



1. Introduction

Mikko Hupa

**Åbo Akademi
Process Chemistry Centre**

Wood and Paper Chemistry

Prof. Bjarne Holmbom

Wood Chemistry

Fibre and Pulping Chemistry

Paper Chemistry

Combustion and Materials Chemistry

Prof. Mikko Hupa

Combustion Chemistry

Materials Chemistry

Process Analytical Chemistry

Prof. Ari Ivaska

Chemical Sensors

Electroactive Materials

Environmental and On-line Analysis

Kinetics and Catalysis

Prof. Tapio Salmi

Heterogeneous Catalysis

Chemical Kinetics

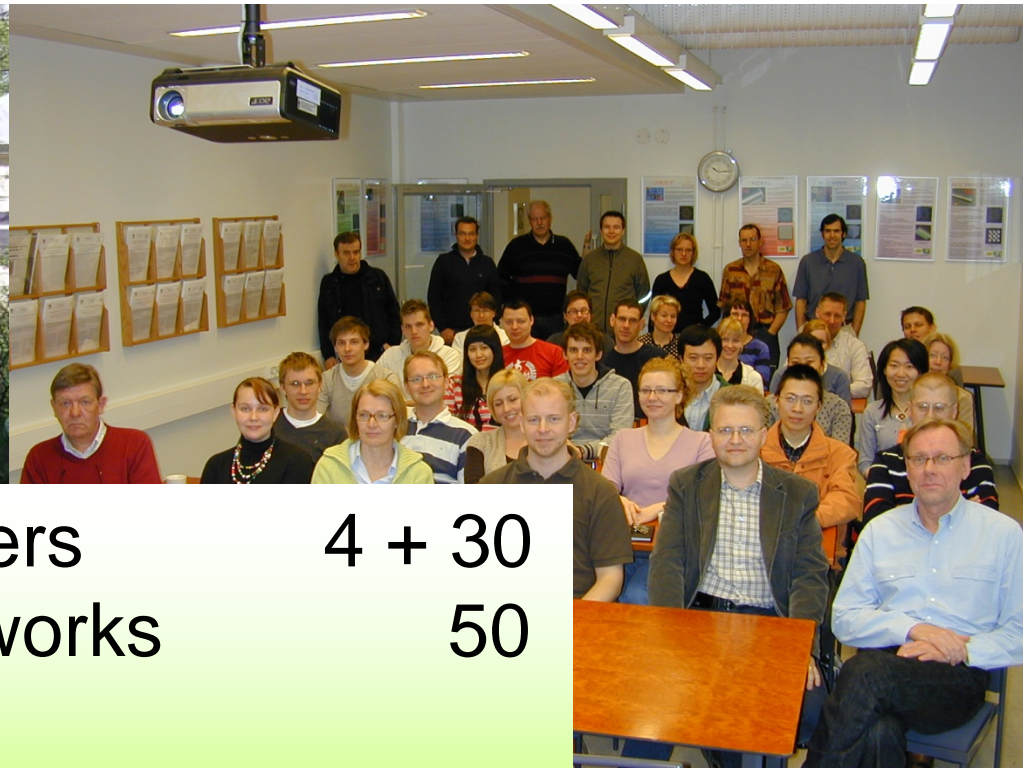
Chemical Reactor Modelling





Senior researchers 4 + 30





Senior researchers 4 + 30
Doctoral thesis works 50



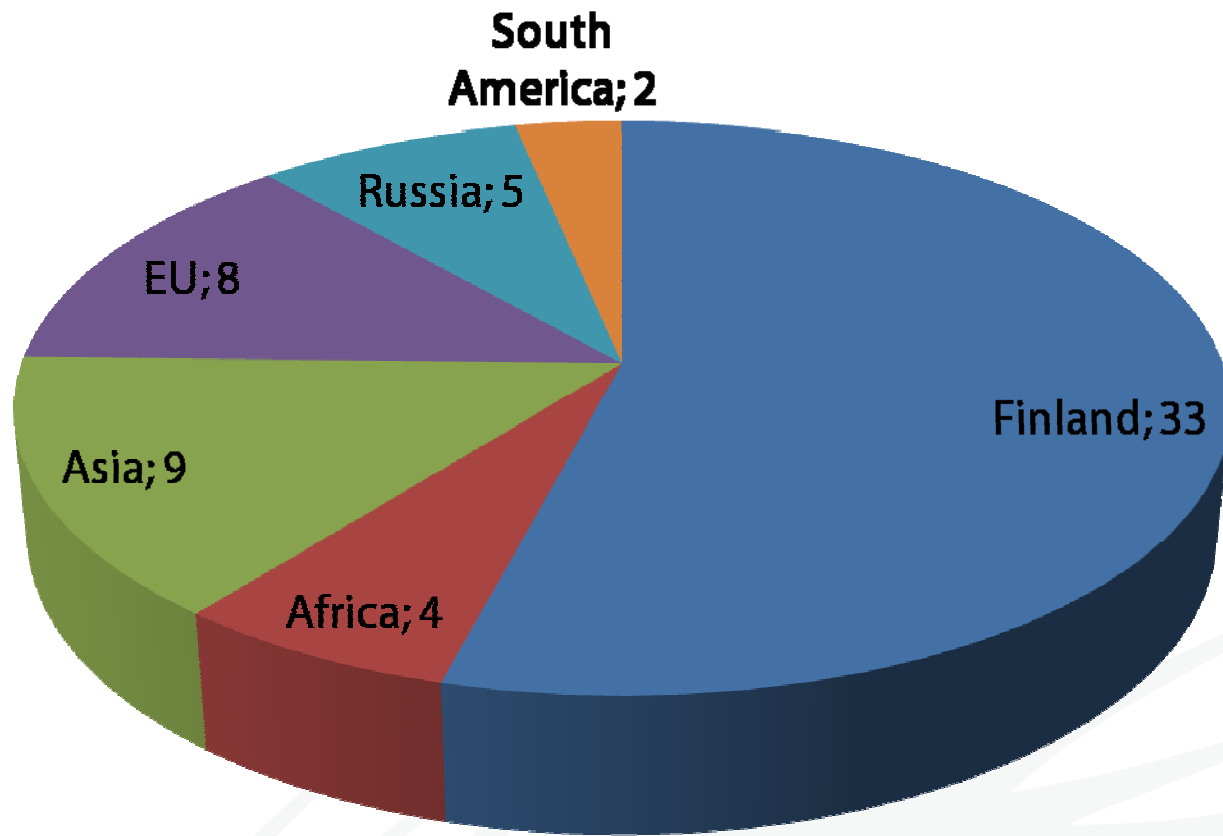


Senior researchers	4 + 30
Doctoral thesis works	50
MSc thesis works	20
Support and visitors	26
Total participation 2009	130



