



VALMET  
CAPITAL  
MARKETS  
DAY 2013



## Continued demand for pulp – new possibilities in energy

Jyrki Holmala  
Business Line President,  
Pulp and Energy

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# Agenda

## Capital Markets Day 2013

- 1 Pulp and Energy today
- 2 Recent achievements
- 3 Growth and profitability potential
- 4 Strategy, targets, and future actions
- 5 Summary



# Pulp and Energy today

# How to enable global economic growth without putting the world's sustainable future at risk?

More people – higher demand for energy, fiber, fuels, and commodities



# Business line overview: Pulp and Energy

Power plants, boiler islands, and environmental systems

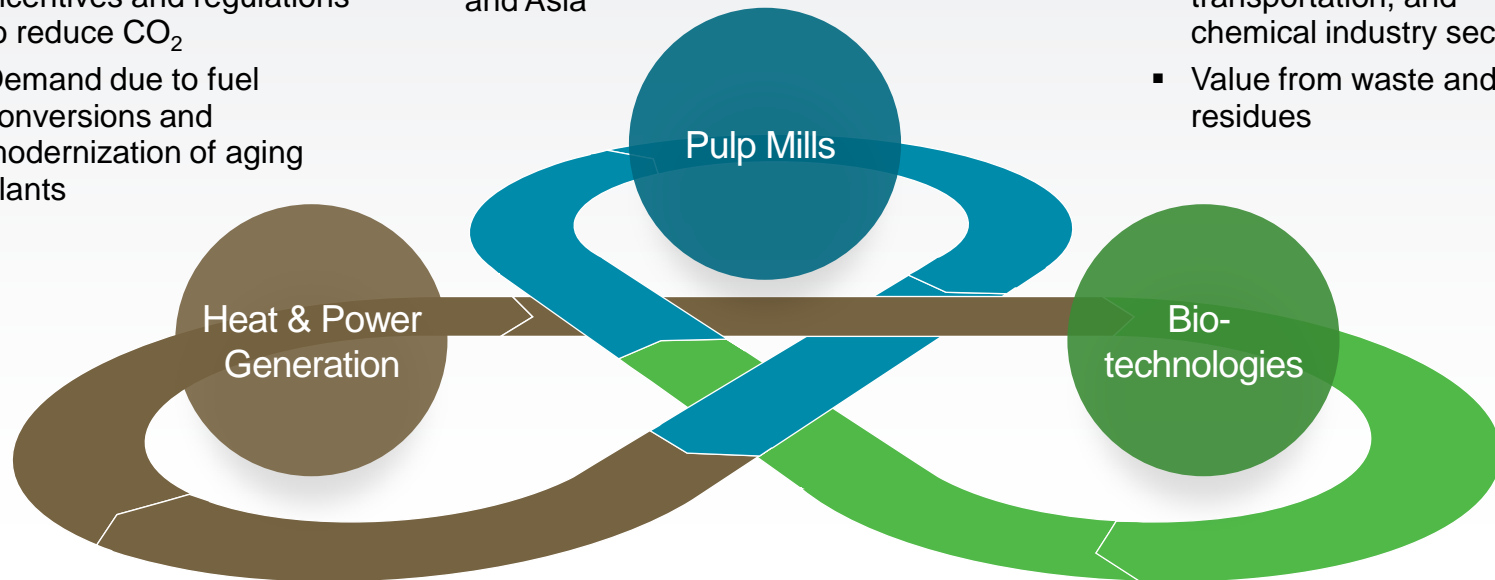
- Multifuel solutions for biomass, waste, and coal
- Driven by growth in energy consumption, and incentives and regulations to reduce CO<sub>2</sub>
- Demand due to fuel conversions and modernization of aging plants

Pulp mills, process islands, and process equipment for pulping

- Driven by growth in tissue and paperboard consumption
- Increased share of virgin wood pulp needed, as recycling cannot grow indefinitely
- Chemical pulping growth in South America and Asia

