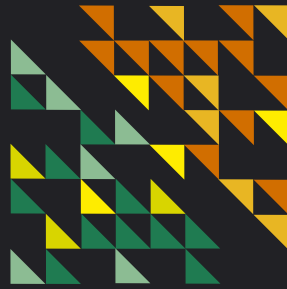


INVITATION & PROGRAMME



WORLD BIOENERGY 2006

Conference & Exhibition on Biomass for Energy

30 MAY - 1 JUNE 2006, JÖNKÖPING - SWEDEN

**"TAKING YOU FROM
KNOW-HOW TO SHOW-HOW"**



www.worldbioenergy.se

WELCOME TO WORLD BIOENERGY 2006

Dear visitor,

Scientists might disagree on how the natural variations and the human impact on the climate interact. But they do tell us that we will face a serious situation in the future. So, what can we do? There are a number of things we can and should do, as individuals and together. To start with, we must try to minimize the harmful causes of all this.

The Montreal agreement on protection of the ozone layer and the Kyoto Protocol on controlling greenhouse gases are good examples. But they must be followed by action and new technology, which are crucial steps for a sustainable development in a long time perspective.

World Bioenergy is one such initiative that vividly addresses such action. By bringing together global expertise and know-how, World Bioenergy aims to show how we can implement a transition to environmentally sustainable and renewable energy sources.

Welcome to World Bioenergy 2006!



Photo: Eva-Marie Rundquist

His Majesty King Carl XVI Gustaf of Sweden
Patron of World Bioenergy 2006

Dear colleague,

In the energy business, these are challenging times. One after the other, major events have contributed to the urgency of actively decreasing coal, oil, and fossil gas dependencies. Escalating fuel prices, security of supply concerns, and the physical vulnerability of twentieth century energy sources have directed attention to modern renewable energy technologies.

Opportunities to manage climate change while creating rural employment have now become profitable, thus pushing bioenergy not only to the political, but to the business forefront. Bioenergy use grows rapidly, becoming an industrial sector that attracts long-term capital. Indeed bioenergy has become a critical key to competitiveness for anybody involved in the agricultural and forest industries.

We invite you to come to World Bioenergy 2006 and join buyers, suppliers, researchers, and others from all over the world interested in seeing bioenergy technologies at work. At World Bioenergy 2006, you are in a country where bioenergy supplies more electricity than fossil fuels, and where biomass supplies 25 % of total energy utilised.

Leading industrialists and experts from all over the world will present their achievements at the conference and in the exhibitions. The program is organised so that you can tap directly into this wealth of experience of bioenergy systems at work. Here, you can see for yourself how to succeed, and meet those who can help you in successful bioenergy utilisation.

Welcome!



Photo: Bildbyrån Svensson & Co

Dr. Tomas Kåberger,
Conference chairperson of World Bioenergy 2006



“TAKING YOU FROM KNOW-HOW TO SHOW-HOW”

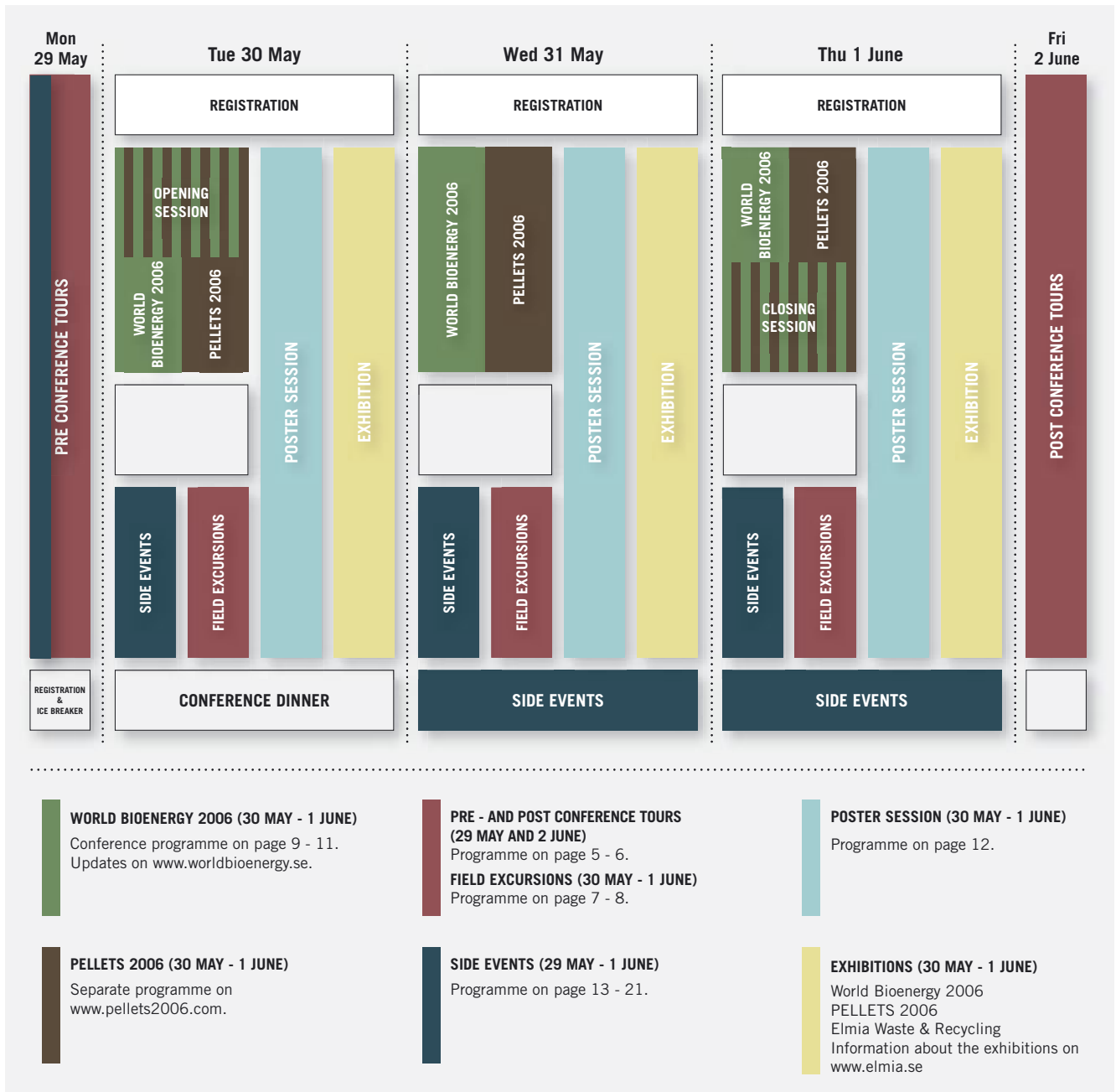
PROGRAMME OUTLINE

"TAKING YOU FROM KNOW-HOW TO SHOW-HOW"

With numerous bioenergy conferences to choose from, making the choice that offers you the best value for money is not easy. Many advertise with top names speaking about hot issues. So too does World Bioenergy. However, what makes World Bioenergy different is our focus on the big picture, combining theory with practice.

Under the motto "Taking you from Know-How to Show-How", World Bioenergy provides you with the unique opportunity to get a first-hand holistic view over the conference topics. Each conference day is rounded off with an optional short field excursion to a choice of facilities. Here you can witness bioenergy technologies, systems and solutions at work in the commercial world.

PROGRAMME OUTLINE



We strongly recommend that you take part in the Pre and Post Conference Tours as they give a broad picture of the Swedish bioenergy at work. They also give you the opportunity to see a beautiful part of Sweden.

The Pre Conference Tours take you to Jönköping from Stockholm Arlanda International Airport. The Post Conference Tours will take you back to the airport.

STOCKHOLM/ARLANDA AIRPORT – JÖNKÖPING

TOUR 1A & 1B

**SALIX - WASTE WATER TREATMENT AND FUEL FOR CHP
PELLETS PRODUCTION (MEDIUM SCALE)
BIOGAS - PRODUCTION AND USE IN TRANSPORTS**

Two buses leaving Arlanda Airport 09.00 (1A) and 10.00 (1B), arriving at Jönköping at the latest 19.00.

The following stops are planned:

Enköping

Medium scale combined heat and power plant (CHP) using wood fuels. Recirculation of nutrients by watering 80 ha willow plantation with waste water and using the harvest as fuel. The connected district heating system has 132 MW heat demand and the total length of the network is about 80 km. The electricity production capacity is 26 MW.

Katrineholm

Medium size pellets plant 50,000 t/y, integrated with a saw mill. Saw dust is used as raw material for the pellets production and bark as fuel for the drying process. The plant has long experience of marketing pellets to family homes.

Linköping

Biogas plant using municipal waste products and residues from food industry. A new efficient process is used for biogas fermentation. The biogas is utilized for the local bus fleet, taxis, and is also sold to the public at a number of filling stations. On this tour you will also see the first biogas train in the world, Amanda, operating between Linköping and Västervik.