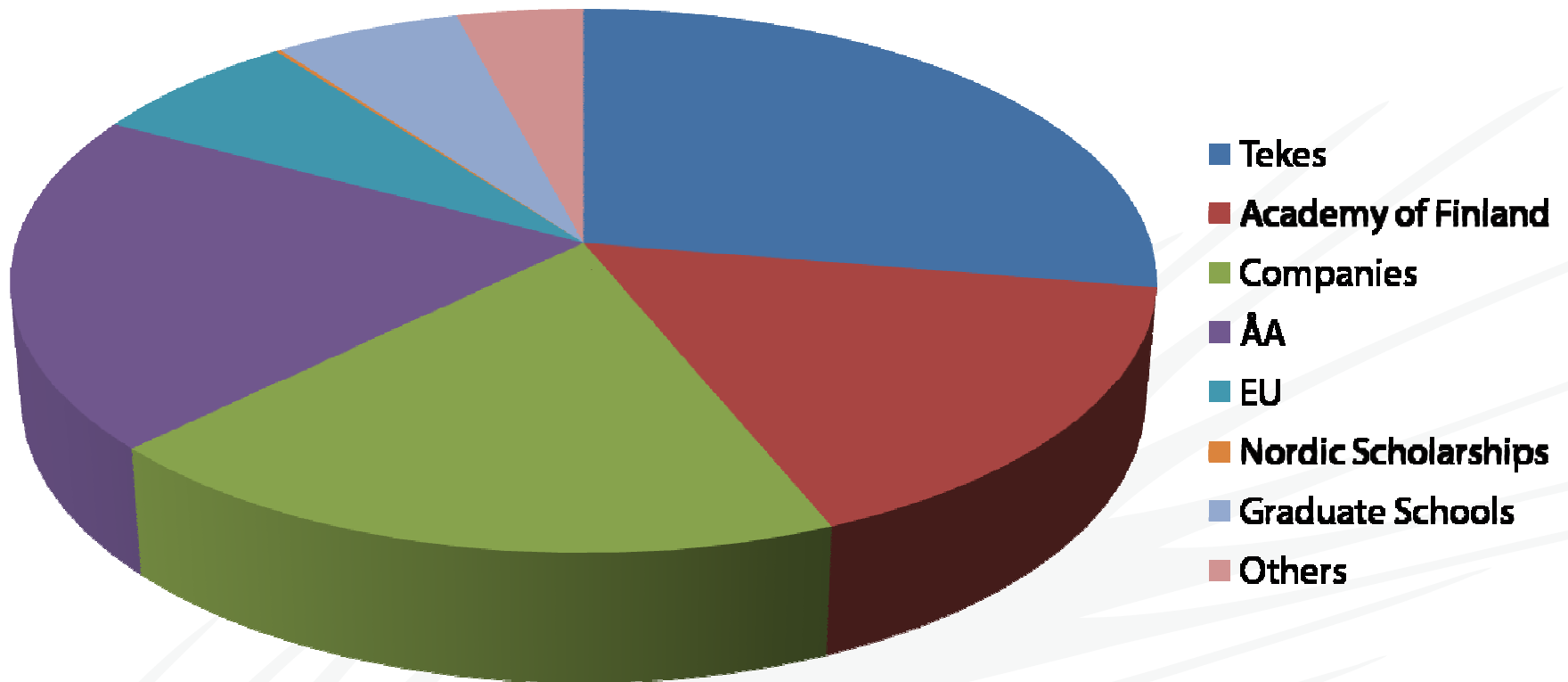
August 20

Doctoral Students