Conversion of biomass to fuels, chemicals, and materials

- Driven by subsidies, incentives, and regulations targeting CO<sub>2</sub> reduction
- Growth in the energy, transportation, and chemical industry sectors
- Value from waste and residues



# Business line overview: Pulp and Energy

Global technology and know-how leader in bioenergy

World-class pulp mill offering and complete delivery capability

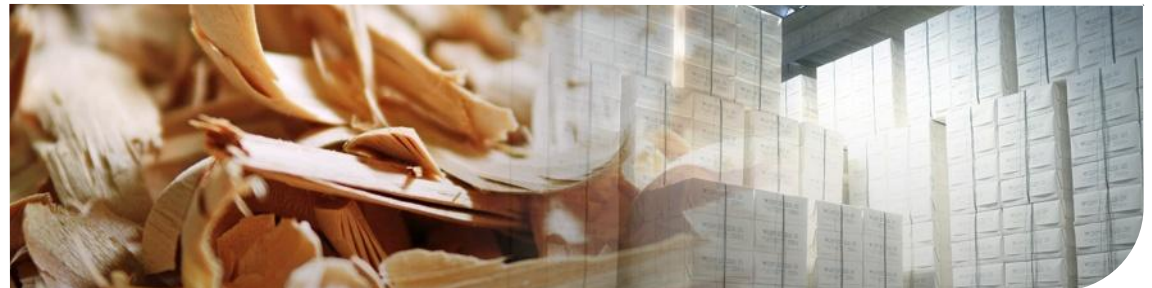
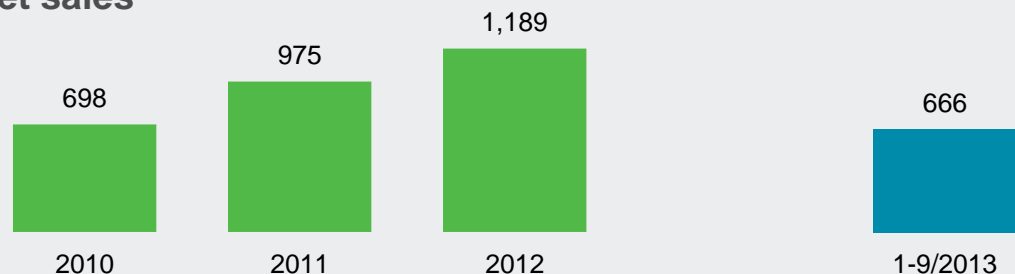
A natural growth platform for biotechnologies and environmental solutions

## Market Position #1-2

**250** fluidized bed boilers  
**400** environmental systems  
**470** cooking systems  
**300** complete fiber lines  
**400** evaporation systems  
**350** recovery islands  
**200** mechanical pulping lines

Net sales<sup>1</sup> 2012: EUR 1.2 bn  
Net sales of Group total: **39%**  
Pulp/Energy split: **60/40**  
Employees (30.6.2013): **2,531**  
Employees of Group total: **21%**