Vadstena

A small scale district heating plant using wood chips, 6 MW boiler, 30 GWh/y heat production. (Bus 1A only)

TOUR 2A & 2B

**BIOGAS FROM WASTE AND AGRICULTURAL CROPS
PEAT AND WOOD FUELS FOR CHP
PELLETS PRODUCTION (LARGE SCALE)**

Two buses leaving Arlanda Airport 08.30 (2A) and 09.30 (2B), arriving at Jönköping at the latest 19.00.

The following stops are planned:

Västerås

Biogas plant using municipal waste, residues from food industry and restaurants, and agricultural crops (grass, clover, etc).

Örebro

Large combined heat and power plant (CHP) using wood fuels and peat. The connected district heating system delivers more than 1000 GWh heat yearly. Electricity production capacity 110 MW. (continue)

Laxå

Large scale pellets producer founded in 2004, with a production of 80,000 t/y. This amount is enough to heat about 12,000 family houses each year and corresponds to energy content in almost 40,000 m³ of oil.

Along the road

A small scale district heating plant using wood chips. Heat production 20-25 GWh/y. (Bus 2 A only).



TOUR 3

AGRICULTURE AS A PRODUCER AND USER OF BIOENERGY

One bus leaving Arlanda Airport 09.00, arriving at Jönköping at the latest 19.00.

A special tour with small and middle scale agricultural profile. The following stops are planned:

Chicken farm heated with straw. Boiler 450 kW + 100 m³ heat accumulator.

Salix – fast growing willows. Every 3 – 4 years coppice is harvested for fuel.

Farm bioenergy business. Production of 2500 t/y briquettes from shavings, but lately also energy grass and hemp.

Small heat plant using grain as fuel, run by farmers. The heat is used for nearby school and other buildings. The grain is produced on the owners' farms.

Small scale rape seed oil production.

Please note that the Pre Conference Tours are optional and not included in the conference fee. The number of buses is dependent on how many participants sign up for each tour. All tour itineraries are subject to change, consult the website www.worldbioenergy.se for an updated programme.

JÖNKÖPING - STOCKHOLM/ARLANDA AIRPORT

TOUR 4

**STRAW FUEL FOR DISTRICT HEATING
ETHANOL PRODUCTION
RECYCLED WOOD FOR CHP**

Departure from Jönköping 08.00, arriving Arlanda Airport at 16.00.

The following stops are planned:

Väderstad

Small district heating plant using straw from grain and flax, run by a farmer. Boilers 3x1 MW, heat production 6-7 GWh/y.

Norrköping

Ethanol plant with an annual production of 50,000 m³/y based on grain. The ethanol is mainly used for low mixture blending into gasoline. Energy input from nearby biomass heat and power plant. By-products used for biogas production and as feed stuff.

Nyköping

Combined heat and power plant fuelled with recycled wood. Electricity production capacity 35 MW. District heating grid delivers 300 GWh/y.



TOUR 5

**MUNICIPAL WASTE FOR CHP
USE OF WOOD CHIPS AND PELLETS
SALIX - WASTE WATER TREATMENT AND FUEL FOR CHP**

Departure from Jönköping 08.00, arriving Arlanda Airport at 17.00.

The following stops are planned:

Linköping

A large combined heat and power plant using municipal waste. A new CHP unit taken into production 2004, with an electricity production capacity of 19 MW, and a heat production capacity of 83 MW. Connected to a large district heating grid - 1,3 TWh heat/year. (continue)

Harpsund

The Swedish prime minister's country residence with a heating system based on pellets, woodchips and solar collectors. The woodchips are harvested on the property. One wood chip boiler 250 kW, one pellets boiler 400 kW. Plus a 327 m² solar panel.

Malmköping

A small heat plant using dry wood fuels run by local farmers. The heat production is about 15 GWh/y. Two boilers 2+ 2,5 MW.

Enköping

Medium scale combined heat and power plant (CHP) using wood fuels. Recirculation of nutrients by watering 80 ha willow plantation with waste water and using the harvest as fuel. The connected district heating system has 132 MW heat demand and the total length of the network is about 80 km. The electricity production capacity is 26 MW.

TOUR 6

THE AGROPTI-GAS PROJECT IN VÄSTERÅS

Departure from Jönköping 08.00, arriving Arlanda Airport at 18.00.

This tour will take you to the biogas plant site at Gryta in Västerås. The city of Västerås is situated 300 km north of Jönköping and 100 km west of Stockholm. The biogas plant processes yearly 14,000 t/y source separated household and catering waste, 4000 tonnes grease trap removal sludge, and 5000 tons ley crops from 300 ha, producing some 8000 Nm³ biogas per day. The biogas is upgraded and used as vehicle fuel, to the equivalent of 2300 m³ gasoline/y, and the energy production from waste and ley crops is of 15 GWh/y.

This is also a follow up on the Agropati-gas workshop programme 1 June. More information under Side events 1 June on page 20.

Please note that the Pre Conference Tours are optional and not included in the conference fee. The number of buses is dependant on how many participants sign up for each tour. All tour itineraries are subject to change, consult the website www.worldbioenergy.se for an updated programme.



The daily field excursions are integrated in the conference programme and included in the conference fee. There is an option of several parallel excursion routes to choose from each day.

All field excursions depart from Elmia Conference and Exhibition Centre

FOREST ENERGY (A) (15.00-18.00, Tue/Wed/Thur)

Using wood fuel for heating or cooking has a long tradition all over the world. The use of wood biomass for energy production has developed and today modern machinery is used in all steps, from the harvesting operations to the final heat and electricity production.

This excursion will present practical production of biofuels in the forest. One or more stops will be made at sites with whole tree harvest in young stands, logging residue handling, such as bundling as a way to compact tops and branches after regeneration fellings for increased logistic properties, or on-site chipping where the forest fuels are processed into a more homogenous fuel in the forest for improved logistics.

Forest fuels is a growing segment with large potential to increase in many areas. On a commercial basis in competition with fossil fuels, it is especially well suited for use in district heating, CHP or industries.

HEAT AND POWER (B) (15.00 - 18.00, Tue/Wed/Thur)

Almost all cities in Sweden have a well developed district heating system. Most of the fossil fuels have been replaced with biomass. Many district heating plants are combined heat and power plants (CHP).

This field excursion will show you the CHP plant at Munksjö industry in Jönköping. This plant is fuelled with wood-powder. The fuel is delivered both in containers and as bulk.

At Torsvik, about 10 km south of the city, you will visit a large CHP for municipal waste. During the visit you will also see a plant under construction by the local utility Jönköping Energi.

A new (March 2006) pellets fuelled 2 – 3 MW boiler connected to the Norrahammar district heating grid will be demonstrated.

HURRICANE GUDRUN AFTERMATH (C)

(15.00 - 19.00, Wed/Thur)

The hurricane Gudrun swept over the southern parts of Sweden 8-9 January 2005 and felled about 70 Mm³ of wood, equal to one annual harvest in the whole of Sweden. In some areas more than the equivalent of 20 years future timber harvests were felled overnight. This called for special measures in order to avoid further losses in the form of insect epidemics. One way to handle the oversupply of woody biomass is to store wood logs in wet conditions, thereby making them less attractive to insects.

The hurricane Gudrun excursion will go south of Jönköping into one of the worst damaged regions, where several years of future harvest was felled by the hurricane. Along the road a stop is planned to show how stumps are removed for utilization as biofuel in heating plants. A stop will also be made at an enormous timber terminal, holding close to one million m³ of timber, which was set up on a former airfield by a sawmill, as a way to preserve raw material for years to come.



BIOGAS (D) (15.00 - 18.00, Tue/Wed/Thur)

Biogas production in Jönköping is carried out in two forms, as fermentation in the municipality waste water system and as landfill gas. The gas from the waste water is used for cars and a filling station is located close to the plant. Both private car owners and public utility vehicles use this fuel.

The second form is the gas from the land-fill that is converted into electricity and heat by two diesel engines.

All tour itineraries are subject to change, consult the website www.worldbioenergy.se for an updated programme.



Foto: Lantmännen

SMALL AND MEDIUM SCALE PELLETS USE (E)

(15.00 - 18.00, Tue/Wed/Thur)

The use of pellets for heat and electricity production is increasing in many countries. Unlike many other biofuels wood pellets are relatively well suited for residential heating. This has led to an increased use in both small and medium scale appliances.

This field excursion will show how pellets can be used as a competitive fuel for heating both small scale residential houses and medium scale premises. You will see how a special type of logistics system for pellets and briquettes can be used in the medium scale. In this system a special type of silo containers are filled at the pellets plant and transported to the customer where they are raised and exchanged.

Another stop during this excursion will be at a local energy information centre. Here five communities have a joint exhibition of modern residential heating equipment, such as pellets boilers, stoves and combinations of pellets and solar panel heating.

**LARGE SCALE PELLETS PRODUCTION (G)**

(15.00 - 18.00, Tue/Wed/Thur)

Pellets production has a relatively long tradition in Sweden. The basis is the availability of raw material in the form of by-products from the sawmilling and wood processing industries.

This field excursion will take you to a large scale pellets production plant with a production of 80,000 tonnes per year, in Vaggeryd south of Jönköping. Here sawdust from a number of sawmills in the area is processed into pellets for small-, medium-, and large scale customers. This will show you how the raw material is received, dried in a rotating drum drier, ground into suitable fractions and pressed into pellets, which are cooled in order to maintain their stability.