by Origin 2009

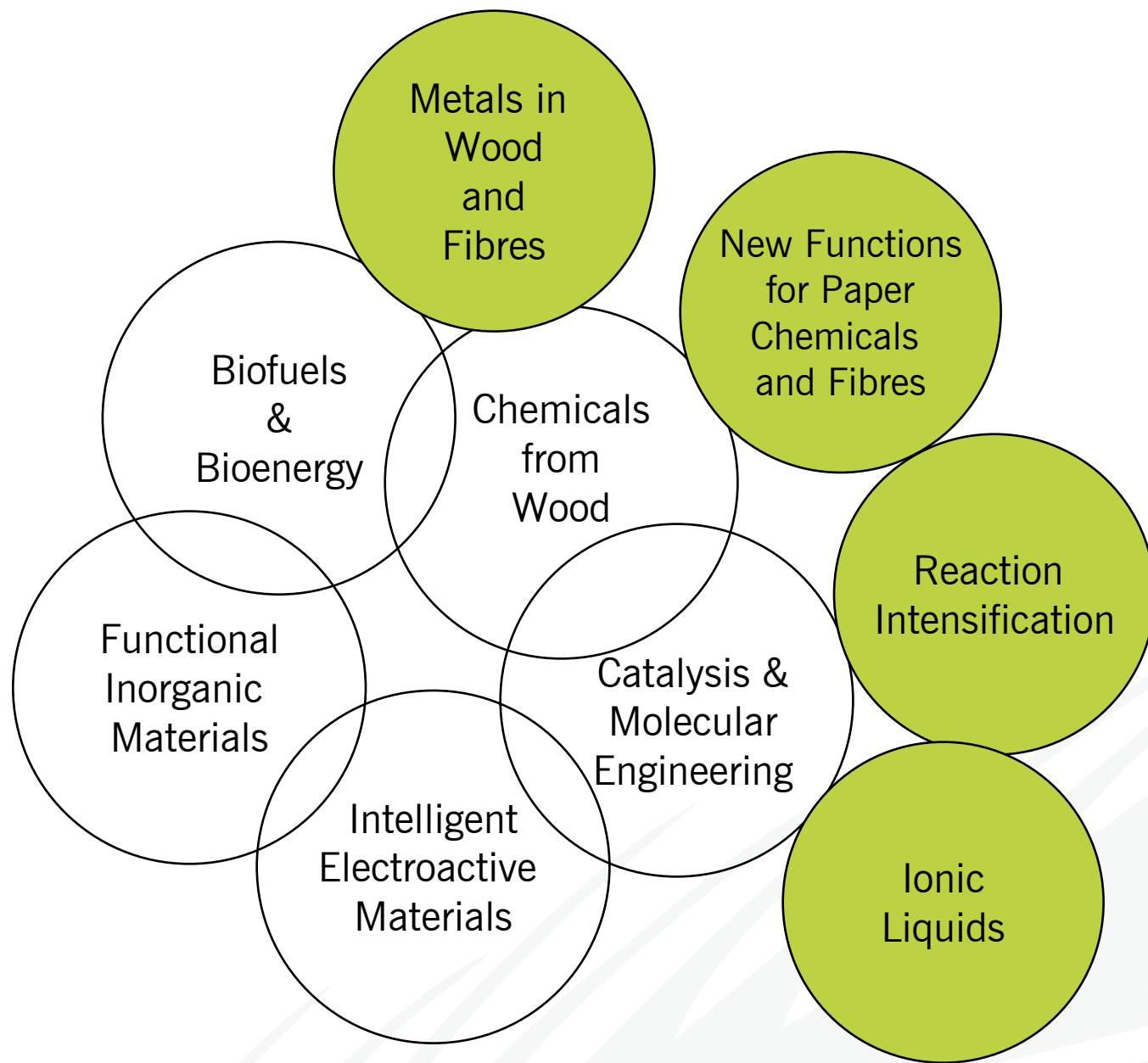


