
CHAPNET

WP7 Cooling and Tri-generation

Presentation made
by

Bernt Andersson

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WP7 Cooling and Tri-generation

- Cluster
- The CHAPNET questions
- Technical overview
- Strategy for research
- Next step??

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- We have arranged six workshops and delivered six workshop reports
- Participated in two network conferences, 2nd today
- Prepared and delivered two newsletters and two case studies
- Participated in partner meetings and delivered project management reports

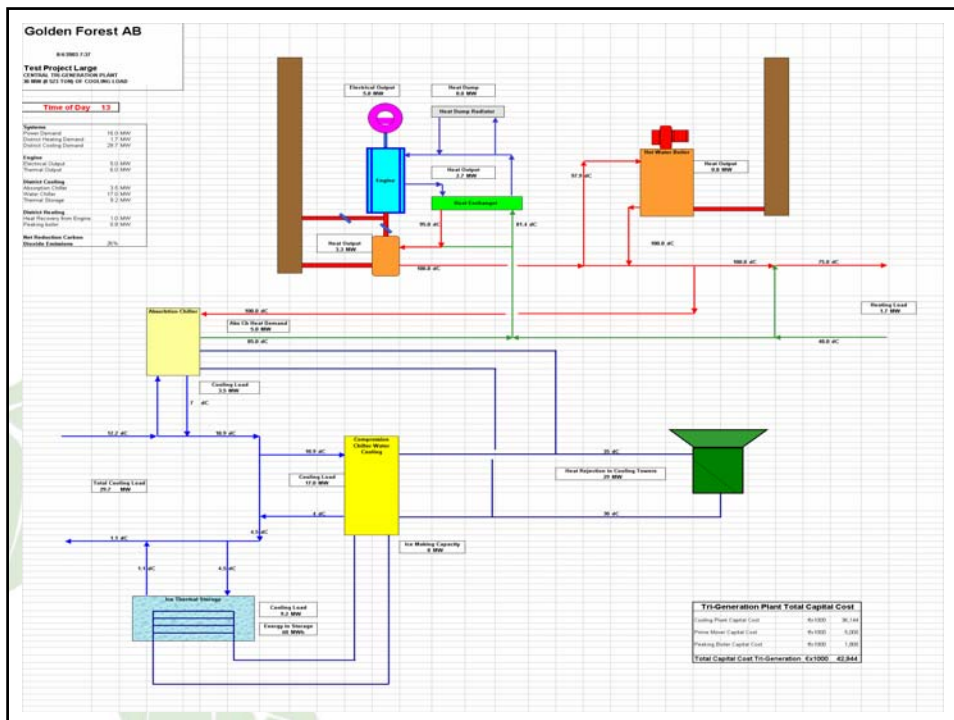
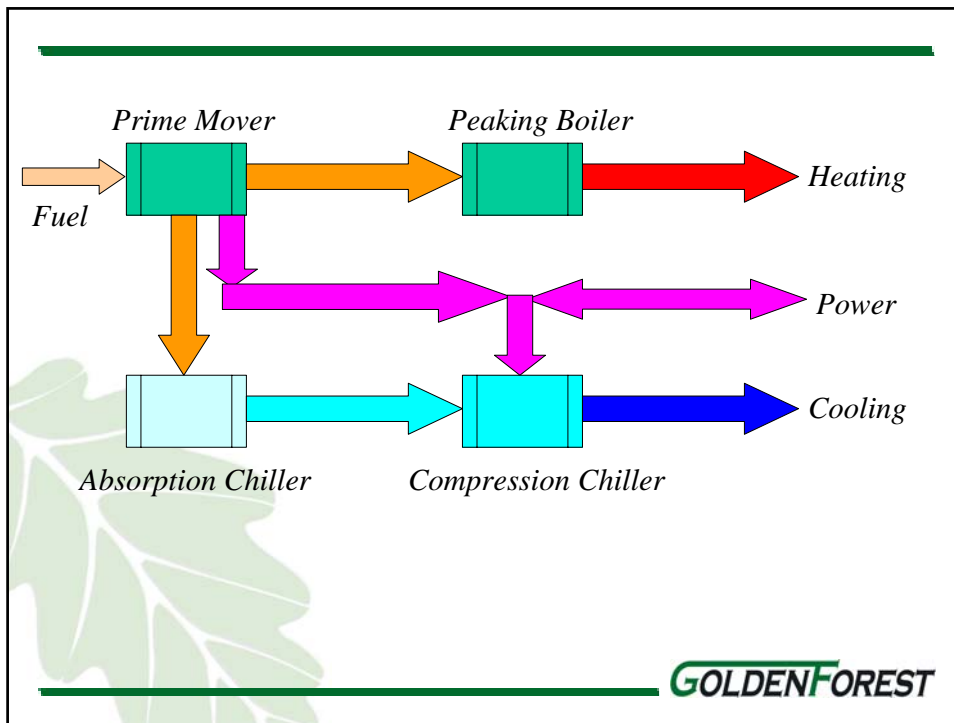
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- **Participants in Workshops**
 - 15 Universities and Research Centers
 - 16 Manufacturers and Operators
 - 5 National and International Associations
 - 8 Consultants

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- Contribution to the industry?
- Legislation?
- Contribution to Universities & Research Centers?
- How can we educate decision makers?
- How can EU contribute?
- Into what specific areas should RTD be focused?

