THE BIOENERGY international
Local news spread world wide

Above You can see the Info - Navigator that is used in the internet version of the Bioenergy International.
Articles there are distributed in two ways. Either through the Editorial where all articles are produced or judged by an editor or through the Connection section, where professional can publish information concerning bioenergy. It is also possible to publish information in many major languages.
Welcome to participate in the Bioenergy International

Alholmen the Worlds largest CHP Biopower plant

In the western part of Finland in Jakobstad is the worlds largest combined heat and power plant located. It is an international project with shareholders from Finland, Sweden and France.

More than 4 million cubic meter of wood and peat fuel are used each year and the products are electricity to the shareholders, heat to the city of Jakobstad and steam to the nearby forestry industry, read more *page.....2 - 7*

Alholmen Kraft, the worlds largest combined bio-power Unit, with a maximum power output of 240 MW electricity is now running on its first commercial year and working fine. The plan is to build two more of the same size, one in Finland and one in Canada according to UPI Kymmene the major owner.

Pellets production in Latvia

In the earlier issues of the Bioenergy International we have presented the pellets-plants of Luleå and Härnösand. This time we have visited the small city of Talsi in Latvia, (Litauen). The plant has now got a third pellets press installed. Altogether production capacity now is 60 000 tonnes of pellets.
page.....8

Michail Gorbaschow honoured the winners of the Energy Globe Award 2002 competition in Linz/Wels Austria. The gala, conference and the exhibition are presented on the pages .....14 - 15

Bernard Chapon has produced pellets for 20 years in France page 13

Welcome to the third issue of the Bioenergy International. The magazine has now grown from 16 to 20 pages. The number of printed pages depends on the number of advertisers. Each issue has to take care of its costs. Bioenergy International is a commercial product and also aimed to cover the growing commercial market of bioenergy all over the world but with a prime focus on Europe.

Now it is also possible to subscribe, just send us an e-mail to info@novator.se. We are also very interested to know about your views and suggestions for the future work. And at last remember to visit www.bioenergyinternational.com. There you can also publish your info directly to the readers.

