WELCOME TO UPM KAUKAS

2.9.2014
Jaakko Nousiainen
Welcome!
Safety first.

Please take the time to read the safety instructions given to you.
Keep your visitor badge visible.
Stay with your host and follow instructions.
Mind the steps, hold onto the railings.

Smoking, alcohol and other intoxicating substances are prohibited on the premises.
Photography, videotaping and recording are prohibited without a written permission.

Kaukas emergency number is +358 2041 54 112
Kaukas site map

1. Effluent treatment plant
2. Research Centre
3. Biorefinery construction site
4. Bio-power plant
5. Pulp mill
6. Debarking plant
7. Sawmill
8. Paper mill
9. Main gate / ICE call center

n. 1200 employees

Wood usage 5 milj. m3/a
Equals 270 trucks/day
Sourcing radius 200 km in Finland
Imports from Russia
Logistics: Train, truck, boat & floating

Products:
- Chemical pulp 740 000 t/v
- Paper 580 000 t/v
- Sawn timber 530 000 m3
- Biofuels* 100 000 t/a
- KauVo: Electricity 125 MW
  Steam 152 MW
  District heat 110 MW
UPM BIOFUELS
– Biofuels from wood-based raw materials
UPM Biofuels strategy

Advanced biofuels
- Drop-in fuels fully compatible with current vehicle engines

Wood-based raw materials
- Renewable wood-based raw materials not suitable for food production

Sustainable operations
- Significantly, even 80%, less greenhouse gas emissions

UPM will be a big player in advanced biofuels market
Revenue targeting > 1 billion €/a
UPM Biofuels growth strategy

**ENTERING BUSINESS**
HYDROTREATMENT
Tall oil ➔ UPM Lappeenranta Biorefinery start-up 2014

**EXPANDING BUSINESS**
THERMAL CONVERSION
Solid wood materials ➔ Gasification (BtL) /Pyrolysis

**GROWTH OF BUSINESS**
FUTURE DEVELOPMENT
New technologies, processes & raw materials
R&D activities & co-operation with strategic partners

Products are drop-in hydrocarbons – Ready components for commercial blends
**Key facts:**
- Product: Renewable diesel
- UPM investment: 150 M€
- Capacity: 100,000 tonnes/a
- UPM Patents & Applications: 200
- Commissioning: Summer 2014
- Employment: 200 persons
- Contributes approximately 25% of Finland’s biofuel target
UPM BioVerno – Renewable drop-in diesel suitable for all diesel engines

RENEWABLE RAW MATERIAL
100 %

CO2 EMISSIONS (VS. FOSSIL FUEL)
−80 %

HYDROCARBON FUEL, COMPATIBLE WITH DIESEL STANDARD EN590
100 %
Driver’s seat in advanced biofuels
Instructions to Mill Visitors

- At the site, stay with your host.
- Use protective equipment provided by your host.
- Do not touch machines or products.
- Mill machinery and vehicles have the right of way at the mill site.
- Speed limit on site is 40 km/h, in some places 20 km/h.

- Photographing (incl. video) is forbidden on site.
- Smoking is forbidden on site since 1.1.2013.
- Camera surveillance on the site.
- In an emergency, follow instructions provided by your host.
- Private cars are not allowed into mill site, they should be left at the mill car park.

1. Paper mill
2. Sellutehdas – kututin
3. Sellutehdas – kuvauskoneet
4. Paaportti
5. Kaukaan Voima Oy:n biovoimalaitos
6. Tuotantokeskus
7. Biojalostamo
8. Biopuhdistamo

Welcome to UPM Kaukaan Tehtaille

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Puh.