## Net sales<sup>1</sup>

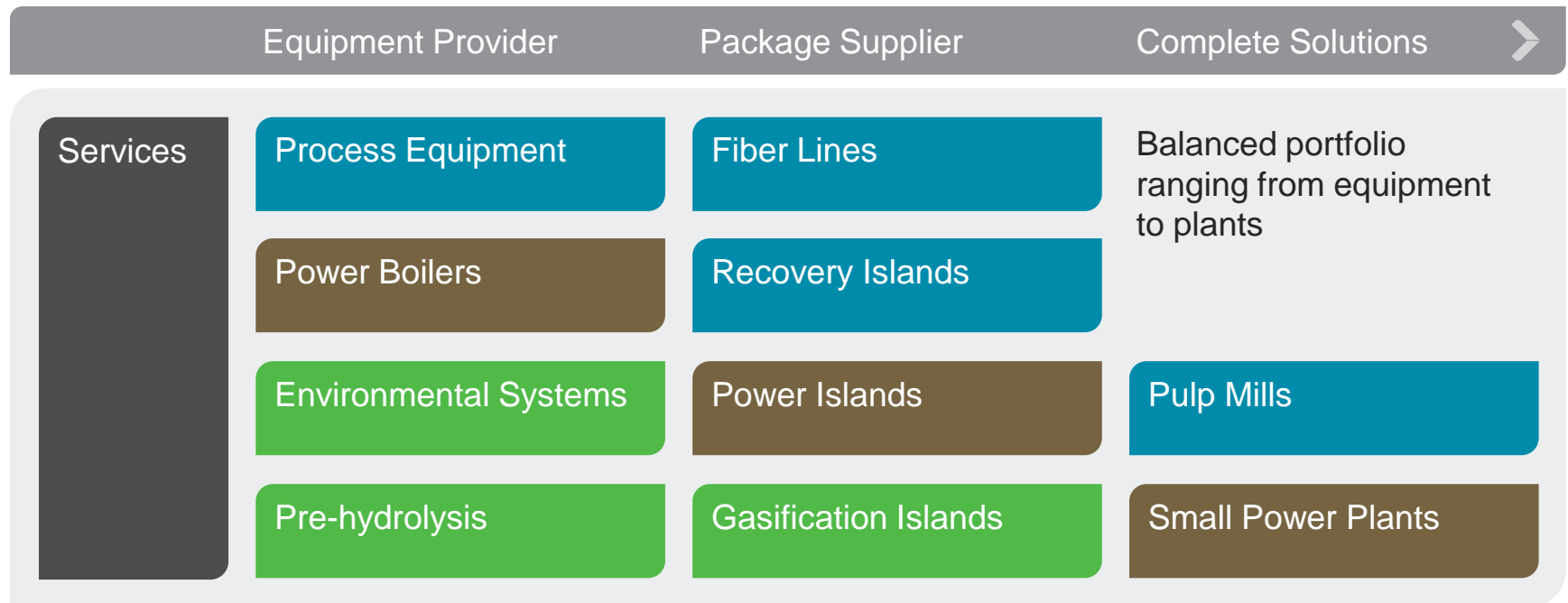


1) Net sales by business line on a carve-out basis for the periods indicated (excl. Intra-Metso net sales)

# Pulp and Energy's business model

A range of solutions and technologies tailored to our customers' needs

- We offer complete mills and power plants, technology packages, and equipment. Our capital offering is complemented with our services.
- We are geared to developing technologies and deliveries together with our customers to customized solutions based on modular designs.





# Competition with few global companies and many smaller, regional, or local players

## Heat and Power Generation

- Few global players in Valmet's market
- Fragmented competitive landscape in small-scale power plants, local players

## Pulp Mills

- Two dominant players with a complete mill delivery capability
- Few island and niche suppliers

## Biotechnologies

- Very diverse field with few global players with a complete plant delivery capability
- Broad range of equipment and technology suppliers







# Recent achievements

# Recent achievements in Pulp and Energy

World-class pulp mills, heat and power generation accross the globe



Pulp line, CMPC Celulose Riograndense S.A

Guaiba in Brazil:  
expansion of capacity by 1.3 million t/a  
> EUR 400 million

Scope: Pulp Mill (excluding wood yard)



2 power boilers and Metso DNA control system, PT Cikarang Listrindo

Babelan in Indonesia:  
270 MWe  
~ EUR 100 million

Scope: Power boilers



World's largest Waste-to-Energy Gasification Plant, Lahti Energia

Generate 50 MWe and 90 MWth from 250,000 t/a of recovered waste

Scope: Gasification plant

# Recent achievements in Pulp and Energy

First-of-a-kind spearhead projects in emerging biotechnologies



First commercial installation of Lignoboost™ lignin recovery, Domtar

Plymouth, NC in US:  
5% increase in pulp production capacity and 25,000 t/a of lignin

Scope: Lignin recovery island



First demonstration scale integrated pyrolysis unit, Fortum

Joensuu in Finland:  
Convert 225,000 m<sup>3</sup> of forest residue and sawdust into 50,000 tons of bio-oil