Funding 2008

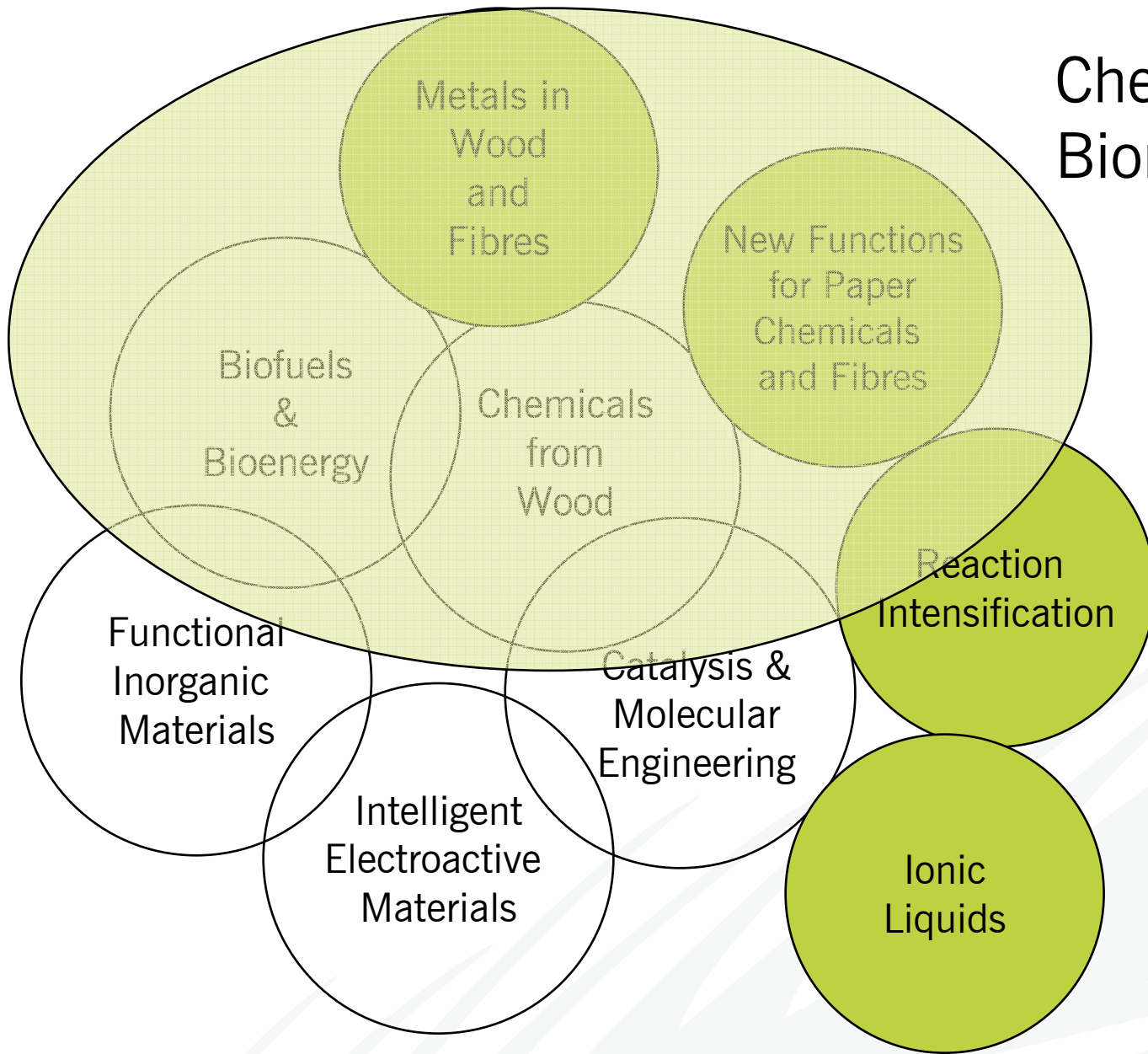
(Total 6.1 M €)



