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UPM BIOREFINING CREATING VALUE ON BIOMASS

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UPM Biorefining

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UPM Biorefining consists of pulp, biofuels, sawn timber and integrated energy production

UPM Biorefining utilises integration synergies both in wood sourcing and in mill operations

UPM aims to grow in Biorefining both in terms of volumes and in product diversity

UPM Biorefining	2013 (EURm)
Sales	1,988
EBITDA	435
EBITDA, %	22%
ROCE, %	11%

UPM Biorefining

UPM Kaukas mill site in Lappeenranta

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1 RESEARCH CENTRE
2 BIOREFINERY
3 BIOMASS POWER PLANT
4 PULP MILL
5 SAWMILL
6 PAPER MILL

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Benefits in integrated operations

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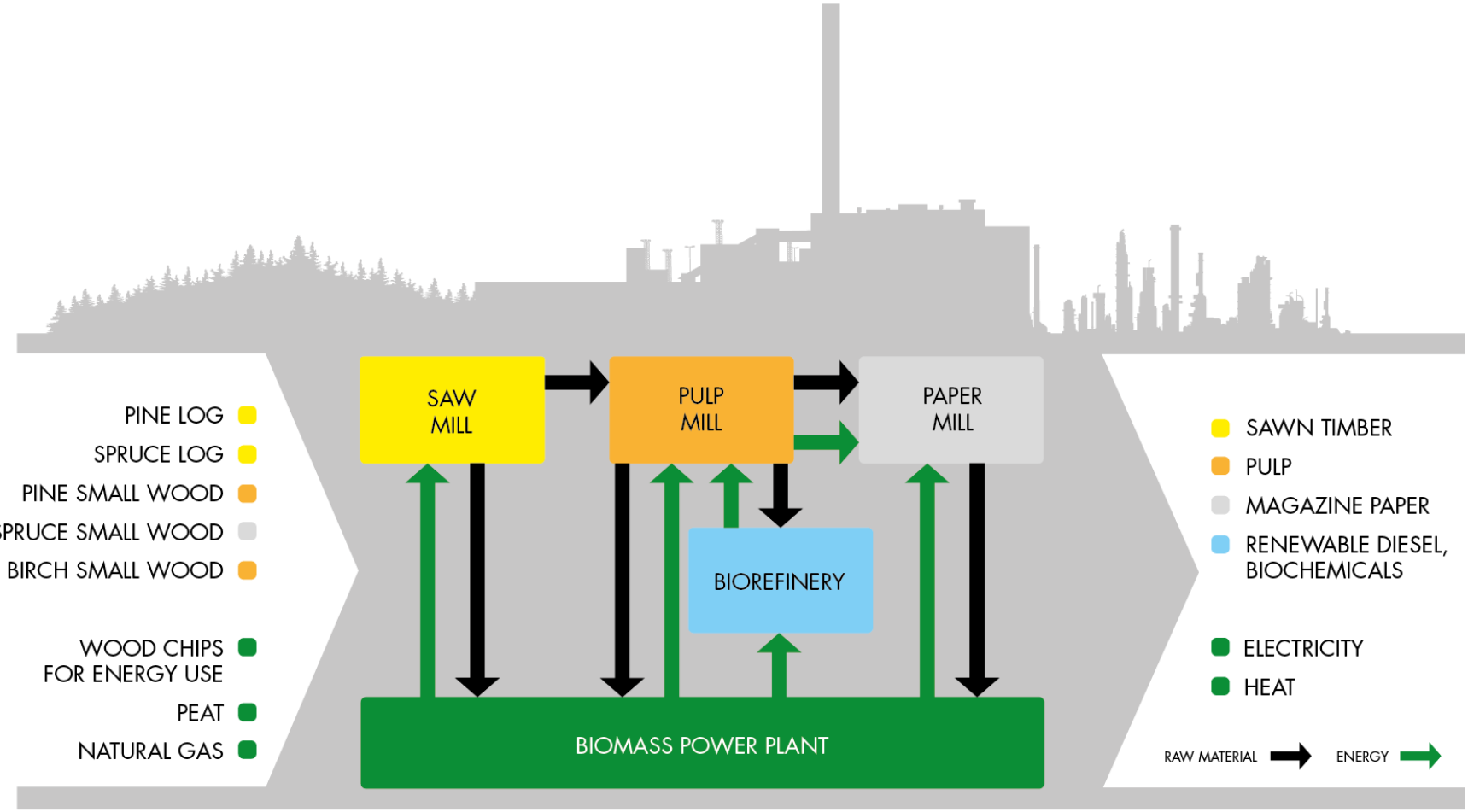