This plant is also equipped with a furnace, fuelled with unrefined wood fuels, for steam production to the rotating drum drier and a modern high capacity bagging line for small bags to residential customers.

All tour itineraries are subject to change, consult the website www.worldbioenergy.se for an updated programme.

**SMALL SCALE PELLETS PRODUCTION (F)**

(15.00 - 19.00, Wed/Thur)

Sawmills and wood processing industries produce large amounts of by-products that are suitable for pellets production. In many cases a large part of these by-products have a low moisture content, such as planer shavings or dry chips, which can be used for pellets production without further drying of the raw material.

This excursion will show you one of these small scale pellets production units at a wood processing industry. It has the production capacity of around 500 kilos of pellets per hour. Also the logistics of pellets will be displayed as either the bulk transportation system and/or bagging of pellets in small bags for residential customers.



OPENING SESSION

08.00 Registration opens

09.00 **Introduction**

Dr. Tomas Käberger, Conference chairperson World Bioenergy 2006 (Sweden)
Mrs. Christiane Egger, Conference chairperson PELLETS 2006 (Austria)

Welcome address

The Prime Minister of Sweden, Dr. Göran Persson

The European Biomass Action Plan

Representative from European Commission

Bioenergy development in China

Mr. Liu Zhen Ya, President of State Grid Corporation of China

Ghana perspective

Prof. Mike Oquaye, Minister of Energy, Ghana

The Swedish success story - the basis for oil independence 2020

Mr. Kent Nyström, Swedish Bioenergy Association and AEBIOM

11.00 Coffee

11.20

CONVERSION, CHP

Chairperson: *Eija Alakangas, VTT Processes, Finland*

Present development in small scale CHP
Dr. Heinz Kopetz, President of the European Biomass Association, Austria

Perspectives for the nationalization of biomass gasification technology for electric energy generation at isolated communities in the Amazon region
Dr. Suani Teixeira Coelho, Brazilian Reference Center on Biomass, Brazil

Environmental and economic gains of the conversion of the Zvolen, Slovakia, power plant from low quality brown coal to co-firing of biomass and low-sulphur coal
Prof. Ján Ilavský, Finnish Forest Research Institute, Finland and Július Jankovský, Zvolenská tepláreňská, a.s., Slovakia

Large scale Integrated Gasification Combined Cycle (IGCC) using biomass in Gothenburg
Anders Hedenstedt, Göteborg Energi AB, Sweden

Session A

11.20

INNOVATIVE APPLICATIONS

Chairperson: *Juan E. Carrasco Garcia, Dep of Energy, Ciemat, Spain*

Combustion of cereal grains - a survey of technical and environmental obstacles
Marie Rönnbäck, SP Swedish Testing and Research Institute, Sweden

The future of bio-refineries in the context of the EU project PROGRASS
Claudia Ziegler, Institut für ZukunftsEnergie Systeme gGmbH, Germany

Transforming biomass to Dieselfuel by catalytic depolymerization. Low pressure, low temperature, low costs. The KDV-method from AlphaKat, Germany
Edwin Krzesinski, AVBP, Sweden

Bioconversion of the organic fraction of Tannary solid wastes: assessment of ultimate bioenergy production potential, kinetics and refractory fraction of tannary wastes
A. Thangamani, Central Leather Research Institute, India

Session B

11.20

RESOURCES

Chairperson: *Giuseppe Caserta, Italian Biomass Association and AEBIOM, Italy*

Biomass potential and bioenergy development in Belarus
Prof. V.A. Borodulya, A.V. Luikov, Heat and Mass Transfer Institute of the National Academy of Sciences of Belarus, Belarus

Biomass resources for heat and electricity in Greece
Myrsini Christou, Center for Renewable Energy Sources, Greece

The potential of Biomass Energy in Turkey
Ibrahim Bektas, Dept. of Forest Industry Engineering, Turkey

Bioenergy development in the Northwest Russia on the base of wood waste
Dr. Olga Rakitova, The Wood Industries Confederation of Northwest Russia, Russia

Session C

13.00 Lunch & Exhibition

15.00 Field excursions (For information about the excursions see p. 7 & 8)
 All field excursions depart from Elmia Conference and Exhibition Centre and will be back at approximately 18.00.

08.00 Registration opens		
<p>09.00</p> <p>TRANSPORTS</p> <p>Chairperson: <i>Dr. Heinz Kopetz, Austrian Biomass Association and AEBIOM, Austria</i></p> <p>Systems thinking and change processes towards sustainable transports, Global development <i>Per Carstedt, BioAlcohol Fuel Foundation for Sustainable Transports, Sweden</i></p> <p>Long term experience of bioethanol for transports in Brazil <i>Luiz Carlos Corêa Carvalho, Brazilian Board for Ethanol Development, Brazil</i></p> <p>Clean Cities and other US initiatives <i>David Morris, Institute for Local Selfreliance, US</i></p> <p>Resource aspects; long term potential and second generation of biofuels for transport <i>André Faaij, Copernicus Institute for Sustainable Development and Innovation, Utrecht University, Holland</i></p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Session A</p>	<p>09.00</p> <p>SUSTAINABLE SOCIETY</p> <p>Chairperson: <i>Kees Kwant, SenterNovem, The Netherlands</i></p> <p>Community-based model for forest land management and bioenergy production using distributed CHP system <i>Dr. Eric Bibeau, University of Manitoba, Canada</i></p> <p>Life Cycle sustainability analysis of biodiesel from palm oil: Two case studies <i>Electo Silva Lora, UNIFEI, Brazil</i></p> <p>Biofuel- the present consumption and future need: the case for some north-east Indian villages <i>Dr. Dhanapati Deka, Tezpur University, India</i></p> <p>Environmental aspects as assessment criteria in municipal heat energy decisions-case of ENO Energy Cooperative <i>Asko Puhakka, North Karelia Polytechnic, Finland</i></p>
<p>09.00</p> <p>CONVERSION AND GASIFICATION</p> <p>Chairperson: <i>Sebastian Kilburg, CARMEN, Germany and AEBIOM</i></p> <p>Energy production from thermochemical treatment of biomass <i>Nozahic Francoise, Laboratoire de Génie Chimique, France</i></p> <p>Sewage sludge Disposal with energy recovery by fluidised bed gasification and CHP-units <i>Juri Horst, Institut für ZukunftsEnergie Systeme GmbH, Germany</i></p> <p>Operational Conditions of continually Working Moving –Bed Filter for Complete Syngas Cleaning <i>Marek Balas, University of Technology, Brno, Czech Republic</i></p> <p>Transesterification of Palm Oil to Biodiesel Using Solid Catalyst <i>Dr. Lee Keat Teong, Engineering campus, Seri Ampangan, Nibong Tebal, Malaysia</i></p>		
11.00 Coffee		
<p>Potential analysis of bio-energy for transportation fuels substitution in China <i>Li Junfeng, Chairperson of Academic Committee of Energy Research Institute of National Planning Commission, P.R., China</i></p> <p>AGRICULTURAL ENERGY</p> <p>Chairperson: <i>Dr. Björn Telenius, Swedish National Energy Agency, Sweden</i></p> <p>Energy crops and the Common Agricultural Policy: Targets, Reforms and Barriers <i>Kes McCormick, International Institute for Industrial Environmental Economics, Lund, Sweden</i></p> <p>Predicted Energy Crop Potentials for Bioenergy, Worldwide-Regions-EU25 <i>Jens Bo Holm-Nielsen, Department of Bioenergy, Esbjerg, Denmark</i></p> <p>Salix-Bioenergy from farmlands <i>Gustav Melin, Agrobränsle AB, Sweden</i></p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Session B</p>	<p>TRANSPORT FUELS</p> <p>Chairperson: <i>Prof. Josef Vigelasky, Slovak Association for Biomass and AEBIOM</i></p> <p>Possibilities for joint production of bio-ethanol – biodiesel and co-generation of energy in Colombia <i>Viatcheslav Kafarov, Universidad Industrial de Santander, Colombia</i></p> <p>Development of biofuels in the transport sector of Latvia <i>Ruslans Smigins, Latvia University of Agriculture, Latvia</i></p> <p>In situ detoxification of fermentation inhibitors by stress tolerant ethanogenic yeast for low cost biomass conversion to ethanol <i>Zonglin Lewis Liu, NCAUR USDA-ARS, US</i></p> <p>Energy integration by fuel ethanol production <i>Daniel Frosterud, Christian Berner AB, Sweden, and Jan de Geest, GEA Wiegand GmbH, Germany</i></p>
<p>STEERING INSTRUMENTS</p> <p>Chairperson: <i>Fiona Santokie, Renewables Markets Europe, UK</i></p> <p>Emission trading as a basis for new bio-energy business concepts in the Baltic Sea Region <i>Pirkko Vesterinen, VTT Processes, Finland</i></p> <p>The emergence and growth of a “biopower” innovation system in Sweden <i>Prof. Staffan Jacobsson, Chalmers University of Technology, Sweden</i></p> <p>New Provision Supporting Renewable Electricity Generation in the Czech Republic, Tixed Feed-In Tariffs <i>Jan Habart, Czech Association for Biomass, Czech Republic</i></p> <p>Emission Trading-Growing Markets with Impacts on Energy and Biofuel Business <i>Tomas Otterström, GreenStream Network Ltd, Sweden</i></p>		
13.00 Lunch and Exhibition		
<p>15.00 Field excursions (For information about the excursions see p. 7 & 8) All field excursions depart from Elmia Conference and Exhibition Centre and will be back at approximately 18.00.</p>		