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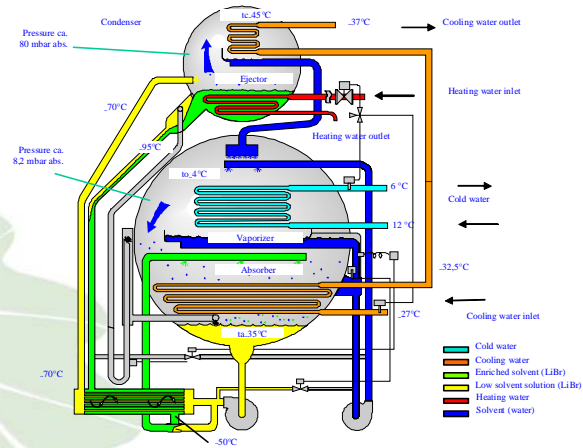
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- **The Main CHAPNET Question!!**
 - ✦ What specific areas should be the focus for the coming 5 to 20 years RTD???

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Absorption Chiller



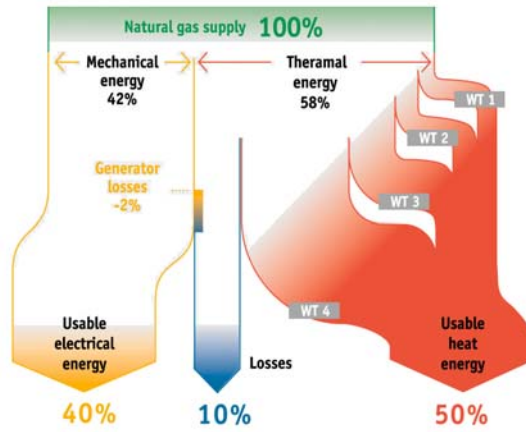
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Absorption Chiller



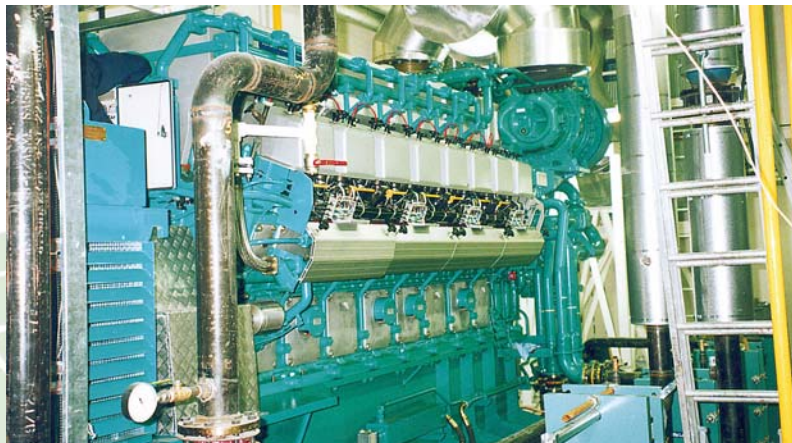
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Gas Engine Utilisation of Fuel



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Gas Engine



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Ice Thermal Storage



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Conclusions from workshops

-  Need to develop a project after CHAPNET
-  More research on future market prospects
-  Major market study needs to identify needs, market size, actors
-  Demonstration projects of different applications are needed
-  Continues support from EU is required to move this forward

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Segment	Areas of Research & Technical Development	Main Stakeholders	Time Horizon
Large Installations	<ul style="list-style-type: none"> Integration of Equipment Absorption chillers lower driving temperatures Absorption chillers lower supply temperatures 	Manufacturers	3 to 5 years
Small Installations	<ul style="list-style-type: none"> Fuel cells Micro turbines Sterling engines PV panels 	Manufacturers Universities Institutes	+10 years
Institutional Barriers	<ul style="list-style-type: none"> Grid access on fair terms Market rules encourage inefficiency Opposition from monopoly companies 	Utilities Regulators Associations Experts	0 to 5 years
Support to Demonstration Projects	<ul style="list-style-type: none"> Demonstration of existing technology in unfamiliar environments New combinations of "old" technology New technology 	Manufacturers Operators Universities Consultants	0 to 20 years
Community Energy Supply and Environment	<ul style="list-style-type: none"> Studies and Information Programs Optimising the Community Energy Supply & Consumption at the same time reducing the environmental footprint 	Communities Utilities Manufacturers Universities Consultants	0 to 2 years

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Research Project "CHAPNET II"

- Select City in Middle Europe, set study boundaries
- Map current situation for, power, heat, cooling and household waste
- Outline an integrated energy system based on total energy plants, tri-generation with best commercially available technology 2005
- Estimate the status for energy consumption year 2050 and apply what is to be believed to be best commercially available technology at that time

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🌐 Research Project "CHAPNET II"

- ✿ Compare the 3 energy supply scenarios
- ✿ Environmental impact
- ✿ Economics
- ✿ Impact on current Electrical supply system
- ✿ Transpose the results to the whole European Union or one of the countries in the Union
- ✿ Arrange workshops in 10 major cities within the European Union, with decision makers, to inform about the results and impact it will have on their community if this energy system was implemented

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