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COMPETITIVE PULP BUSINESS

Chemical market pulp* demand increases

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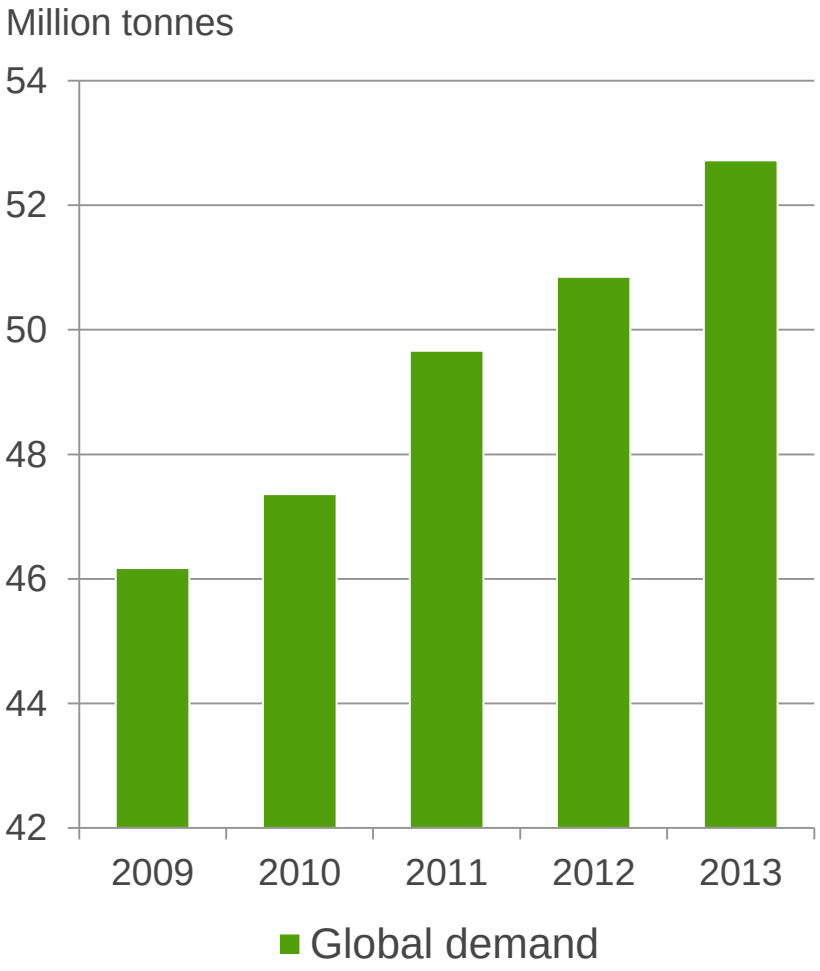

- Growth in developing markets driven by fast urbanisation and growing middle class
- Growth in mature markets driven by increasing use of hygiene, packaging and specialty products
- The graphic paper segment feeds less white recycled fibers for the growing tissue and specialty segments
- Old capacity being closed because of financial reasons and increasingly important environmental reasons

Source: PPPC Chemical Market Pulp Forecast, February 2014
*Bleached sulphate market pulp

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85% of pulp demand is in growing end-use segments

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Bleached market pulp demand by end-use and region

