstocks

agronomics economics environmental science

germ plasm development

fast track breeding platform

fundamental plant biology ... arable agriculture and food crops

plant biotechnology

bio-based products ... non-food crops