Scope: Pyrolysis plant



Germany's largest lignocellulosic ethanol demonstration plant, Clariant

Straubing in Germany:  
Convert 4,500 tonnes of wheat straw into 1,000 tonnes of ethanol

Scope: Pre-hydrolysis equipment

# Recent achievements and strategic focus areas

## Global footprint development



- Establishment of a
  - Global Engineering Center in Chennai, India
  - Global Procurement Center in Shanghai, China
- Development of a boiler manufacturing partner network in Eastern Europe and China

## Measures to improve cost competitiveness




- Initiation of an overall cost-competiveness program in April 2013
- Capacity cost reductions in the Energy business executed in Q2 and continued in Q4 (currently subject to employee consultation process)
  - Adjustment to reduced market demand in Heat and Power Generation
  - Headcount reduction of 164 in Q2 and negotiating 390 currently

## Development of more cost competitive technology



- Customized solutions based on modular designs; e.g. in mechanical pulping, fiber board and chemical pulping
- Adapting our product portfolio to the needs of emerging markets, e.g. competitive solutions for agricultural fuels
- Enhance the effectiveness of our supply chain



# Growth and profitability potential

# Markets offer opportunities for our business

- Fluctuating power plant market; fuels and policies drive demand
- Demand for pulp mills and rebuilds is expected to grow in the long term
- Biotechnologies and environmental solutions offer growth opportunities

## Market drivers for heat and power generation

- Growth of energy consumption and increasing demand for sustainable energy
- Fuel conversions and modernization of aging plants
- Price of energy and conventional fuels
- Policies, incentives and regulations

2 bn

## Market drivers for pulp mills

- World demand for tissue and paperboard is expected to grow, driven by emerging markets in Asia, for example
- New capacity in South America, Asia, and China. New lines account for 45-50% of new capacity
- Conversions, rebuilds, and upgrades in EMEA, China, and North America, for dissolving pulp, for example