Lennart Ljungblom
Editor and publisher

Alholmen 240 MWe

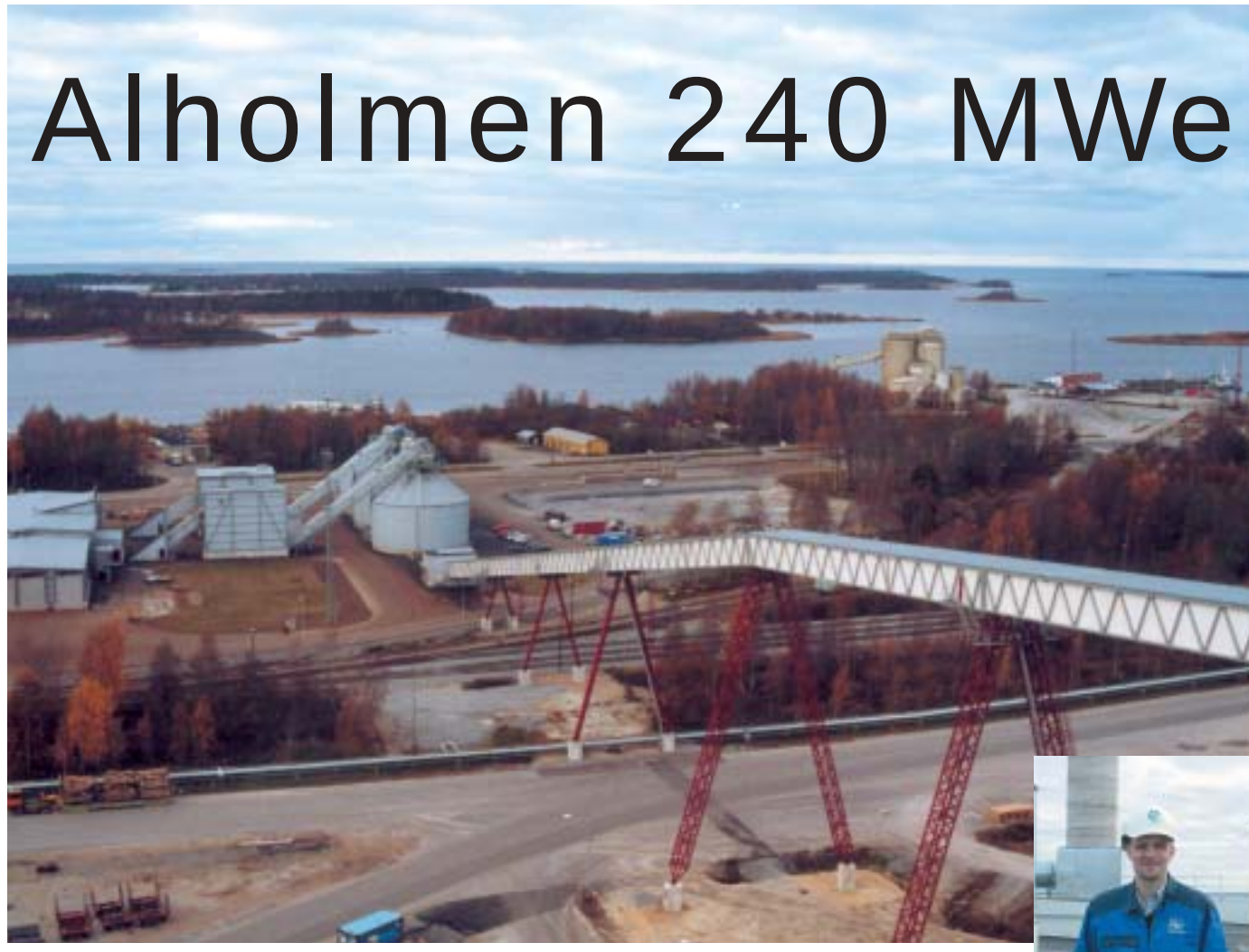
Jakobstad in the western part of Finland is the proud location of the worlds largest combined unit for bio-power, heat and steam.

It is also the place for the first large scale use of the new bundling system for forestry residues. The goal is to produce energy to a lower cost than coalpower.

The plant is placed on the premises of the major owner, UPI Kymmene, one of the worlds largest forestry companies. The power plant has a fuel capacity of 590 MW based on wood residue, bark and peat. The need of fuel on a yearly basis is 3.5 TWh around 4 million cubik meter of bio-fuel.

At a maximum it can produce 240 MW of electricity. Normally the products is a mixture of district heat, steam for the forest industry and electricity to the owners, some Finnish and Swedish power companies.

The project is a true international one with the main owners coming from Finland but 45 percent of the shares are owned by Swedish companies and one of those is a daughter company of the French National Power company EDF. The Alholmen project has also become the breakthrough of the new bundling wood residue system from Timberjack.



View from the top of the boiler house. To the left a truck with timber is driving, compare the size!

Marko Nylund

International project

The company is named Oy Alholmen Kraft AB because of its location on Alholmen just outside the city of Jakobstad in the western part of Finland.

The main owner is Pohjolan Voima Oy, the second largest power company in Finland, a company dominated by the Finnish forestry industry UPI Kymmene.

There is also an international engagement through 20% Skellefteå Kraft (Swedish), 20% Graningeverken (Swedish/French) and 5 % Vattenfall (Swedish) through a local Finnish company.

The production of electricity is primarily directed to the owners in amounts of their shares.

Capacity

The steam boiler has a fuel capacity of 590 MW which can result in the output of 240 MW electricity when it is operated in full condensing mode.

Normally, the unit will also produce 60 MW district heating for the city of Jakobstad and 100 MW of process steam for the nearby paper industry.

Fast work

February the 12 th 1999 was the date for the investment decision. It took only three years to have the plant in commercial operation which begun in December 2001.

– In May 1999 we started our test of the two km long cooling tunnel, says Marko Nylund.

In January 2000 the fundament for the boiler was ready and in September the turbine and in May 2001 the test operation. started

– We think that the project has run very smoothly, says Marko Nylund, production manager.

