

World's first large scale BTL-facility Σ1 Schwedt, Germany

**TP Biofuels - 2nd Stakeholder Plenary Meeting
From pilot to demonstration
Brussels, Jan 22nd 2009**

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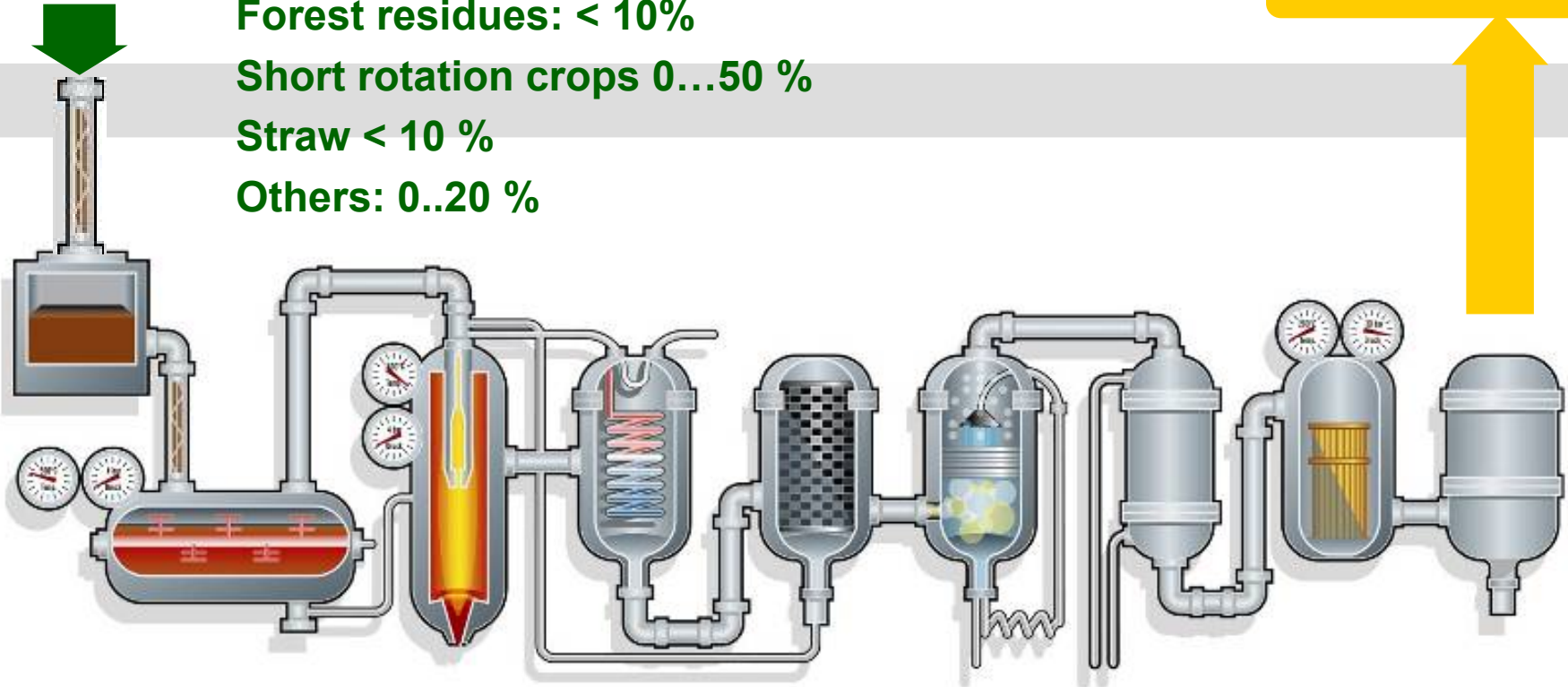
Commercialization Manager

BTL Value chain – conversion technology CHOREN

Biomass

Waste wood 10..50 %
Forest residues: < 10%
Short rotation crops 0...50 %
Straw < 10 %
Others: 0..20 %