1.3 bn

## Market drivers for biotechnologies

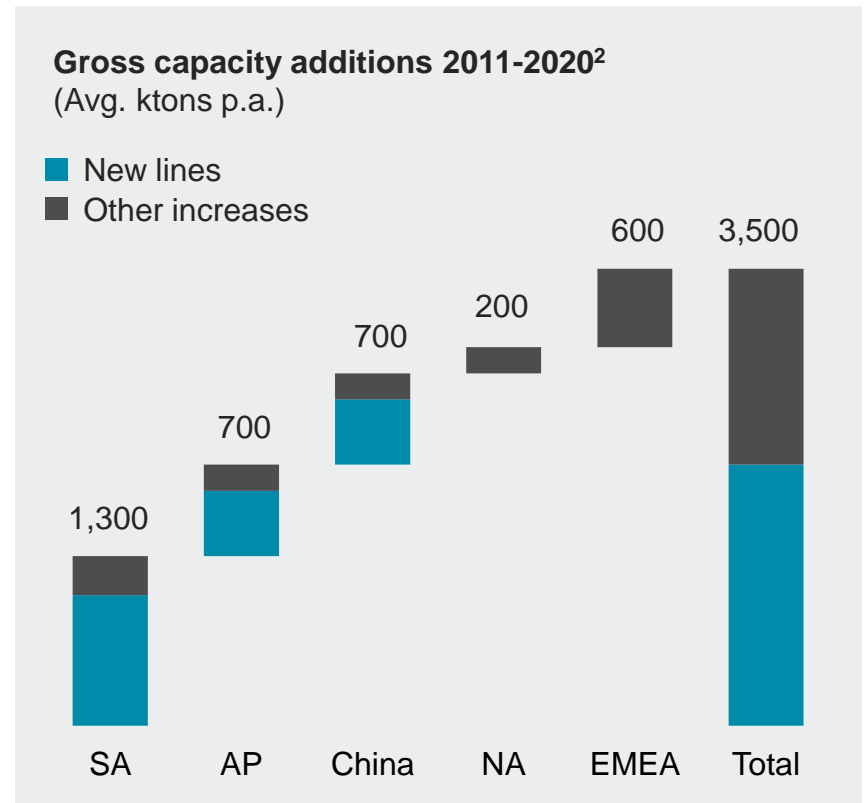
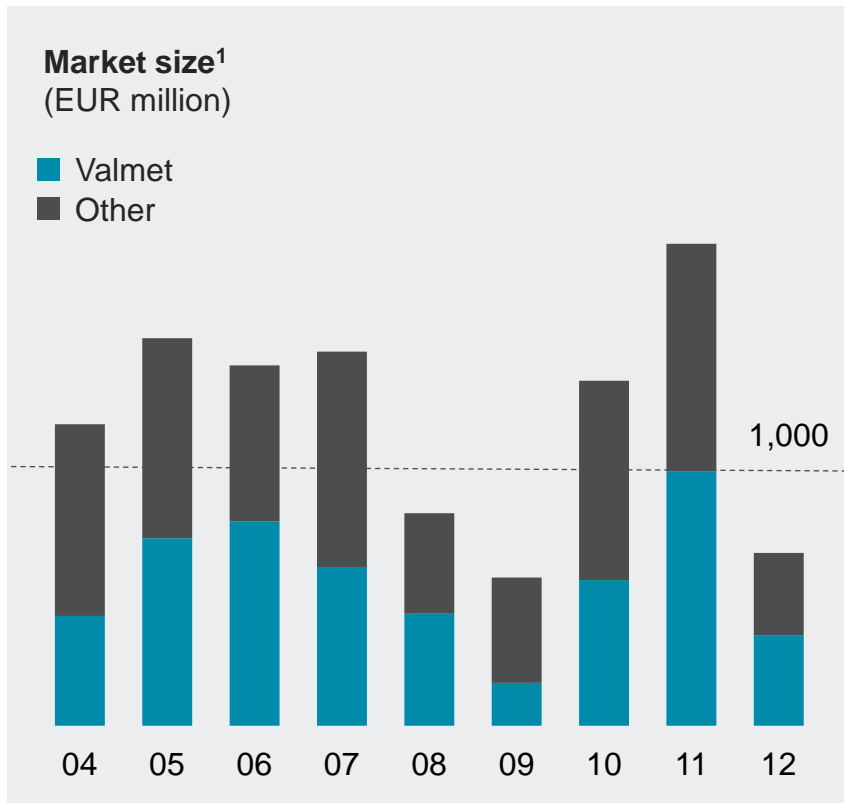
- Emerging market for converting biomass into fuels, chemicals and materials
- Growth of energy, transportation, and chemical industry sectors
- Value from waste and residues
- Challenged by volatility due to regulatory changes