Main consultant for the project has been Electrowatt Ekono Oy. Their main work was done during the period of 1996 to 1999.

The demands was

- low costs
- the existing bark-boiler should be replaced
- high availability
- high fuel flexibility
- transparent pricing system
- good for the environment
- based on biomass

The plant

With the purpose to secure a high level of fuel flexibility a circulating fluidised bed was chosen. It is delivered by Kvaerner Pulping OY. It is possible to use a very flexible mixture of peat, wood and bark (and even coal) in the boiler. The normal mixture is 50 percent bark/wood and 50 percent peat.

The fuel

Of course the consumption of fuel in a plant of this size is huge. In energy content the need is 3.5 TWh (350 000 cubic meters of oil) each year, it is around 4 000 000 cubic meters of wood chips.

In this part of Finland the earlier use of wood fuels has not been so large, but now, at the same time another combined heat and power plant is started in the nearby city of Karleby.

This is one reason for the quite large use of peat.

In Finland there is

continued on page 5

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Wood residue-logs saves fuel costs for Alholmen powerplant

We have driven out to a small forest road some 30 km outside Jakobstad. Here has UPI Kymmene a clear cutting area for the production of around 1 500 solid cubik meters of industrial wood.

The forest is 120 years old and is dominated by spruce.

Branches, small trees and tops are collected as bundles with the new bundler Fiberpac from Timberjack. Each bundle has an energy content of around 1 MWh (100 litres of oil) and can be handled the same way as ordinary timber log.

– Forestry fuel is new for UPI Kymmene says Sixten Sunabacka, responsible for the wood fuel produced.

This was a major reason that made it possible for us to start up in full scale with this new bundling system. In Sweden for example other systems dominates.

This could also be the reason for that this Swedish invention Fiberpack, the bundling machine was sold to Timberjack and not further commercialized in Sweden.

– We have so far invested in four machines from Timberjack, says Sixten Sunabacka and explains further

- The bundler acts like a young hungry bird, it opens it mouth and the operator (bird parent) feeds it with forestry resides (maggots), then the machinery closes its mouth and the material is compressed during the passage through the machine. Then the mouth opens again for more food. If there was not a chain saw on the other side of the machine an endless log, kept together with strings of sisal hemp should have been produced.

– This is a nice sound for a forestry energy producer, says Sixten Sunabacka

– Every time you here the sharp short sound of the motor saw and a second after a bump when the produced bundle hits the ground, then You know that another MWh of fuel is produced. (The heating value varies between 0.9 MWh and 1.2 MWh)

– It is very important to have skilled and motivated operators, says Sixten Sunabacka.

– We do also have a salary system based on production result and not based on hour worked. This has also increased the production results.

Finally, very important for the total fuel cost is the method used for the crusching of the bales.

– We have now decided to build a large central placed cruscher at the plant instead of the smaller mobile systems we have today

– This will help us to reach the goal of a fuel cost competitive with coal, summarises Sixten Sunabacka.

Lennart Ljungblom

The electrical generation system, turbines and generator are delivered by Russian LMZ with Siemens responsible for the high pressure turbine.

The generator is delivered by Austrian Elin.

The Fluidiced bed

The circulating fluidized bed from Kvaerner is designed to generate 194 kg/s steam at 165 bar (a) , 545 °C and reheated steam at 37 bar (a) at 545 °C.

Environmental control

Maximum, in a yearly medium calculation, 50 mg/MJ fuel is the limit for NOx (nitro oxides). This is achieved by an ammoniumsystem. The corresponding maximum level for SOx (Sulphor oxides) are 100 mg/MJ fuel. The way to secure that is to mix in some amounts of lime.

Dust control is achieved by an electrofilter from ABB.

Ashes

The deposit of the ashes are costly. They are now working to find out better ways to take care of them.

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cont. from page 2

huge resources of peat and the amount increases each year. So peat can also be used for a long time within the borders of sustainability.

But the priority is first to use the local fuel from the nearby forest industry (bark) and as the second fuel is wood residue from the surrounding forests.

The suppliers of peat are the company Turve Bottnia a joint company of some private peat producers in the area and the state owned company Vapo.