BTL Diesel/Naphtha



Carbo-V Gasification

Gas Cleanup and
Compression

FT-Synthesis/
Upgrading

From Pilot to Demonstration



Challenges on the pathway to Σ :

- ▶ Implementation of 50,000 ha of short rotation crops (SRC)
- ▶ Effective biomass drying
- ▶ Scale up Carbo-V gasifier by x 1.3... 4
- ▶ **Process optimization and demonstration of the integration of various mature process units**
 - > 100 process options evaluated
 - > 110 process unit
 - ▶ Constructability
 - ▶ Operateability
 - ▶ Safety
 - ▶ Reliability
- ▶ **Financing/risk share**

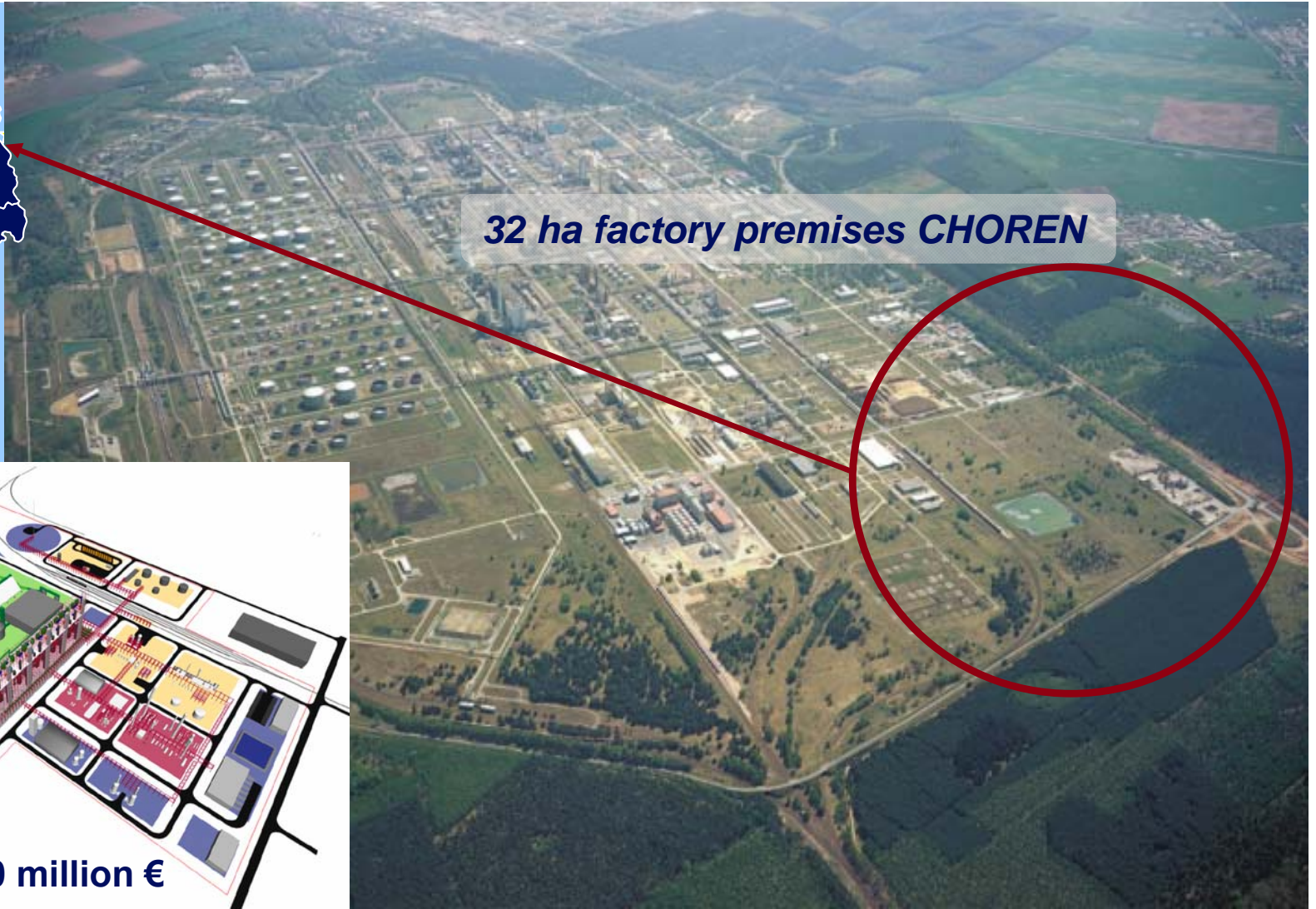
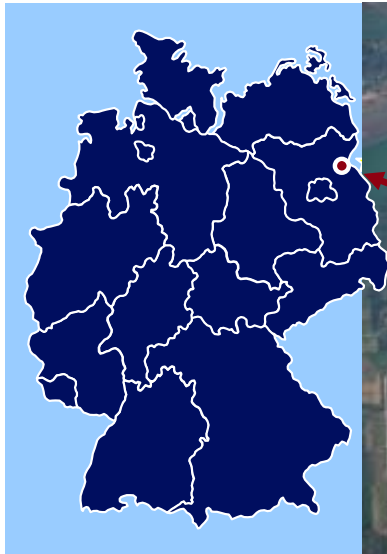
CHOREN Beta Plant Freiberg/D:

- 45 MW thermal
- 68,000 t/a feedstock
- 18.0 million l BTL

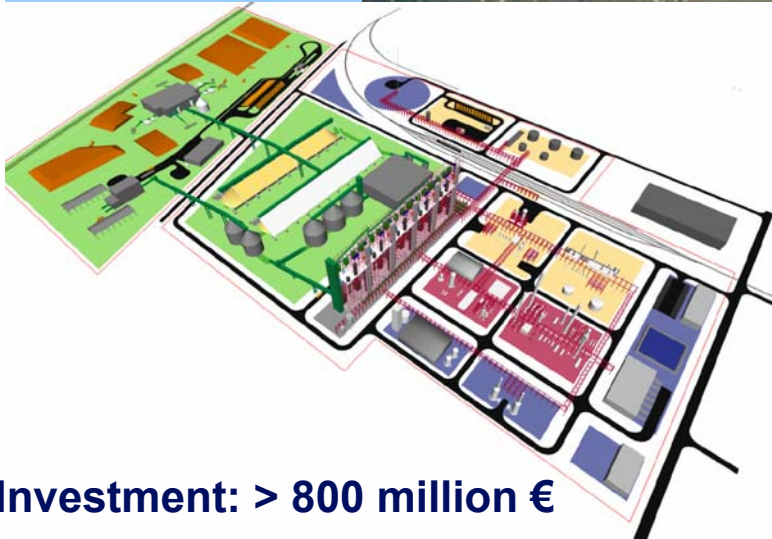
Σ Demonstration plant Schwedt



640 MW_{th} **1,000,000 t/a bio-mass** **200,000 t/a BTL** **ΔCO₂: - 650,000 t/a**



32 ha factory premises CHOREN



Investment: > 800 million €

All **partners** who are ready to share project risks are welcome

- ▶ Feedstock supply
- ▶ Construction
- ▶ Financing

Sustainability

- ▶ Wheel to Wheel LCA will be performed in parallel to the engineering phase to confirm the GHG-reduction > 80 % compared to fossil fuel
- ▶ Apart from waste wood, short rotation crops (SRC) will take a major position because of their lower environmental impact compared to other agricultural products.
- ▶ SRC implementation will be reviewed by agricultural and environmental experts



C = Carbon
H = Hydrogen
O = Oxygen
REN = Renewable

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