

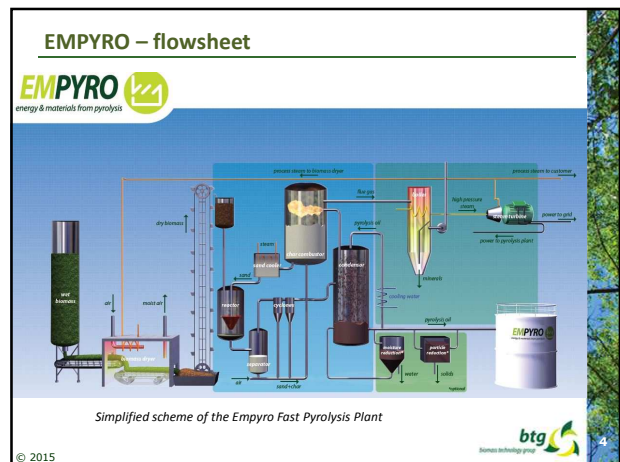
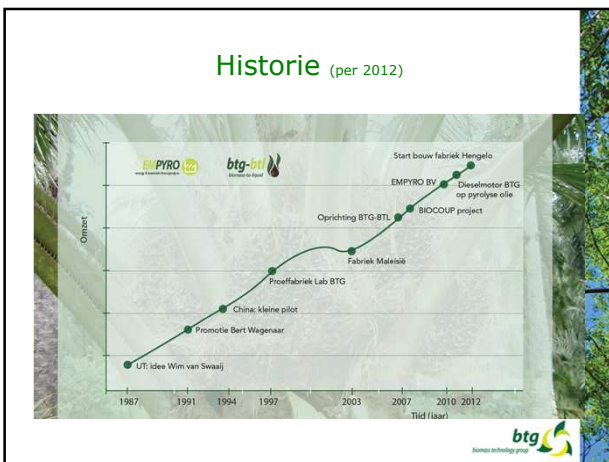
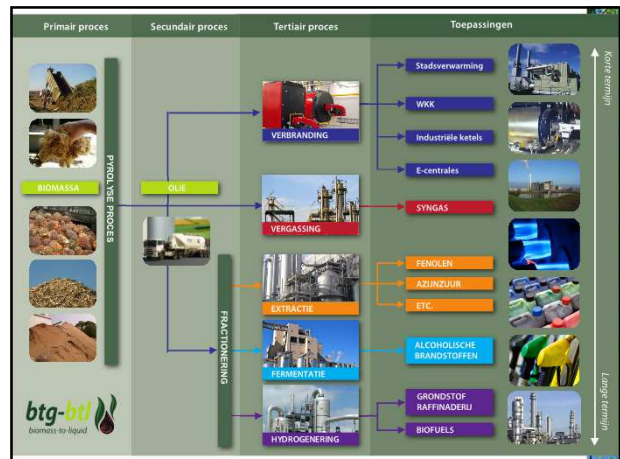
EMPYRO
energy & materials from pyrolysis

Pyrolyse als bouwsteen voor de BBE

btg
biomass technology group

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TKI-BBE, Amsterdam, 23 juni 2015

Your partner in bioenergy



EMPYRO – key figures

Total investments – EMPYRO: ~ 19 M€
(incl. civil works, working capital, permits, engineering, installation, equipment, etc)

Loans, Equity, Grants

Private Investor

btg biomass technology group

EMPYRO – key figures

Indicative pyrolysis oil price (EMPYRO - plant):

Pyrolysis oil	~ 300	€/ton
	~ 18 - 20	€/GJ
	~ 65 - 75	€/MWh
(Biomass costs ~ 80 €/dry ton)		

Cost breakdown

- Biomass feedstock (~43%)
- Personnel (~10%)
- Other variable costs (~3%)
- Other fixed (~2%)
- Finance costs (~42% (incl. equity & depreciation))

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Pyrolysis Oil Application

- Royal FrieslandCampina NV:
 - Is global dairy company;
 - Will be major launching customer for pyrolysis oil;
 - Process steam used in milk powder process;
- Pyrolysis oil off-take agreement concluded for a period of 12 years (equivalent to ~ 200 million litres);
- Pyrolysis oil is transported by tank truck from Hengelo to Borculo (~ 30 km).

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