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Stora Enso’s Perspectives on Future Plantations in China

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Current plantations in China

- 24 mill ha of industrial plantations
- 5 mill ha of fast-growing high-yielding industrial plantations
  - No fibre available for new capacity
  - mainly eucalypts and poplars
  - central and south China
- Productivity fairly low
Major wood resources in China

- Managed natural forests:
  - Fir, Spruce, Pine
  - Larch, Birch
  - Poplar, Oak

- Industrial plantations:
  - Poplar
  - Chinese Fir

- Other:
  - Pine, Spruce, Fir
  - Poplar, Chinese Fir, Pine
  - Eucalyptus, Chinese Fir, Pine
More plantations are needed in southern China to meet industrial needs

• Newly started, Approved and planned pulp mills:
  – APP Hainan (yearly need 4.5 million m3, own wood today 1.5 million m3)
  – Zhanjiang/Chenming pulp mill (yearly need 2.8 million m3, own wood 1.0 million m3)
  – Oji Nantong, APRIL-Rizhao totally need ~ 7 million m3
• Increased local production of MDF, and particleboard mills
• Wood chips export to Japan continues
Major bottlenecks of developing plantations in China (1)

- Wood prices in Guangxi 2002-06
  - Sharp increase of wood prices
    - 2002, 28-30 USD/m3
    - 2006, 45-52 USD/m3,
  - Industry that is based on market fibre very risky
  - Tree farming impossible with these prices

Need to establish own fibre base
Major bottlenecks of developing plantations in China (2)

- Land availability
  - Flat vs. undulating land, coastal areas
  - Ownership structure
    - Over 70% of the forest land in Southern China is owned by collective villages
    - Small unit size $\rightarrow$ big amount of collectives needed $\rightarrow$ lengthy process to acquire enough land for pulp industry;
  - Social issues
  - State-owned forest farms
    - Over loaded by staffs: existing and on-pension
    - Unclear asset profile;
Major bottlenecks of developing plantations in China (3)

• Climate
  – Limited amount of area in southern China suitable for eucalypts;
  – Poplars, pines and others in central and northern parts, inland provinces

• Politics
  – Government support is absolutely needed
  – Different agenda between government and company
    – Land first vs. industry investment first
Technical challenges of developing plantations in China

• Labor availability
  – Cost increases sharply
  – Migrant workers: highly mobile;
  – Timing of labor;
  – Lack of skills: training and monitoring needed;

• Human resources
  – Lack of language skills;
  – Lack of modern plantation management expertise;
  – Lack of harvesting expertise;

• Mechanization of wood harvesting
  – Introduction of tailor-made mechanized / semi-mechanized harvesting systems in Guangxi

• Development of current regulations and practices
  – transportation
  – Wood measurement
Concluding remarks

• Fibre resources will be limited
  – control of cost level and security of fibre supply essential
• South China will be the focus of future development
  – plantation development should be based on own fibre
  – future development can take place via co-operation with farms after restructuring
• Training will be one of the key elements
• Introduction of modern concepts