	WE	NA	China	ROW	Total
P&W	11%	4%	11%	8%	34%
Tissue	10%	6%	6%	10%	32%
Packaging	1%	0%	4%	2%	8%
Speciality	6%	1%	4%	4%	16%
Fluff	2%	2%	1%	4%	10%
	30%	14%	27%	28%	100%

= growing market segment (85%)

= declining market segment (15%)

*Source: Hawkins Wright.
End use markets for bleached kraft pulp, September 2013

UPM Biorefining

UPM has consistently developed the business

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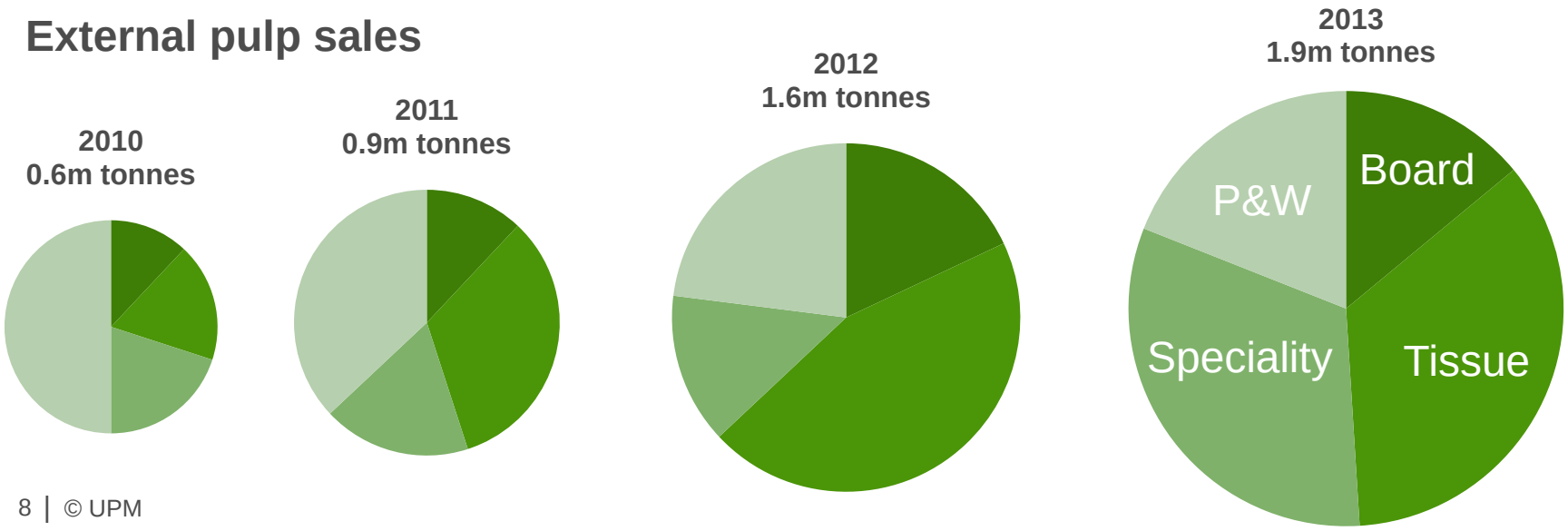
- Building own sales and marketing network
- Establish strategic sales and marketing co-operation to provide a versatile product range on the global market
- Obtain trust as a business partner based on reliable supplies, efficient logistics, advanced technical service offering and outstanding environmental performance

External pulp sales



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UPM has built a unique pulp business