The Alholmen power company has also some peat bogs in production.

The wood fuel is mainly delivered by UPI Kymmenes forest division. Some minor parts are also delivered by the local forest owners associations through their fuel company Biowatti.

Transports

The fuel suppliers are also responsible for the transports into the plant. Deliveries are made seven days a week.

Each day has a need for 15 000 cubic meters of fuel. This is delivered by up to 100 trucks. Most of the transports are shorter than 100 km. Maximum distance is 200 km.

Because of the many transporting vehicles you can say that a major part of the storage actually is on the lorries.

At arrival to the plant the fuel is delivered to an unmanned recieving station.

Payment

The payments is calculated according to the heating value of the delivered fuel.

To make that possible there is an automatic system to take samples from each delivery. The samples are then analysed and the payment is based on those results. The driver just have to put in a magnetic card to identify who is the delivering company.

Fuel handling

After sample collection the fuel is transported to a sieve and cruching station and are then stored in three fuel silos with a volume each of 3 500 m^3.

The total supply of ready made fuel in the plant is in other words not even covering a days need.

The fuel size when fed into the boiler is 50 mm and between 600 and 1000 cubic meters are burned each hour.

Inside the plant

The most technology in the plant is conventional.

The new thing is the scale. Everything is so large. There are three fuel input systems, but they are dimensioned so that the whole input can be taken care of by one of the transpor conveyors.

One of the fuel feeding lines is as long as 400 meters. Peat is delivered with one conveyor and the wood fuel with another. They are mixed and fed into the fluidized bed.

The outside fuel supply system is delivered by Roxon.

Lennart Ljungblom
text and photos

The project is aimed to and will also produce electricity to a cost level beneath coal condense, says Stig Nickull, CO for the power company. OY Alholmen Kraft AB.

Krister Backlund UPM Kymmene, Stig Nickull Alholmen Kraft and Sixten Sunabacka UPM Kymmene is studing the second issue of the Bioenergy International.

Control room

With eight large screens the whole plant can be managed. The screens can also be divided into 20 different views.

In total there is 11 000 input/outputs in the system.

There is also a video control over different parts of the plant, mainly regarding the fuel supply system.

Everything is large at the plant. The big screw to the right is not the feeder to the plant it is just the automatic sample collector.

In total there is 24 people working with the operation of the plant. They are divided into 6 working shift with four persons in each. One is manager, one is stationed in the controll room and two employes are working inside the plant.

Then there is of course people in the office. In total there are 50 persons altogether office and operation.

An important part of the project is the new boundling system that is for the first time tested in such a large scale.

The Alholmen Kraft AB has lately added a very large central placed crucher to the project with the purpoce to increase capacity and to decrease cost.

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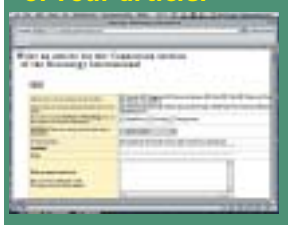
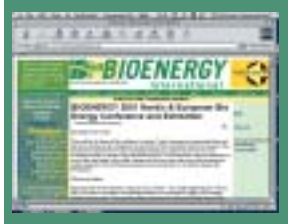


4) Write or paste in Your article. In the Editorial section it is also possible to include illustra-tions.
5) Press the save button. Then You will see the layout of Your article and be able to edit it before publication.



Bioenergy news

European Biomass Days of the Regions 2002

The "European Biomass Days of the Regions 2002" take place from the 29th September to the 6th Oktober, 2002.

During these week companies, institutions, and projects which use biomass as a source of energy or as a raw material or which deal with possible applications are requested to organise an Open Day in many places in a decentralised way.

It is the aim of the "European Biomass Days of the Regions" to inform the general public about the significance and the possibilities of the use of renewable raw materials today and for the future

In Germany twelve institutions take care of the organisation, one in (almost) each Federal Land.