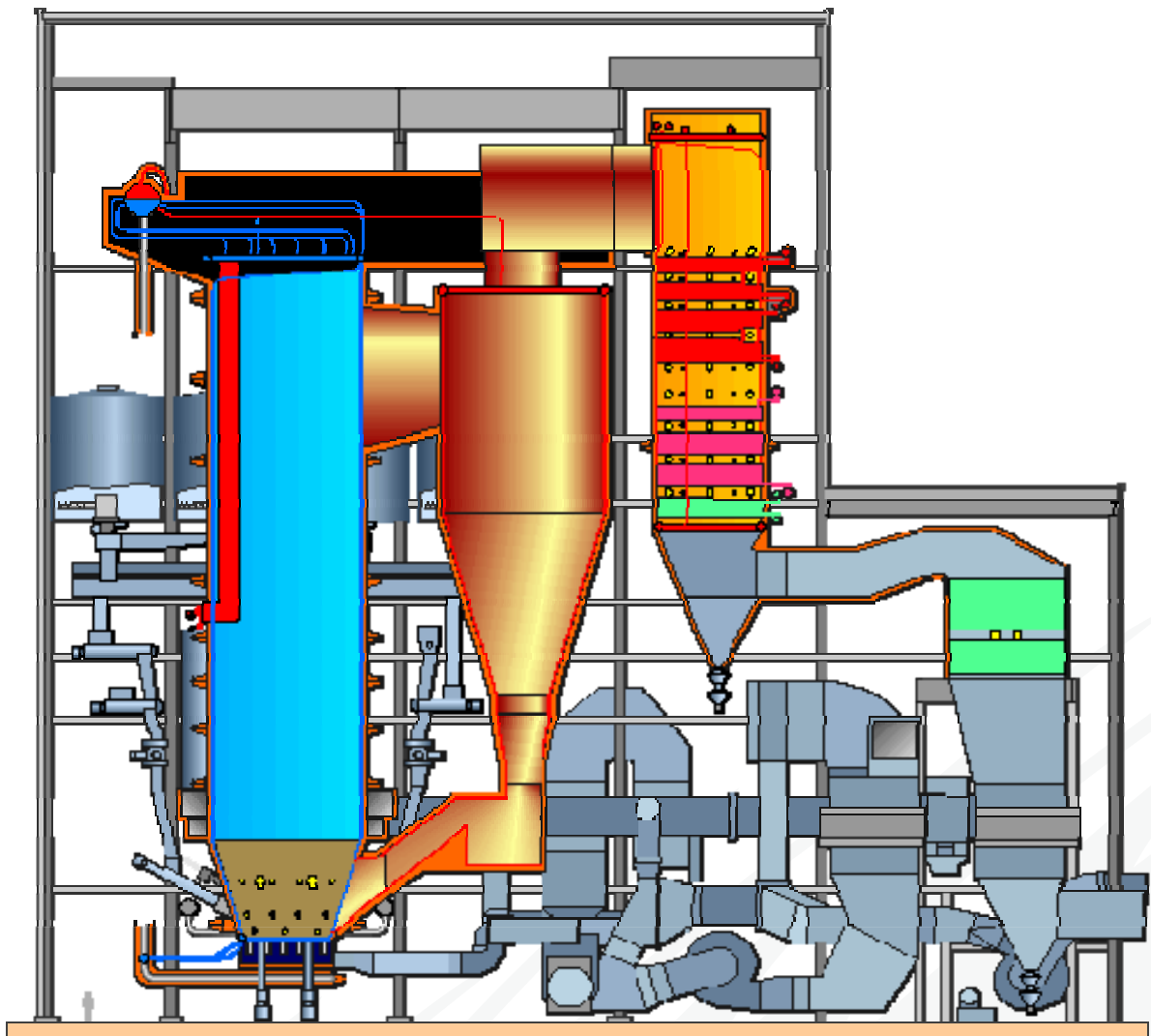
ÅA-PCC Research Areas 2006-



Chemistry in Forest Biorefineries – "Bioraff"