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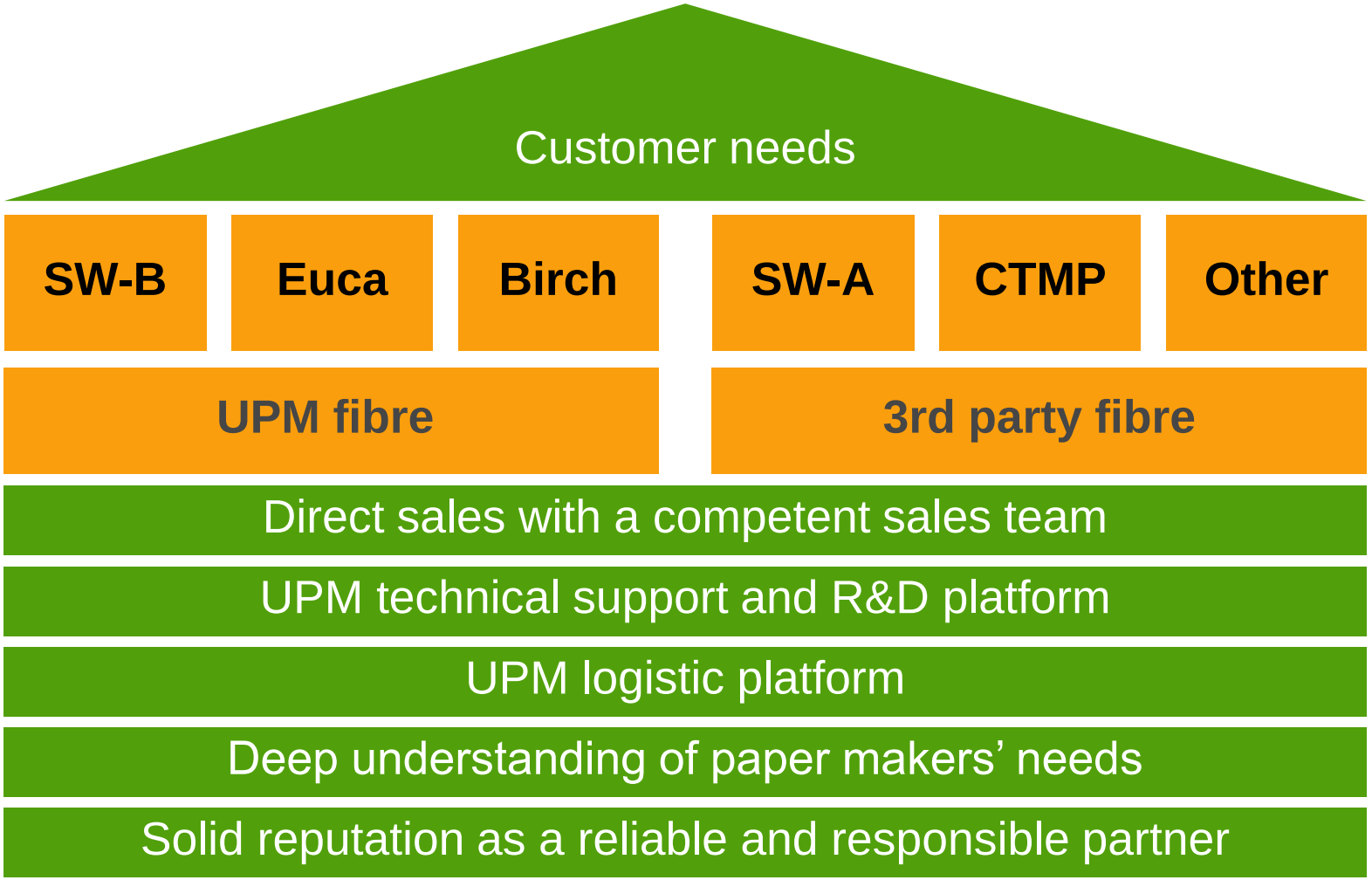

"SW-B" = standard NBSK, "SW-A" = premium strength NBSK

UPM Biorefining

UPM plans to expand production in its competitive pulp mills by 10%

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Fray Bentos
- started 2007
- capacity 1,200,000 t of eucalyptus

Pietarsaari
- modernized 2004
- capacity 790,000 t soft- and hardwood pulp

Kymi
- modernized 2008
- capacity 530,000 t soft- and hardwood pulp

Kaukas
- modernized 1996
- capacity 740,000 t soft- and hardwood pulp

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UPM invests in Kymi mill to secure its position in the global pulp market