08.00 Registration opens

<p>09.00</p> <p>MARKETS AND POLICY</p> <p>Chairperson: <i>Dr. Kyriakos Maniatis, EC and IEA Bioenergy, Belgium</i></p> <p>UK Market Developments and Scenarios <i>Fiona Santokie, Renewables Markets Europe, UK</i></p> <p>Boosting Bioenergy in Europe <i>Jean-Marc Jossart, European Biomass Association, Belgium</i></p> <p>Bioenergy Market Prospects and Challenges in India <i>Subhas K. Bose, Trans Bioenergy Technology Services, Kolkata, India</i></p> <p>Expensive oil and gas-boosting Bioenergy in Russia <i>Harald Birkeland, Norsk Energi, Norway</i></p>	Session A	<p>09.00</p> <p>CONVERSION, COMBUSTION</p> <p>Chairperson: <i>Prof. Dan Asplund, Finnish Bioenergy Association and AE-BIOM</i></p> <p>EU-project "Trig" a new solid biomass CHP-technology <i>Ulrich Bemman, Institut für ZukunftsEnergie Systeme gGmbH, Germany</i></p> <p>Co-firing Characteristics of Woody Biomass with Coal <i>Masayoshi Kimoto, Central Research Institute of Electric Power Industry, Japan</i></p> <p>Cost competitive bioenergy: linking lignocellulosic biomass supply with co-firing for electricity in Poland <i>Filip Johnsson, Chalmers University of Technology, Sweden</i></p> <p>Operating Experiences from two New Biomass Fired FBC-Plants <i>Marcus Bolbár-Nordenkampf, Austrian Energy & Environmental AG, Austria</i></p>	Session B	<p>09.00</p> <p>AGRICULTURAL</p> <p>Chairperson: <i>Prof. Ralph E. H. Sims, Centre for Energy Research, Massey University, New Zealand</i></p> <p>Irrigation of Short Rotation Willow Biomass Plantations Using Effluent Water from a Municipal Sewage Treatment Plant and an Intensive Livestock Operation <i>Richard Krygier, Canadian Forest Service, Canada</i></p> <p>Stem weight ratios of Siberian Elm growth as short rotation crop <i>Leyre Triarte, Universidad Politécnica de Madrid, Spain</i></p> <p>The farmer as energy seller – Successful experiences from Austria <i>Dr. Horst Jauschnegg, Landesammer für Land- und Forstwirtschaft Steiermark, Austria</i></p> <p>Swedish farmers as bioenergy producers - opportunities and challenges <i>Pål Börjesson, Lund University, Sweden</i></p>	Session C
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11.00 Coffee

CLOSING SESSION

11.40 **THE ROLE OF BIOENERGY MEETING THE GLOBAL ENERGY CHALLENGE**

Highlights from two conferences
Panel presentation from different regions and perspectives will provide directions for future development

Ralph E. H. Sims, Professor of Sustainable Energy, Director, Centre for Energy Research, Massey University, New Zealand
Njeri Wamukonya, Phd, Energy Prog Officer, Regional Office for Africa, UNEP, Kenya
Rogério Cezar de Cerqueira Leite, Prof. Dr., University of Campinas, Brasilien
Lin Gan, WWF China (tbc)
Representative from US, (tbc)
Representative from EC, (tbc)
Representative from the Swedish Government (tbc)

Summary
Dr. Tomas Kåberger, Conference chairperson World Bioenergy 2006 (Sweden)
Mrs. Christiane Egger, Conference chairperson PELLETS 2006 (Austria)

13.00 Lunch and Exhibition

15.00 Field excursions (For information about the excursions see p. 7 & 8)
All field excursions depart from Elmia Conference and Exhibition Centre and will be back at approximately 18.00.

09.00 - 17.00

The following posters have been selected for the poster session:

MARKET, POLICY AND STEERING INSTRUMENTS

Integrated approach to promote biomass energy in Japan, *K. Izutsu et al., Inst. for Sustainable Energy Policies, Japan*

Instruments to develop wood energy use in Belgian industry, *D. Marchal, ValBiom, Belgium*

Project Finance- a stimulating instrument to bioenergy implementation, *Dr. C-H. Schmidt, UmweltBank AG, Germany*

Enhanced biofuel utilisation in Swedish industries, buildings and district heating, *D. Henning et al., Optensys Energianalys, Sweden*

The prospects for large scale import of biomass and bio-fuels to Sweden-a review of critical issues, *J. Hansson et al., Chalmers University of Technology, Sweden*

Presentation about the Dutch stakeholder dialogue: Costa DueConcrete steps towards a sustainable Eeemsmond, *K. Hollaender, Rijksuniversiteit Groningen/ISC, The Netherlands*

The consumers perspective on implementing bioenergy systems in existing residential areas, *A. Joelsson, Mid Sweden University, Sweden*

Bioenergy sector in the Czech Republic- A general Outlook, *T. Rak, CzechTrade Sweden, Czech Republic*

A study on the bio-fixation of carbon dioxide from flue gas in the absorbed solution from a chemical scrubber and bio-fuel evaluation of biomasses, *Hsin-Ta Hsueh, National Cheng Kung University, Taiwan*

Flexible heating systems- a challenge for the future, *K. Lorentz, SERC, Dalarna University, Sweden*

Institutional Factors Conducive or Obstructive to Environmental Policy Integration: The Case of Swedish Bioenergy Policy, *Ch. Söderberg, Umeå University, Sweden*

FUEL PRODUCTION INCLUDING REFINING

Biogas upgrading to hydrogen rich gas by stem reforming: comparison and optimization of plant configurations, *M. Ashrafi et al., Vienna University of Technology, Austria*

Synergistic and socio-economic effects of bioenergy systems, The Mureck bio-Energy Cycle, *M. Tomescu, HIEE Lund University, Sweden*

Small sized whole tree harvesting in Finland, *K. Kärhä, Metsäteho OY, Finland*

Caloric value change of slash as logging residues after biological drying under humid weather conditions in Japan, *Y. Teraoka, Kagoshima University, Japan*

Some problems with biofuel production in Latvia, *A. Skele, Research Institute of Agricultural Machinery, Latvia*

Comparative analysis of Swedish bundle and wood chip systems-costs, greenhouse gas emissions and CO₂-balance, *L. Näslund, Mid Sweden University, Sweden*

Fuel production from gasified biomass: A feasibility study, *Ch. Hulteberg, Catator AB, Sweden*

Increasing ethanol production by bakers yeast and additional microorganisms, *M. Holmgren et al., Umeå University, Sweden*

Effects of Tree-age and Tree-parts on the Caloric Values of prevailing Trees in Xiaoxing'anling Forest Region in North-east China, *M. Sun et al., Northeast Forestry University, China*

Electricity Generation from Liquid Effluents Treatment in Brazil, *Dr. S. Teixeira Coelho, Brazilian Reference Center on Biomass, Brazil*

The usage of Sewage for energy generation, *Dr. S. Teixeira Coelho, Brazilian Reference Center on Biomass, Brazil*

Swedish biomass potentials from an energy perspective, *R. Björheden et al., Växjö University, Sweden*

Land use strategies for energy production and products substitution for fallow agricultural land in Sweden, *V. Dornburg et al., Mid Sweden University, Sweden*

Concept of FT-Synthesis with biomass stem gasification, *J.C. Valle, New Power Generation Technologies and Thermochemistry, France*

LOGISTICS AND DISTRIBUTION

Boom-tip corridor harvesting techniques for young stands with high biomass:future possibilities, *U. Bergsten et al., Swedish University of Agricultural Science, Sweden*

Large-scale forest supply solutions through a regional terminal network in Finland, *T. Vartiamaäki et al., Lappeenranta University of Technology, Finland*

Northern WoodHeat, Forest fuel supply chains in Scotland & Iceland- From Know How to Show How, *D. Röser et al., Finnish Forest Research Institute, Finland*

Using Demand Profile as a Driver in Biomass Procurement, *B. Talbot, Danish Centre for Forest, Landscape and Planning, Denmark*

Developing integrated supply cost curves for small CHP plant in South Africa, *B. Talbot, Danish Centre for Forest, Landscape and Planning, Denmark*

Distribution of lean gases within regional gas networks regan, *B. Gross et al., Institut für ZukunftsEnergie Systeme gGmbH, Germany*

Harvesting alternatives and cost factors of delimbed energy wood, *J. Laitila et al., Finnish Forest Research Institute, Finland*

Cost calculators for the procurement of small sized thinning wood, logging residues and stumps for energy, *J. Laitila et al., Finnish Forest Research Institute, Finland*

BIOENERGY IN A SUSTAINABLE SOCIETY

Biogas-Use in dual Fuel Diesel Engines and Particulate Emissions, *N.N. Mustafi et al., The University of Auckland, New Zealand*