ÅA-PCC
Research
Areas 2006-



ALHOLMEN FLUIDISED BED BOILER

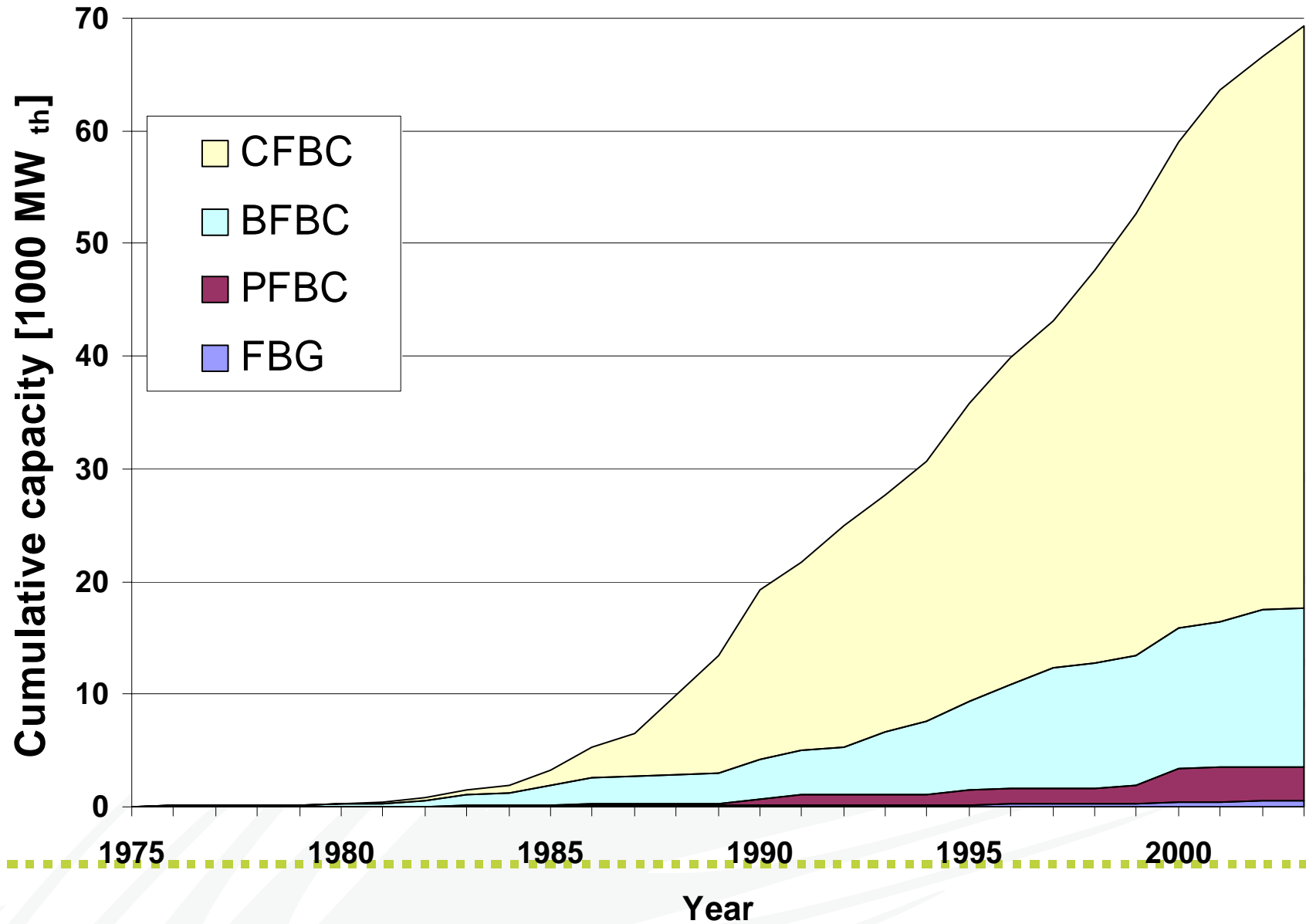
550 MW (545 C)