>1.0 bn

# The majority of new pulp lines are being built in South America and Asia

Market fluctuates from year to year

New chemical pulp lines in SA and Asia

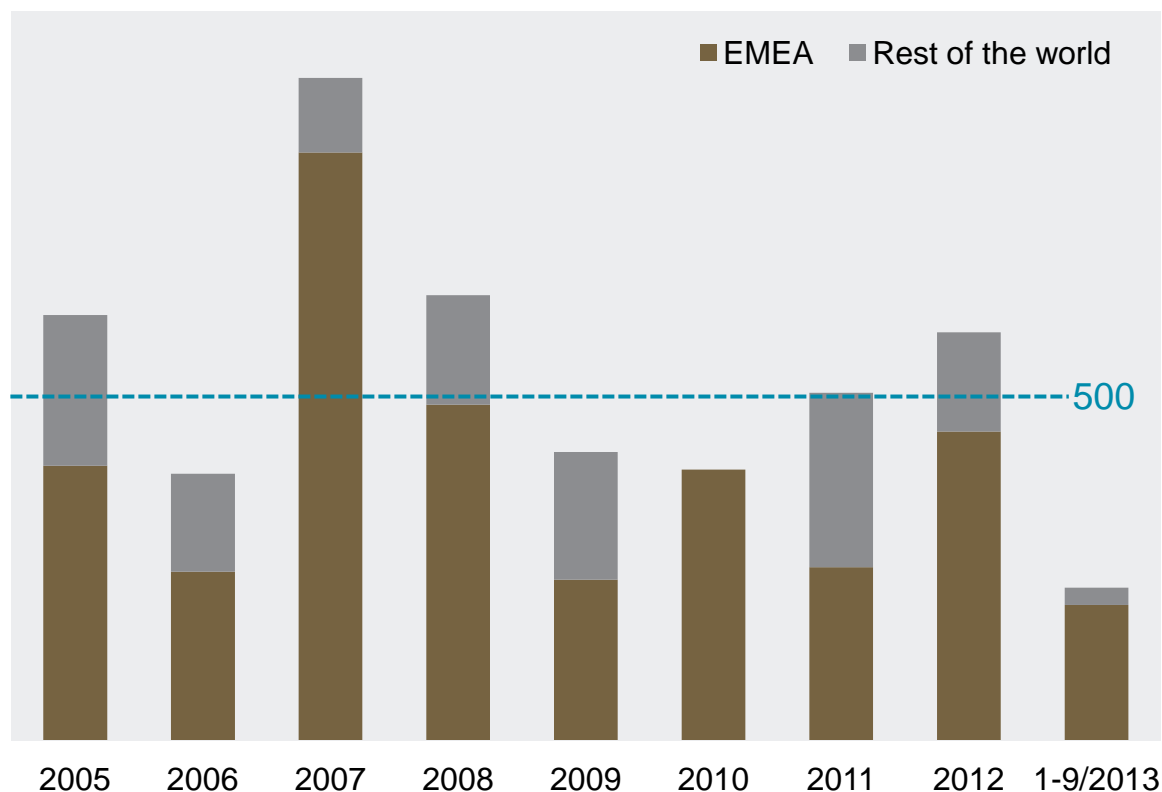


1) Market size based on orders received. Includes all pulp business units, recovery boilers, and evaporation plants  
 2) Average capacity additions p.a. 2011-2020. Only positive capacity changes included, not shutdowns  
 Source: Valmet, Pöyry



# Market for larger size (> 50 MWth) biomass boilers has significantly declined in EMEA and North America

New boiler market served by Valmet<sup>1</sup> (EUR million)  
(only projects where Valmet has been involved)



## Key messages and implications

- Strong market decline in 2013 and unclear future market development
- Increased political uncertainty about meeting CO<sub>2</sub> targets and reduced ability to finance support schemes
- Price of coal has reduced, making it more attractive for power generation in Europe and elsewhere
- North American biomass power market has declined significantly
- Price of energy has dropped and previous subsidy schemes supporting biomass have expired

1) Note: Includes the power boiler market served by Valmet excluding small power plants < 50MW (EUR 200-300 million), air pollution control (EUR 50-100 million p.a.), retrofits (EUR 100-200 million), and projects where Valmet has not competed (boilers ~EUR 1 billion p.a.)  
Source: Valmet

# We serve the emerging biotechnologies markets: biomass to fuels, chemicals, and materials

## Policies and regulations are driving a growing use of biomass

- Potential for new revenue streams for pulp mills and biomass power plants through new by-products
- Increasing use of lignocellulosic biomass as a raw material for producing advanced biofuels
- Bio-based chemicals and intermediates are being developed and produced
- Interest in bio-based materials is increasing across end-user sectors

## Large target market<sup>1</sup>

➤ EUR >1.0 bn

## Comprehensive offering



Growth

Valmet Pulp and Energy business opportunities

1) Management estimate based on the size of Valmet's markets in biomass gasification, biofuels, bio-based materials, and chemicals based on Valmet's existing customers and estimates of current and forecasted growth in total production volumes



# Strategy, targets and future actions

# Must-Win initiatives to achieve strategic targets

## Customer excellence

- Strengthen Key Account Management to enhance growth at the customer (service to capital)
- Drive service growth through long-term agreements and an expanded customer base