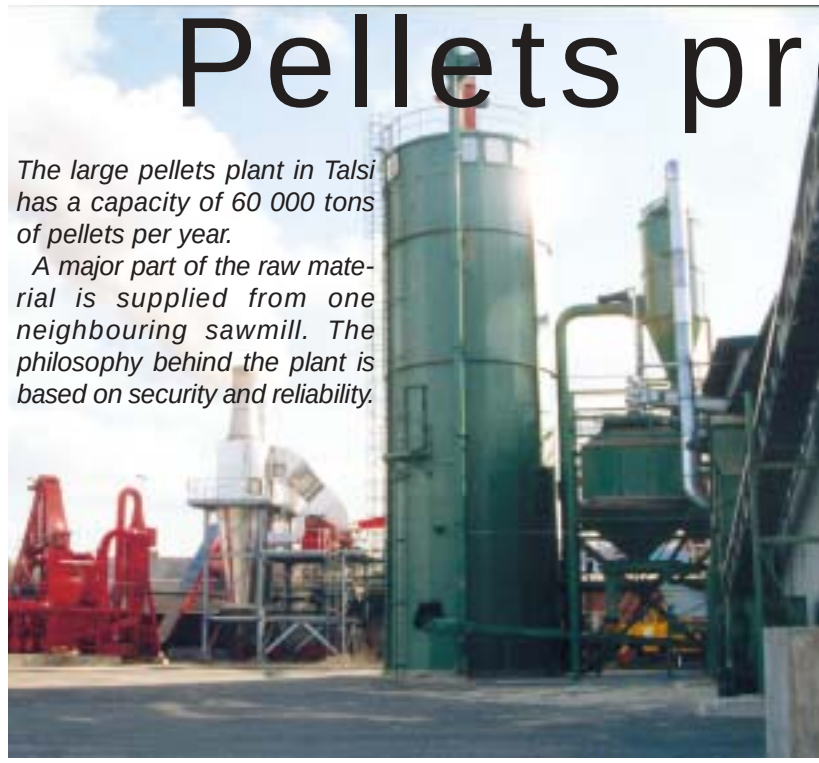
C.A.R.M.E.N. e.V. (the Bavarian Coordinating Office for Renewable Raw Materials) is in charge of the overall co-ordination.

Further information in the internet: www.biomassdays.org, for questions or ideas please turn to C.A.R.M.E.N. e.V., Karl Hanglberger, e-Mail: kh@carmen-ev.de.

Recovery boiler rebuild

Södra Cell's Mörrum pulp mill in Sweden has ordered a recovery boiler rebuild from Kvaerner Pulp & Paper.

Pellets production in Latvia



The large pellets plant in Talsi has a capacity of 60 000 tons of pellets per year.

A major part of the raw material is supplied from one neighbouring sawmill. The philosophy behind the plant is based on security and reliability.

The pellet production plant in Talsi, Latvia has a capacity to produce 60 000 tons pellets per year. The plant is owned and operated by the largest swedish pelletsproducer SBE Svensk Brikett energi also runs 5 other plants in Sweden

Three pelletpresses are installed. They produce pellets 24 hours a day 7 days a week. Manufacturer was Danish Sprout Matador.

The plant is located close to Talsi with 100 km to Riga in the east and 20 km to the Baltic Sea coast in the west. It was built three years ago 1999. Today the plant is running 24 hours a day 7 days a week.

The supply of raw material is secured from one sawmill next door and from a number of sawmills within a radius of 100 km. A system with a truck and 20 containers is used to feed the plant with raw material. Lately the competition for the rawmaterial has increased - meaning higher costs for the plant.

Technology

The major contractor of the pellet system to the plant is Sprout Matador. The dryer comes from German manufacturer Büttner. The fire protection system is supplied by Grecon, Vecoplan has delivered the handling system and the kiln producing heat for the dryer is from Enplant.

The major part of the kiln is manufactured in Latvia.

The staff

In total 18 persons are working at the plant. The production runs in three shifts.

One person is responsible for the raw material and one for the pellets production. There is one electrician and one mechanic. In the office there are two persons, one respon-sible for the economics an one is technical manager and one assistant technical manager.

Fast commissioning

The commission phase took only twelve months, which is to be considered very fast. This includes installation of basic infrastructure such as preparing the ground, supply of electricity and water etc. The application process with authorities has worked well.