Distilled sulphate turpentine oil gasoline additive, *M.H. Abma et al., University of Sütçü _mam, Turkey*

CO₂ Stabilization Wedges and the Double Explosion: Strategies for CO₂ emissions mitigation in areas with rapidly increasing population and energy use, *Dr. L. Shacon, Blekinge Institute of Technology, Sweden*

Effects of forest fuels extraction and ash recycling, experiences and results from Swedish research, *O. Westling, IVL Swedish Environmental Research Institute, Sweden*

High-temperature removal of H₂S from syngas by means of zinc-contaminated soils, *Tzu-Hsing Ko, Kao Fong College, Taiwan*

Recycling of wood ash to forests in North Wales, UK, *J. Walmsley, University of Wales, UK*

Recycling of Woodfuel Ash, *S. Emilsson, Skogsvårdsstyrelsen Värmland-Örebro, Sweden*

Palm oil fuel to conventional diesel engines in the Amazon region and isolated communities, *Dr. S. Teixeira Coelho, Brazilian Reference Center on Biomass, Brazil*

Co-combustion of Wood-Shavings and Horse Manure in a Small Scale Heating Plant, *E. Pettersson et al., Energy Technology Centre, Sweden*

Profitability of small scale bio CHP, *Mäkelä, Wärtsilä Biopower Oy, Finland*

Landfill gas utilization in the Slovak Republic, *Prof. J. Víglašky et al., Technical University in Zvolen, Slovak Republic*

09.30 - 19.00 HOW TO GET BIOMASS ENERGY PROFITABLE FOR HEAT, POWER AND TRANSPORT

This is a project that develops technologies for the production of vehicle fuels based on biomass. The CHRISGAS project is a full scale industrial project that aims to demonstrate the production of a clean hydrogen-rich synthesis gas from biomass. The Växjö Värnamo Biomass Gasification Centre (VVBGC) is a biomass-fuelled pressure integrated gasification combined-cycle (IGCC) and CHP pilot plant facility. More information on www.chrisgas.com.

PROGRAMME**Registration in Växjö at Växjö university (Södra salen, D1083)****Introduction and worldwide energy situation**

Dr. Tomas Käberger, Managing Director, TPS Termal Processes (Sweden)

Methods for fuel assessment

Dr. Juan Carrasco, Ciemat (Spain)

Local energy situation

Prof. Rolf Björheden, Växjö University (Sweden)

Steering instruments and policy

Mr. Sven-Olof Ericson, Deputy assistant under secretary, Ministry of Sustainable development (Sweden)

Profitable heat and power production in Växjö

Mr. Ulf Johnsson, Power Plant Manager, Växjö Energi AB (Sweden)

CHRISGAS Overview

Prof. Sune Bengtsson, Växjö University (Sweden)

Catalyst technology

Mr. Jan Brandin, Catator (Sweden)

Gasification

Ass.prof. Wiebren de Jong, TUDelft (The Netherlands)

Market and potential for Växjö Värnamo Biomass Gasification Centre

Mr. Lennart Gårdmark, Manager Bioenergy Småland - Expo Växjö, Head of International Office, City of Växjö (Sweden)

Re-building of the Värnamo plant, Mr. Ola Augustsson, Växjö Värnamo Biomass Gasification Centre (Sweden)**Study tour to Värnamo where the pilot plant is situated****Discussion and summary****Transfer to Jönköping in time for "Ice Breaker"**

(Transfer from Växjö to Jönköping is included. Please note, no transfer from Jönköping to Växjö.)

09.00 - 16.00 GOLF TOURNAMENT AT ISABERG GOLF COURSE

Take the opportunity to combine business with pleasure and challenge your colleagues and competitors in a golf tournament at Isaberg Golf Course. Isaberg offers 36 holes in very beautiful settings around the river Nissan and lake Hammarsjön right in the heart of Småland. (www.isaberggolf.com)

It is possible to rent golf clubs and carts at the golf store Carpenters golf. Please contact the golf store directly for your reservation of golf clubs (+46 370 - 33 60 17, www.carpentersgolf.com).

Buses will depart promptly at 09.00 from Elmia conference center and take you to the golf course about one hours drive from Jönköping. The winners of this event will be officially announced during the evening.

Please book your participation not later than 15 May. The number of participants will be limited to 48 persons. Participation is 950 SEK, including green fee (400 SEK).

19.00 - 22.00 "ICE BREAKER" AT ELMIA

An informal drop-in opportunity with a light buffet, drinks and entertainment for those of you who arrive in Jönköping 29 May. You can register your arrival, collect your conference programme, delegate packs and documentation. For those of you participating in the exhibition or poster exhibition, the exhibition hall is also open for preparations. This is a perfect opportunity to get to know the premises and socialize with other delegates.

14.00 - 18.00 EUROPEAN BIOMASS RESEARCH - INDUSTRIAL PERSPECTIVE

Why does an industry wish to participate in EU funded projects? Industrial participants of projects financed under the 6th EU Research Framework Programme will present their viewpoints and EC representatives will highlight the current state of play of the 7th EU Research Framework Programme. The floor will then be opened to all participants on industry participation in EC funded projects.

PROGRAMME

Welcome Address

Wiktoria Raldow, European Commission, DG RTD

INDUSTRIAL PARTNERS' EXPERIENCE FROM PARTICIPATION IN EC PROJECTS

Chairperson: Erich Nägele, European Commission, DG RTD

Renewable biofuels for advanced powertrains (RENEW)

Frank Seyfried, VW, (Germany) (tbc)

Non-thermal production of pure hydrogen from biomass (HYVOLUTION)

Aleksander Ostaniewicz, Wiedemann Polska (Poland) (tbc)

New Improvements for ligno-cellulosic ethanol (NILE)

Stig-Gunnar Eriksson, Svensk Etanolkemi AB (Sweden) (tbc)

Renewable energy from crops and agrowastes (CROPGEN)

Michael Chesshire, Greenfinch (UK) (tbc)

Co-processing of upgraded bio-liquids in standard refinery units (BIOCOUP)

Paul O'Connor, Albermale Catalysts Company B.V. (The Netherlands) (tbc)

BIOMASS RESEARCH IN THE 7TH FRAMEWORK PROGRAMME, A VIEW AHEAD

Chairperson: Maria Fernandez Gutierrez, European Commission, DG RTD

Energy programme

Wiktoria Raldow, European Commission, DG RTD

Rules for participation

Jeroen Schuppers, European Commission, DG RTD

Preparing a proposal

Philippe Schild, European Commission, DG RTD

OPEN FLOOR DISCUSSION

Chairperson: Frank Seyfried, VW (Germany) (tbc)

Closing Address

Wiktoria Raldow, European Commission, DG RTD

19.00 - 22.00 OFFICIAL CONFERENCE DINNER

A visit to Sweden wouldn't be complete without trying an authentic Midsummer buffet. The Midsummer festival in Scandinavia is of Viking origin and celebrates the arrival of summer and the longest day of sun-light - Summer Solstice.

Together with PELLETS 2006 conference delegates we will meet and eat at Elmia. Welcome!



14.00 - 18.00 THE SUSTAINABLE CITY - A SWEDISH PARTNERSHIP INITIATIVE

When the people behind one of the world's largest urban development projects wanted a second opinion on their proposals, they called in a group of Swedish environmental technology experts. The Sustainable City concept now attracts interest from all over the world.

The Sustainable City is a holistic and integrated concept for sustainable urban development that develops and communicates the most innovative and promising sustainable urban solutions.

At the World Bioenergy 2006 we will present the concept with focus on waste, recycling and renewables as bioenergy.

Target groups: Decision makers from local authorities, urban district counties, planning bodies as well as decision makers from the industry.

Host: Swedish Trade Council/Swedish Environmental Technology Network

PROGRAMME

Moderator: Mr. Rutger Engvall, Senior Vice President, Swedish Trade Council/Swedish Environmental Technology Network (Sweden)

Welcome and opening

Mr. Rutger Engvall

The Sustainable City – a Swedish Partnership Initiative

Prof. Ulf Ranhagen, Technical University of Luleå and Chief Architect Sweco (Sweden)

Sustainability Planning at the Toronto Waterfront and Cooperation with Sweden

Representative from Toronto Waterfront Revitalization Corporation (tbc)

Fossil Fuel Free Växjö – it pays to be a pioneer

Mr. Lennart Gårdmark, Manager Bioenergy Småland – Expo Växjö, (Sweden)

Company presentations on technical solutions for waste, recycling and bioenergy**Summary and time for networking**

www.sustainablecity.se

A system-based approach
to building sustainable
towns and cities



15.00 - late FOSSIL FUEL FREE VÄXJÖ AND THE KINGDOM OF CRYSTAL

Visit the city that has decided to stop using fossil fuels, Växjö. See Växjö Energy LTD, VEAB's 66 MW heat and 38 MW power biomass fuelled CHP plant connected to a district heating grid. Learn how the city managed to lower the per capita CO₂ emissions from fossil fuels down to 3,4 tonnes. During dinner at the worlds premier glass works, Orrefors/Kosta Boda, we will be shown glass blowing and some of us will have the opportunity to try ourselves.