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- Total investment EUR 160 million
  - a new pulp drying machine
  - modernisation of the softwood fibre line
  - a new debarking plant
  - improvements in the energy balance of the Kymi integrate
  - Start-up in Q4 / 2015
- Attractive investment
  - increase pulp production by 170,000 tonnes annually
  - increase revenue from by-products and residuals
  - improve resource efficiency and operational flexibility for the whole integrate
- Full pulp drying capacity allows decoupling of UPM's pulp and paper businesses

UPM plans to expand production in its competitive pulp mills by 10%

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- Kymi expansion of 170,000 tonnes and drying capacity
- Pietarsaari expansion of 70,000 tonnes on-going
- 100,000 tonnes increase in Fray Bentos permit. Further potential both at Fray Bentos and Kaukas mills
- Longer term options being developed in Uruguay, Finland and other parts of the world

Pulp summary

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- Healthy long term demand outlook in chemical pulp
- Well prepared to respond to growing demand
  - Modern and efficient pulp mills
  - Versatile product range
  - Outstanding environmental performance
  - Commitment to grow in pulp business in long term
  - Reliable business partner
- The planned expansions of existing pulp mills in the coming three years offer attractive returns and further the decoupling of pulp and paper businesses

UPM CREATES NEW BUSINESS IN WOOD-BASED RENEWABLE DIESEL

Biofuel mandates in 67 countries
UPM is the second European company to produce renewable diesel

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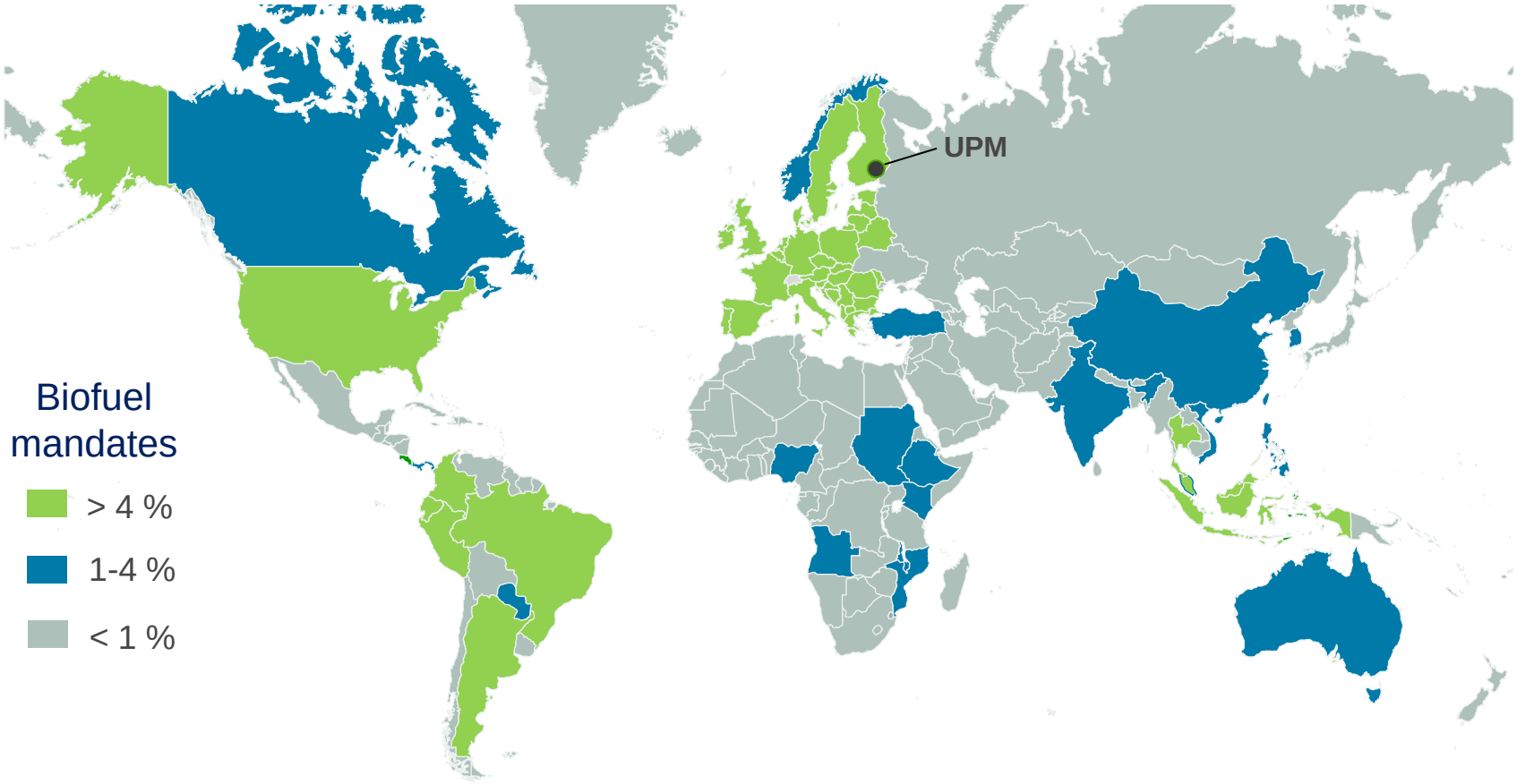