Peat, Bark, REF, Forest
Residue, Sawdust, Coal, Oil

Boiler Efficiency 92 %

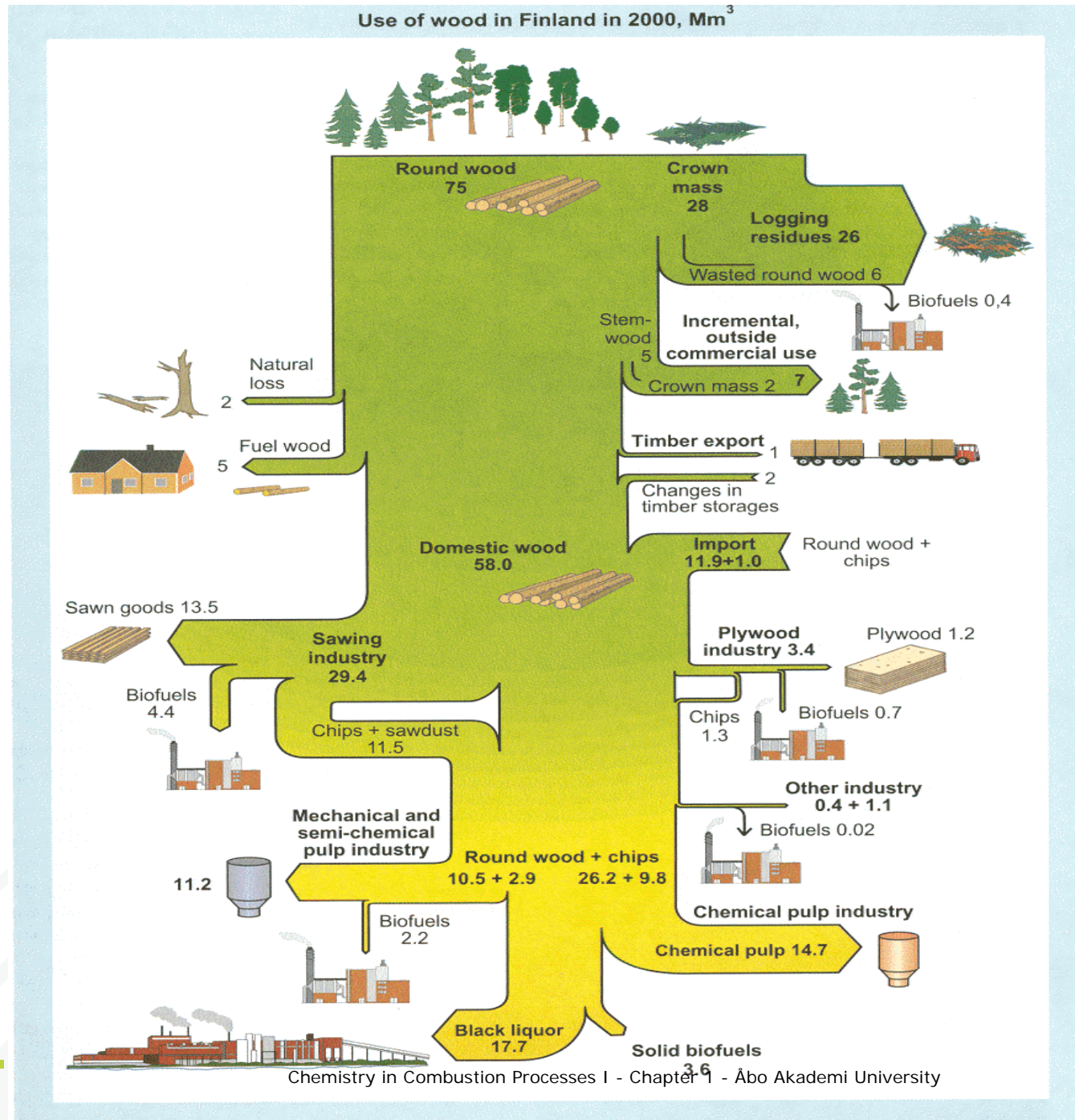
SO ₂	100	mg/MJ
NO _x	50	mg/MJ
Particulate	30	mg/m ³ n