PROGRAMME**Departure from Elmia conference & exhibition center**

Guide: Lennart T Gårdmark, Manager Bioenergy Småland - Expo Växjö (Sweden)

Short coffee break at the Växjö Värnamo Biomass Gasification Centre 18 MW biomass gasification plant in Värnamo
Sune Bengtsson, Project Co-ordinator for the CHRISGAS project (Sweden)

Visit at Växjö Energi AB

Lotta Tranvik Bioenergy researcher at Växjö Energi AB and Fossil Fuel Free Växjö (Sweden)

Anders Franzén, Head of Planning and Development (Sweden)

Hyttsill dinner at Kosta Glass works including glassblowing and entertainment. Transfer back to Jönköping.

(Transfer is included.)

More information on www.chrisgas.com, www.veab.se, www.vaxjo.se and www.kostaboda.se.

14.00 - 18.00 SYSTEMS THINKING AND CHANGE PROCESSES TOWARDS SUSTAINABLE TRANSPORTS - THE SWEDISH CASE

In January 2006, 12 % of all new cars sold in Sweden were classified as clean cars. Around 400 of Sweden's 4000 gasoline stations offer fuels made from renewable energy sources like ethanol and the number is expected to rise to 2400 by 2010. This event will guide you along the Swedish road to sustainable transports. How to go about changing a whole system? The debate at the end will focus on the questions: What are the lessons to be learned and the experiences to be shared? And what are the potential developments in other areas of the world?

Host: BAFF, BioAlcohol Fuel Foundation

PROGRAMME

Moderator: Per Carstedt, Chairperson, BioAlcohol Fuel Foundation (Sweden)

Systems thinking and change processes towards sustainable transports. The Swedish case.

Per Carstedt, Chairperson, BioAlcohol Fuel Foundation (Sweden)

GM Ethanol policy and technical development for the next five years

Kjell ac Bergström, President, SAAB Automobile Powertrain (Sweden)

Ford Motor Company: experiences from Ethanol FlexiFuel cars in Sweden and the rest of the world

Nils Lekeberg, Brand Director, Ford Motor Company Sverige (Sweden) (tbc)

Changing public transports from fossil fuels into renewable fuels. How Stockholm public transport will reach 50 % renewable energy for their buses by 2011, and be 100 % fossil free by 2020.

Maria Ljung, Environmental Affairs, SL (Sweden)

Ethanol from lignocellulose - developments at the Pilot Plant in BioFuel Region and plans for industrial production

Jan Lindstedt, R&D, ETEK (Sweden)

Long term supply of the feedstock from the forest

Urban Bergsten, SLU University (Sweden)

Development of biofuels in synergy with the existing forestry

Gunnar Olofsson, MD Sveaskog (Sweden) (tbc)

Demand and development of new technologies and equipment for biofuels in forestry

Hans Eliasson, MD Cranab (Sweden) (tbc)

Panel discussion. Lessons to learn and experiences to share

What are the potential developments in other areas of the world?

More information on www.baff.info.

BAFF also assisted with the conference programme Transport Session A.

09.00 - 18.00 IRC TECHNOLOGY TRANSFER DAY BROKERAGE EVENT**Bioenergy, Waste Management and Recycling**

Host: IRC Western & Southern Sweden & Iceland
Euro Info Centre Jönköping

Target Group: Technology orientated small and medium sized enterprises (SME's), larger companies, universities, financial and research institutes, and municipalities active within the bioenergy, waste management and recycling sectors.

How it works: IRC brokerage events offer participants an exceptional chance to profile their know-how, technologies, products and business projects, and meet with international technology providers, project and research partners and those with in-licensing needs.

- Participants register and submit a specific technology profile online
- Profiles are published in a constantly updated online profile catalogue
- Participants select profiles that match their interests from the online profile catalogue and request a one-to-one meeting
- If confirmed, a 30 minute meeting is planned by IRC staff
- A personal meeting schedule is then sent to each participant in due time before the event starts
- On the 31 May the participants meet at the venue for one-to-one discussions

Further information and profile registration available on www.elmia.ircnet.lu.

About: Established by the European Commission in 1995, the Innovation Relay Centre (IRC) network supports innovation and transnational technology transfer in Europe with a wide range of specialized services. The network has over 1,000 people located in 250 offices in 33 countries – the EU 25, Bulgaria, Chile, Iceland, Israel, Norway, Romania, Switzerland and Turkey. More information about the IRC available on www.irc.cordis.lu.

14.00 - 18.00 FUEL FLEXIBILITY IN BIOMASS COMBUSTION - THE KEY TO LOW BIO-ENERGY COSTS?**International Energy Agency (IEA) Task 32: Biomass Combustion and Co-firing organised workshop**

Chairpersons: Sjaak van Loo, Procede Group BV and Claes Tullin, Swedish National Testing and Research Institute

For successful implementation of biomass combustion technologies for heat and power production, it is important that the right combinations of biofuels and technologies are selected for application in different scales.

In comparison to many conventional energy technologies, biomass combustion technologies can be characterised by relatively low fuel costs but otherwise higher operating and investment costs. Economies of scale aspects for the investment generally results in relatively simple small scale biomass combustion systems, that use well defined and clean but also more expensive fuels (such as wood pellets), whereas the larger systems can afford to use cheaper fuels which are less well defined and more difficult to burn.

In practice the optimal choice for both the fuel specification and the combustion system depends on a number of issues which may vary from case to case.

This workshop will provide participants with more insight into considerations that determine the selection of fuel specification and the design of the combustion system.

A number of speakers will give introductory talks on relevant subjects such as:

1. Market issues
2. Fuel characterisation and standardisation
3. Fuel preparation
4. Fuel quality and deposit formation/emissions
5. Boiler design

Detailed agenda will be available on www.ieabcc.nl/meetings/task32_Jonkoping/index.html. More information on this workshop can also be obtained from Mr. Jaap Koppejan of IEA Bioenergy Task 32 (E-mail: jaap.koppejan@tno.nl).

15.00 - 20.00 MODERN BIOENERGY BUSINESS IN AFRICA

Session on bioenergy as a development tool. Focus on opportunities and experiences in Africa.

This session explores the links between energy and development and ways through which bioenergy can serve the purpose of boosting development in developing countries. The focus is on opportunities and experiences in Africa. What are the characteristics of the energy sector in Africa today – potentials, challenges and policies – and what are the emerging bioenergy opportunities. Actual needs and possible pathways will be illustrated through successful cases of market development and institutional change.

The session ends with a business corner where companies will be able to present products that are especially attractive to the African market, and discuss business opportunities with African entrepreneurs and potential partners.

PROGRAMME

Chairperson: Semida Silveira, PhD Sustainability Expert, Swedish Energy Agency

Emerging bioenergy opportunities for Africa

Semida Silveira, PhD Sustainability Expert, Swedish Energy Agency

The energy sector in Africa today – potentials, challenges and policies

Njeri Wamukonya, UNEP, Nairobi

Opportunities and challenges for ethanol production and use

Francis D. Yamba, CREEZ, Zambia

Modern bioenergy technologies from a business perspective

Denis Tomlinson, Illovo, South Africa (tbc)

Small-scale bioenergy technologies – The example of ethanol stoves in Ethiopia and Nigeria

Melat Esayas, Gaia Association, Ethiopia and Fiona Lambe, Stokes Consulting Group for Dometic AB, Sweden

How will institutional capacity enhance the sustainable use of bioenergy in Tanzania

Bashiri Mrindoko and Lutengano Mwakahesya, Ministry of Energy and Mines, Tanzania

Opportunities to finance bioenergy projects in Africa

Speaker from Banking Council of South Africa (invited)

BUSINESS CORNER: BUSINESS OPPORTUNITIES IN AFRICA

Short presentations from companies providing bioenergy technology and systems. What is your product for Africa?

Networking and match-making

For an updated program, please visit www.worldbioenergy.se



Biomass residues at the AG Timbers Sawmill in the Kumasi region, Ghana
 Photo: Anders Arvidson, Stockholm Environment Institute (SEI)

09.00 - 18.45 BIOMASS FP6 PROJECT CONTRACTOR'S MEETING

Participants of all BIOMASS projects financed under the 6th EU Research Framework Programme will present the current state of the art of their research and development, highlighting progresses and difficulties for discussion. In final part of the meeting, the floor will be opened to all participants on the European strategic research needs in the field of biomass.