Large and growing markets regardless of the debate on regulation

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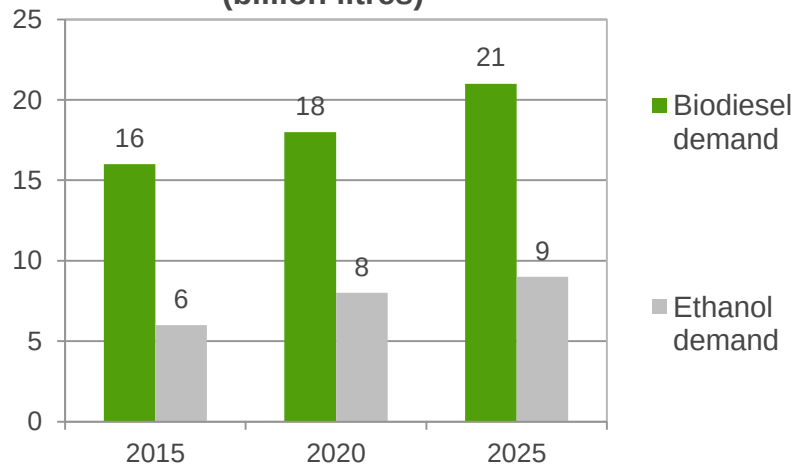
EU 2020: 10% target in place

- Post 2020: transportation whitepaper in preparation
- Post 2020: 1G biofuels unlikely to get support

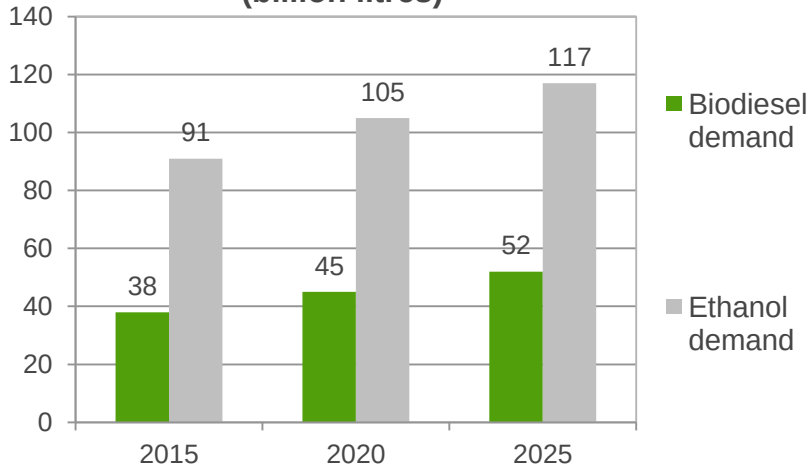
US: ethanol blending limited by blend wall