Capacity of FBC Boilers World-wide 2003

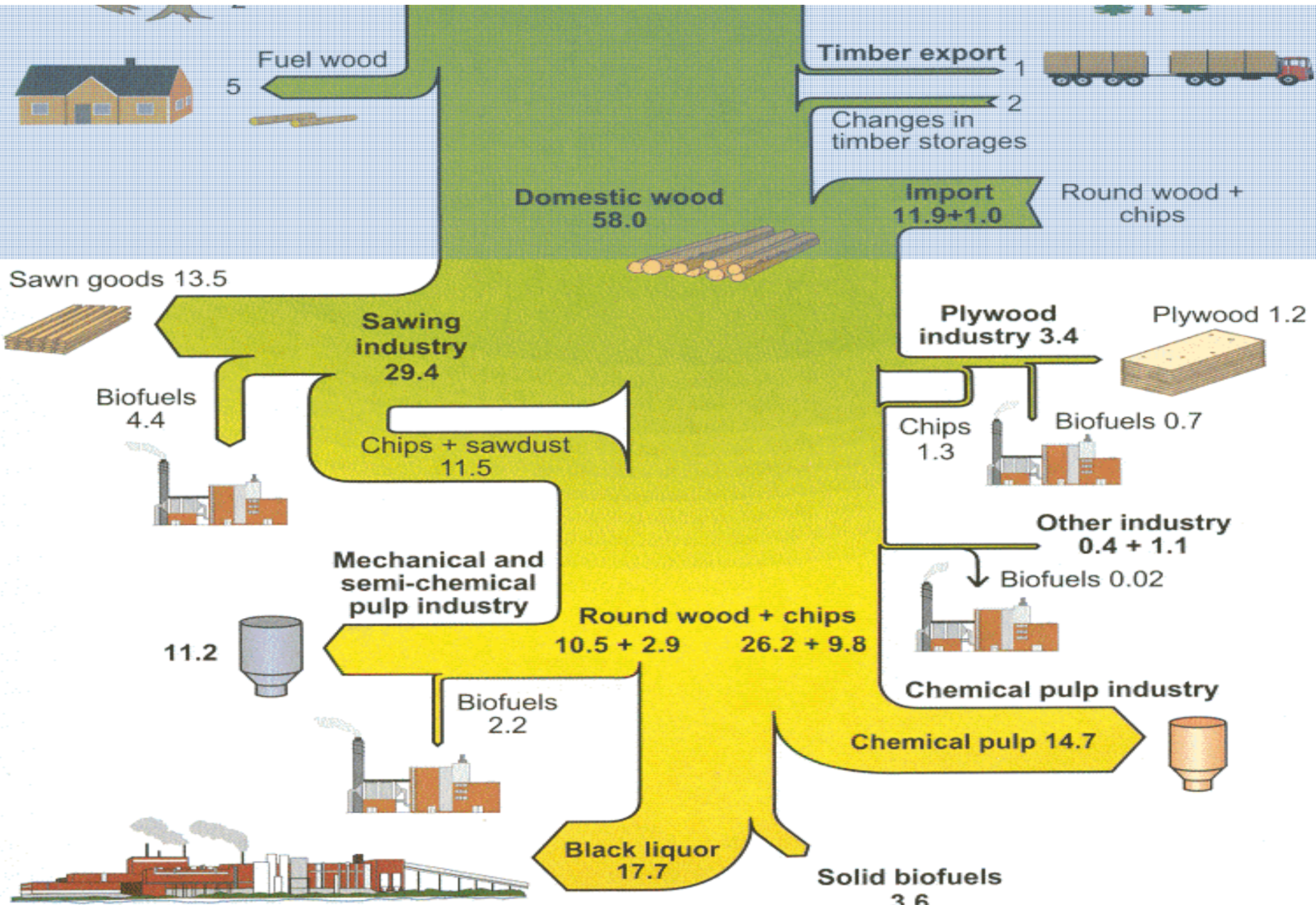


Use of Wood in Finland

(VTT 2000)



The use of wood in Finland.



Future

- Challenges
 - New fuels
 - Waste derived
 - Biofuels
 - Fuel mixtures
 - Increase of efficiency
 - Higher steam values
 - Corrosion
 - Slagging and fouling
 - Fundamental understanding
 - More chemistry
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