PROGRAMME**Welcome Address**

Wiktor Raldow, European Commission, DG RTD

INTEGRATED & NETWORK OF EXCELLENCE (NOE) PROJECTS

Chairperson: Jerome Schuppers, European Commission, DG RTD

Clean hydrogen-rich synthesis gas (CHRISGAS)

Sune Bengtsson, Växjö University (Sweden) (tbc)

Renewable biofuels for advanced powertrains (RENEW)

Frank Seyfried, VW (Germany) (tbc)

New Improvements for ligno-cellulosic ethanol (NILE)

Frédéric Monot, IFP (France) (tbc)

Non-thermal production of pure hydrogen from biomass (HYVOLUTION)

Pieter Claassen, A&F (The Netherlands) (tbc)

Co-processing of upgraded bio-liquids in standard refinery units (BIOCOUP)

Yrjö Solantausta, VTT (Finland) (tbc)

Network of Excellence (NOE-BIOENERGY)

Kai Sipilä, VTT (Sweden) (tbc)

SPECIFIC TARGETED RESEARCH PROJECT (STRP) & COORDINATION ACTION (CA) PROJECTS

Chairperson: Erich Nägele, European Commission, DG RTD

Biomass fluidised bed gasification with in situ hot gas cleaning (AER-GAS II)

Michael Specht, ZSW (Germany) (tbc)

Advanced biomass gasification for high-efficiency power (BIGPOWER)

Kurkela Esa, VTT (Sweden) (tbc)

Biomass fuel cell utility system (BIOCELLUS)

Karl Jürgen, Munich University (Germany) (tbc)

SOFC fuel cell fuelled by biomass gasification gas (GREEN-FUEL-CELL)

Philippe Girard, CIRAD (France) (tbc)

Ash and aerosol related problems in biomass combustion and cofiring (BIOASH)

Ingwald Obernberger, Graz University (Austria) (tbc)

New burner technologies for low grade biofuels to supply clean energy for processes in biorefineries (BIO-PRO)

Roland Berger, Stuttgart University (Germany) (tbc)

Synergy effects of co-processing of biomass with coal and non-toxic wastes for heat and power generation, (COPOWER) *Ibrahim Gulyurtlu, INETI (Portugal) (tbc)*

Integrated European network for biomass co-firing (NETBIOCOF)

Gerhard Schories, Bremerhaven (Germany) (tbc)

Renewable energy from crops and agrowastes (CROPGEN)

Charles Banks, Southampton University (UK) (tbc)

Global process to improve cynara cardunculus exploitation for energy applications (BIOCARD)

Sacristan Andres Sanchez-Biezma, Tecnatom (Spain) (tbc)

STAKEHOLDER DISCUSSION

Chairperson: Maria Fernandez Gutierrez, European Commission, DG RTD

The floor will be opened for discussion on European strategic research needs.

Closing Address

Philippe Schild, European Commission, DG RTD

14.00 - 18.00 AGROPTI-GAS WORKSHOP - BIOGAS CASE STUDY

Source sorted, biological household waste and energy crops is converted to vehicle fuel and organic fertiliser.

The Agropti-gas project is a research and demonstration project, financed under the 5th EU Research Framework Programme, aiming to demonstrate an optimised production system of biogas from anaerobic digestion of biological waste and agricultural feedstock.

To follow up on the seminar, a study visit at the biogas site in Västerås will be organised 2 June. For further details about the study visit please see page 6 of this programme.

PROGRAMME

Chairperson: Teodorita Al Seadi, Senior Scientist, University of Southern Denmark

EU policies of renewable energy production and global environmental protection - The role of biogas in future Europe
José Riesgo Villanueva, European Commission-DG TREN (tbc)

Global biomass resources for anaerobic digestion
Jens Bo Holm Nielsen, Head of Bioenergy Department, University of Southern Denmark

A strong local, regional and international partnership - Project background and history
Bengt Gustavsson, Chairman of Vafab and Sarah Nilsson, Co-ordinator of AGROPTI-Gas (Sweden)

What's in it for the farmers?
Erik Herland, Federation of Swedish Farmers (Sweden)

The Växtkraft concept: Vehicle fuel and biologic fertiliser from grass and waste. Planning, purchase and implementation.
Per-Erik Persson, Chief Executive, Swedish Växtkraft AB and Carl-Magnus Pettersson, Production Manager, Swedish Växtkraft AB (Sweden)

Technical description and evaluation of the biogas plant
Thorsten Ahrens, Senior Researcher and Prof. Dr. Ing. Peter Wailand, Federal Agricultural Research Centre (Germany)

Is win-win possible? Socio-economic aspects of the project.
Åke Nordberg, Senior Research Manager, Swedish Institute of Agricultural and Environmental Engineering (Sweden)

Lessons learned. What to do and what to avoid - advice to followers.
*Per-Erik Persson, Chief Executive Swedish Växtkraft AB
 Carl-Magnus Pettersson, Production Manager Swedish Växtkraft AB (Sweden)*

Discussions and questions



14.00 - late THE CITY OF VÄRNAMO PRESENTS VÄXJÖ VÄRNAMO BIOMASS GASIFICATION CENTRE AND THE KINGDOM OF FURNITURE

The Växjö Värnamo Biomass Gasification Centre (VVBGC) is a biomass-fuelled pressure integrated gasification combined cycle (IGCC) and CHP pilot plant facility. Dinner will be in connection with a special visit to one of the world famous furniture factories in the region. Here, we will get a picture of how modern Swedish furniture design became another great Swedish export success.

PROGRAMME

Presentation of the project Växjö Värnamo Biomass Gasification Centre in Värnamo and visit to the site

Study visit in family houses with energy efficient and bioenergy solutions

The work of the city Värnamo for long term sustainable energy systems

Special visit to the famous Källemo Furniture Factory

Dinner

(Transfer is included.)

**14.00 - 18.00 BOOSTING BIOENERGY IN EUROPE**

This workshop aims at proposing measures to boost bioenergy in Europe, especially for the heat sector. Private companies have the floor to express their recommendations. The conclusions of the workshop will be disseminated.

Host: European Biomass Association - AEBIOM

Targeted participants: companies and decision makers

PROGRAMME**Boosting Bioenergy in Europe**

Jean-Marc Jossart, European Biomass Association - AEBIOM

Commission, Biomass Action Plan – BioHeat in Europe, Dr. Kyriakos Maniatis, EC and IEA Bioenergy (tbc)**Bioheat from small scale boilers - An important market to boost bioenergy in Europe**

Erwin Stubenschrott, KWB, Austria

What is driving the present very strong development of small and medium scale use of pellets

Åke Andersson, SÅBI AB/Råsjö Torv AB, Sweden

Further requirement for the development of small scale bioheat in Germany

Thomas Siegmund, German Bioenergy Association - BBE, Germany

Producing bioheat and electricity with Indian technology: next opportunity?

Antoine Decitre, Velcan Energy, France

Development of European pellet industry, Tommy Ruba, VAPO OY, Finland**Opinions on present and future steering instruments and measures to promote large scale use of biofuels**

Hans Nordström, Vattenfall AB, Sweden

Bioenergy business in forest and energy industry, Stig Nickull, Ahlholmen Kraft AB, Finland**The floor is given to decision makers and companies to express their opinions and proposals**

For an updated programme, please visit www.worldbioenergy.se

EXHIBITION

Next to the conference hall is the indoor exhibit area with direct access to the outdoor area. Here you will find leading international technology suppliers and service providers to the entire bioenergy sector. From biomass feedstocks and raw materials to biofuel markets will be showcased and, in many cases, vividly demonstrated. Exhibitors include companies and organizations such as:

- Biomass producers (e.g. growing, harvesting, collecting, handling etc)
- Biofuel producers & suppliers (e.g. pellets, ethanol, biogas, biodiesel etc)
- Technology & service providers
- Distribution & transport
- Combustion & handling engineering
- R&D, training & education
- Consultants & agencies
- Industry associations & trade press

For more information about exhibiting, please contact Mr. Alan Sherrard at Elmia (+46 36 15 22 14).

BUSINESS MIXERS, 31 MAY 17.00 - 20.00

The exhibition hall is open "after hours" for conference delegates and other invited VIP's who are interested in exploring business opportunities. An ideal opportunity to meet, mingle and network with the people who can help you transform bioenergy visions into viable business projects.

USEFUL INFORMATION

REGISTRATION

The registration desk is open the following hours:

Mon 29 May: 15.00 - 22.00
Tue 30 May: 08.00 - 17.00
Wed 31 May: 08.00 - 17.00
Thur 1 June: 08.00 - 17.00

Address:

Elmia Conference and Exhibition Centre
Elmiavägen 11, SE- 550 06 Jönköping, Sweden

ACCOMMODATION

Jönköpings Hotellbokning can assist you with your accommodation requirements as well as car rental, restaurants etc. To ensure accommodation during World Bioenergy 2006, please either contact Jönköpings Hotellbokning as soon as possible, or, mark in the registration form that you are interested in accommodation during the conference.

We can offer the following alternatives:

Hotel, 500-800 SEK (SEK/person/night)
Hotel, 800-1200 SEK
Hotel, 1200-2200 SEK
Private housing, from 600 SEK

Contact information:

Phone: +46 36 10 71 71

Fax: +46 36 10 77 68

E-mail: hotellbokning@stk.jonkoping.se

Internet: www.jonkoping.se/hotellbokning

For further details please visit: www.worldbioenergy.se.

TRAVEL

By Pre- and Post Conference Tours organised by Svebio.
More information on page 5 and 6.

Air

Jönköping has several daily flights to and from Stockholm and Copenhagen. The Jönköping airport Axamo is located 13 kilometres from the city centre.

For flight information, please contact Skyways (www.skyways.se) or Scandinavian Airlines (www.sas.se).

Train

You can travel to Jönköping easily by train from Stockholm, Gothenburg, Malmö and Copenhagen. For information about departure times and connections, see the Swedish State Railway, SJ, (www.sj.se) (phone +46 8 696 75 40) or Sweden Booking (phone + 46 498 20 33 80). You can also contact Jönköpings Hotellbokning (phone +46 36 10 71 71).