- Future winners will be drop-in fuels

EU-28 Biofuels demand and domestic supply (billion litres)



Global Biofuels demand and supply (billion litres)



Source: Hart Energy: Global Biofuels Outlook to 2025

UPM Lappeenranta Biorefinery

UPM creates new business in wood-based renewable diesel

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Commercial scale investment

- EUR 150m investment, attractive return
- Product: renewable diesel
- Capacity: 100,000 tonnes/a
- UPM Patents & Applications: 150
- Commissioning: summer 2014
- Employment: 200 persons
- Contributes approximately 25% of Finland's biofuel target

UPM Biofuels – drivers for profitable business

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Price
UPM BioVerno – RME

compared with reference (RME)

- Higher energy content
- Lower GHG emissions, no indirect land use change
- No blending limit from quality
- Lower tailpipe emissions
- Fits to existing infrastructure and distribution network
- Double counting and future 2G quota

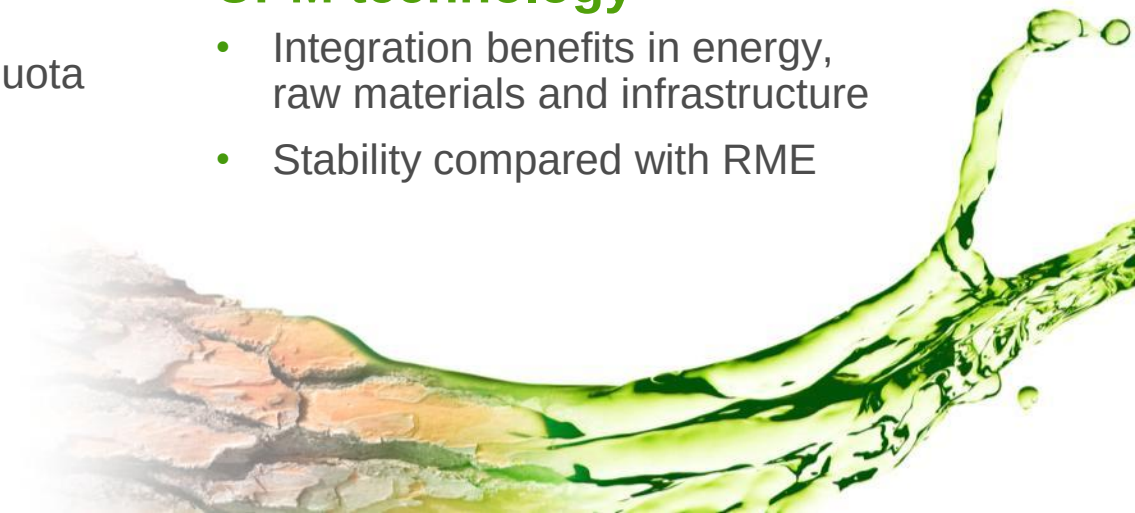
Low feedstock cost
CTO – rapeseed oil

compared with reference (rapeseed oil)

- Price
- Yield
- Flexible regarding feedstock

Competitive other costs
UPM technology

- Integration benefits in energy, raw materials and infrastructure
- Stability compared with RME



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Tested product – renewable drop-in diesel suitable for all diesel engines

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- Engine tests done in independent research centres
  - Finnish VTT
  - German research centre FEV
- Fleet tests done with VW and VTT
- Renewable drop-in diesel suitable for all diesel engines
- Functions like any regular diesel

RENEWABLE RAW MATERIAL

100 %

CO_2 EMISSIONS (VS. FOSSIL FUEL)

–80 %

HYDROCARBON FUEL, COMPATIBLE WITH DIESEL STANDARD EN590

100 %

Biofuels – next steps

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- Ramp up production in Lappeenranta
  - Start-up in summer 2014
  - Prove technology and business case
  - Optimise process and broaden raw material base
- Develop technology for solid biomass
- Prepare for next steps to grow the business

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