## Leader in technology and innovation

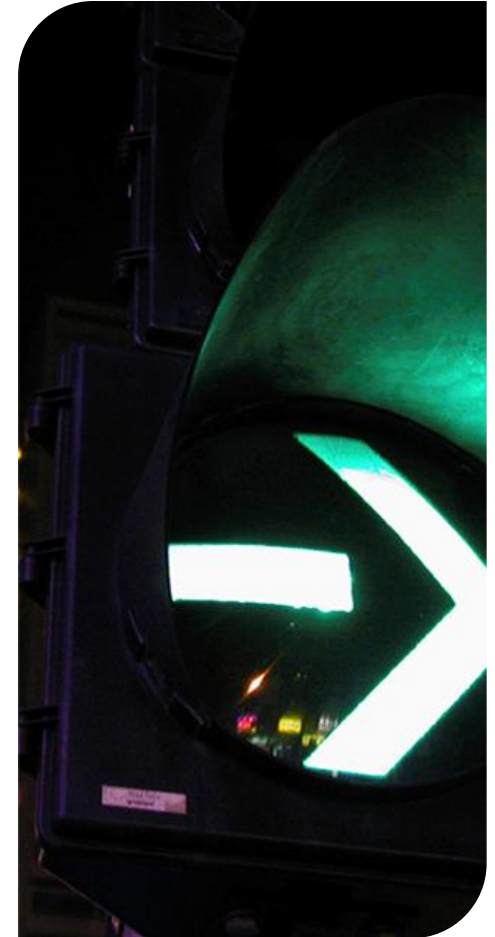
- Develop more cost-competitive products and adapt to the needs of emerging markets
- Create new revenue from biotechnology solutions and new offerings

## Excellence in processes

- Global footprint development through cost-competitive engineering, procurement, and production
- Implement procurement savings and reduce quality costs

## Winning team

- Continue globalization of our capabilities to bring us closer to our customers
- Adjust capacity cost structure to current market demand level in the Energy business



# Cost-competitiveness is our highest priority

## Pulp and Energy cost-competitiveness program



### Reduce **capacity costs**

- Headcount reductions (Q2: 164, Q4: targeting 390)
- Reduce in-house production capacity in the Nordic countries
- Drive cost-competitive engineering via our global engineering center in Chennai

### Enhance the **effectiveness** of our **supply chain**

- Implement common category management across the pulp and energy businesses
- Increase the volume of cost-competitive sourcing
- Develop product partner network in Eastern Europe and China

### Improve the **competitiveness** of our **product portfolio**

- Increase modularization and standardization in the product portfolio
- Adapt the product portfolio to the needs of emerging markets (Asia and South America)

# Selected short-term growth opportunities in the Pulp and Energy business

## Heat and Power Generation

- Subcritical coal-fired power plants using our fluidized bed technology
- Selected waste-to-energy opportunities in EMEA (sorted waste applications)
- Small boilers for CHP plants in North America
- Agro and ethanol market in South America



## Pulp Mills

- Average 3-5 new lines every 3 years in South America and Asia
- Access mid-market opportunities in China and Asia Pacific
- Rebuilds and efficiency improvements in EMEA and North America
- Develop new revenue streams and improve the efficiency of customers' operations



## Biotechnologies

- EMEA as a demonstration and growth platform for new technologies, e.g. biocoal, pyrolysis oil
- Ethanol and bio-based chemicals in South America and North America
- Seek selected growth in Asia-Pacific
- Expand environmental systems into new customer segments





# Summary



# Priorities in Pulp and Energy

1

## Leverage pulp market position

- New capacity, conversions, rebuilds, and upgrades offer opportunities for our capital business

2

## Adjust to a smaller energy market in our segments

- Reduce capacity cost structure to meet current market needs over the short term
- Explore opportunities outside our traditional energy applications and geographical markets

3

## Develop the emerging biotechnologies market pragmatically through reference projects

- New opportunities are emerging in converting biomass into fuels, chemicals, and materials
- Drive environmental solutions into new market segments