Bus

For bus information, please contact Svenska buss (www.svenskabuss.se) or Swebus (www.swebusexpress.se).

Car rental

The following companies can assist you with car rental:

- Avis (www.avis.com)
- Europcar (www.europcar.com)
- Hertz (www.hertz.com)

Taxi

Elmia co-operates with Taxi Jönköping (phone +46 36 34 40 00), that has fixed prices for travels between Elmia and hotels in Jönköping. Order your taxi at Elmia's information desk.

Other taxi companies:

- Flygtaxi (+46 40 50 06 00)
- Taxikurir (+46 36 31 31 31)
- Taxi 020 (+46 36 30 27 27)

LANGUAGE

English is the official language of the conference.

Simultaneous translation may be available on request. Please contact Svebio for further information (+46 8 441 70 80).

CLIMATE

Early June daytime temperatures range 15-20° C (60-70° F), usually sunny and dry.



CONFERENCE FEES

The conference fee includes access to the conference World Bioenergy 2006, the integrated daily field excursions, conference documentation, and entrance to the World Bioenergy and Elmia Waste & Recycling 2006 exhibitions. A light lunch, coffee/tea during morning and afternoon breaks and "Ice breaker" on 29 May are also included.

All Pre- and Post Conference Tours, conference dinner, and side events are additional. This fee includes all activities, meals and travel costs specified. Kindly note that these activities are tentative, and subject to change.

A 10 % discount on the conference fee is available for registrations received on, or before, 15 March 2006. For delegate groups (10 delegates or more), a group discount on the conference fee is available. Please contact Ms Anna Åkerblom at Svebio for further information.

A 30 % discount on the conference fee is available for World Bioenergy exhibitors.

A 50 % student discount on the conference fee is available for third-level students currently enrolled in a relevant field of study. A valid student card or letter from a university department or similar will be required as proof.

Discounts can not be combined.

Please note that for Swedish participants an additional 25 % VAT will be charged.

PAYMENT, CONFIRMATION & CANCELLATION

Registration is not considered final until full payment has been received. Confirmation of registration will be sent once full payment has been received.

For cancellations prior to 30 April 2006, 50 % of the conference fee will be refunded.

For cancellations thereafter no refund can be made. Refunds will be expedited after the conference has been held. It is possible to change the name of the delegate.



SPONSORSHIP INFORMATION

For further information about World Bioenergy 2006 sponsorship, please contact:

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Karin Haara, Svebio
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E-mail: karin.haara@svebio.se

PROGRAMME UPDATES

Please note that the programme is subject to change. Latest news about World Bioenergy 2006 and an updated programme can be found on www.worldbioenergy.se.



Foto: Lantmännen

REGISTRATION FORM WORLD BIOENERGY 2006

30 May - 1 June 2006, Elmia Conference Centre, Jönköping, Sweden

Please complete this form in BLOCK LETTERS and return to Svebio by faxing to + 46 8 441 70 89 or e-mailing to worldbioenergy@svebio.se.
You can also register on the Internet at www.worldbioenergy.se.
One form per participant.

Surname First name Mr/Mrs/Ms/Prof/Dr

Name of company/organisation/institute

Address

Postal address

Country

Phone E-mail

ALL INCLUDED (Please mark your participation below) **7300 SEK**

CONFERENCE PARTICIPATION

30 May (1300 SEK) 31 May (1300 SEK) 1 June (1300 SEK) SEK

PRE CONFERENCE TOURS ARLANDA-JÖNKÖPING, MON 29 MAY (1000 SEK)

(1A) 09.00-19.00 (1B) 10.00-18.00 (2A) 08.30-19.00 (2B) 09.30-19.00 (3) 09.00-19.00 SEK

POST CONFERENCE TOURS JÖNKÖPING-ARLANDA, FRI 2 JUNE (1000 SEK)

(4) 08.00-16.00 (5) 08.00-17.00 (6) 08.00-18.00 SEK

ICEBREAKER 29 MAY (INCLUDED)

CONFERENCE DINNER 30 MAY (550 SEK) SEK

PELLETS 2006 CONFERENCE 30 MAY - 1 JUNE (950 SEK) (Allows participation in both conferences) SEK

DAILY FIELD EXCURSIONS (Please choose ONE excursion/day. Included in the conference fee.)

TUE 30 MAY, 15.00-18.00

- Forest energy (A)
- Heat and power (B)
- Biogas (D)
- Small & medium scale pellet use (E)
- Large-scale pellet production (G)

WED 31 MAY, 15.00-18.00 (*15.00 - 19.00)

- Forest energy (A)
- Heat and power (B)
- Hurricane Gudrun aftermath (C)*
- Biogas (D)
- Small & medium scale pellet use (E)
- Small-scale pellet production (F)*
- Large-scale pellet production (G)

THU 1 JUNE, 15.00-18.00 (*15.00 - 19.00)

- Forest energy (A)
- Heat and power (B)
- Hurricane Gudrun aftermath (C)*
- Biogas (D)
- Small & medium scale pellet use (E)
- Small-scale pellet production (F)*
- Large-scale pellet production (G)

SIDE EVENTS, MON 29 MAY (Please choose ONE event/day.)

- How to get biomass energy profitable for heat, power and transport (550 SEK) SEK
- Golf tournament at Isaberg golf course (950 SEK, including green fee) SEK

SIDE EVENTS, TUE 30 MAY (550 SEK) (Please choose ONE event/day.)

- The sustainable city - A Swedish partnership initiative SEK
- European biomass research - Industrial perspective SEK

SIDE EVENTS, WED 31 MAY (550 SEK) (Please choose ONE event/day.)

- Fossil fuel free Växjö and the kingdom of crystal
- Systems thinking and change processes towards sustainable transports - The Swedish case
- IRC technology transfer day brokerage event
- Fuel flexibility in biomass combustion - The key to low bio-energy costs?
- Modern bioenergy business in Africa
- Biomass FP6 project contractor's meeting SEK

SIDE EVENTS, THU 1 JUNE (550 SEK) (Please choose ONE event/day.)

- Agropti-gas workshop - Biogas case study
- The city of Värnamo presents Växjö Värnamo biomass gasification centre and the kingdom of furniture
- Boosting bioenergy in Europe SEK

TOTAL COST: SEK
(1 EURO = 9,30 SEK)

PLEASE CONTACT ME FOR INFORMATION ABOUT ACCOMODATION (More information on p. 22)

STUDENT (More information on p. 23)

PAYMENT

- Please send invoice to the address above
- Please visit www.worldbioenergy.se for on-line payment

Date Signature



WORLD BIOENERGY 2006
Conference & Exhibition on Biomass for Energy

PATRON OF WORLD BIOENERGY

His Majesty King Carl XVI Gustaf of Sweden

ORGANISERS

Swedish Bioenergy Association, Svebio, and Elmia AB

CONFERENCE CHAIRPERSON

Dr. Tomas Kåberger, Chairperson of the Swedish Bioenergy Association, Sweden

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Mrs. Karin Haara, Svebio, Sweden

SUPPORTED BY:



Pre- and Post Conference Tours as well as Field Excursions are made possible because of great hospitality by all visited companies and sites. These companies will be presented in the documentation for the Pre- and Post Conference Tours and Field excursions.

Sponsors of World Bioenergy 2006

Platinum - Main sponsor

Tall Oil

We drive the global use of renewable bioenergy

Gold

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Silver



SVEBIO

The Swedish Bioenergy Association (SVEBIO) has over 300 member companies, many with long experience in the bioenergy field. Member companies are engaged in all sectors: biomass production (collecting, harvesting, handling), transportation and trade, refining (chipping, pelleting, liquid and gas production), utilisation (electricity, heat and vehicle fuel production), production of biomass equipment (chippers, furnaces, ovens etc), consulting and research. SVEBIO organises conferences and seminars on bioenergy, publishes magazines, newsletters and information materials. SVEBIO's main target is however to convince the decision makers about the necessity of an increased utilisation of bioenergy in order to reach a sustainable energy system. Therefore SVEBIO is an important player in the Swedish public debate on energy issues.

SVEBIO, Torsgatan 12, SE-111 23 Stockholm, Sweden, Tel +46 8 441 70 80 Fax +46 8 441 70 89, e-mail: worldbioenergy@svebio.se, www.worldbioenergy.se

Elmia

Elmia AB is Sweden's third largest exhibition organiser, producing some 12-15 professional fairs annually in a number of different business areas: Industry, Transport, Forestry and Timber and Agriculture and Environment. Many of these fairs are among the leaders in Europe and the rest of the world, such as Elmia Subcontractor and Elmia Wood. Elmia has four exhibition halls with a covered area of around 34,000 m² and a further 300,000 m² outdoor area. An ultra-modern congress and concert hall has made Elmia one of Sweden's biggest conference and cultural centres.

Elmia AB, Box 6066, SE-550 06 Jönköping, Sweden, Tel +46 36 15 20 00 Fax +46 36 16 46 92, e-mail: worldbioenergy@elmia.se, www.worldbioenergy.se