Production process

Shavings and bark is received from sawmills on a asphalt surfaced area.

Some of the bark and shavings are used as fuel in the dryer. The feeding of the fuel system as well as the raw material supply is handled with a front loader..

Only pure wood shavings is used. The raw material is chipped in a first step. Before that a sifter is used to separate the large particles.

The next step is the dryer with a capacity of 10 tons of water per hour. The drying is managed with flue gases from the 9 MW kiln from Enplant equipped with a stair grate.

Christer Mared managing director SBE Latvia Ltd is checking the quality of the product.

The particle emissions are below 50 mg. The plant is permitted to emit up to 350 mg. The separation of particles is made with cyclones. After the dryer the material is moved on to a dry silo. The next step is the milling, then compressors, cooler, scale and storage, before shipping to the customers.

Local market is developing

Three years ago the local use was very low. The markets is however now moving forward and several manufacturers of pellet burners are active in the Baltic states now, concludes Christer Mared, CO of the pellets plant in Talsi.

Lennart Ljungblom
Anders Haaker

Pellet boilers from Austria

In Austria small scale is beautiful. There are around ten producers of pellets, the largest has a production potential for about 70 000 tons per year and most of the others are around 10 000 tons a year and the main part of the production is sold to private houses.

Today almost 30 companies manufactures burning equipment for pellets in Austria. The most common model is the integrated pellets boiler with burner and boiler and a small storage bin in one unit.

The technology is often high tec. Modern lambdasond technology are for example common in the devices, but prises are high. A complete unit costs between 8 000 Euro to 15 000 Euro. However the customer gets a grant for about 2 000 Euro from the state if he buys equipment that has been approved by the official test system.

Beneath we give You two examples. More information is available on our web- site www.bioenergyinternational.com where you also can find links to different bioenergy companies around the world.

Pellematic

The company Ökofen claims to be one of the first and leading developer of pellets heating. They also got the innovation prize for year 2000 and the energy Globe award 2001 for their product Pellematic.

Pelletherm

Pelletherm is manufactured by Fröling in Grieskirchen.

It is an example of a modern integrated pellets boiler produced in two sizes 15 kW and 25 kW and equiped with Lambda regulation heating.

The boiler is also possible to fire with wood.

12 th European Conference and Exhibition on Bio-mass for Energy, Industry and climate protection

*will be arranged **17-21 June 2002** in Amsterdam RAI International Congress Centre and is arranged by ETA Florence and WIP in Munich.*

The great success of the 11 th European Biomass Conference 2000 in Seville which brought together 1260 delegates from 61 countries and more than 150 exhibiting companies and organisations, underlined the importance of biomass as an energy source, as a raw material and for stabilising the climate.

The Kyoto obligations and the EU White Paper objectives to double the share of renewable energy sources in the Union's energy production from today's 6% to 12% in 2010. Biomass appears as the most promising renewable energy source to fulfil this plan.

This 12th European Conference and Technology Exhibition is will be chaired by Dr. Wolfgang Palz.

Several workshops on current topics will also take place during the conference.

Further information: www.etaflorence.it

Bioenergy news

GEA Evaporation Technologies receives 11 MEUR from Energi E2

Swedish company GEA Evaporation Technologies AB in Gothenburg has re–cieved an order for a complete Exergy dry–ing system from Danish Energi E2 A/S.

180 000 tonnes

The drying system is a part of a new enormous wood pellet mill that will be erected at Junckers Industrier A/S in Koege.

The plant will produce 180 000 ton pellets per year, mainly utilizing the wood residues from the flooring production.

The supply includes the complete pretreatment line with handling, transport, milling, screening and drying of the wood chips, before the pellets presses.

The order value exceeds 11 MEUR, which is the largest ever received by the company.

The produced pellets will mainly be used in the second block of Energi E2:s Avedoere combined Heat and Power plant.

The pellet pro–duction plant will start up during the spring of 2003.

The Exergy Dryer is Dryer is a closed loop system for drying and heat treatment of solids in steam atmosphere at elevated pressure and temperature. A similar system was supplied to Skellefteå Kraft, in Sweden in 1998.

Bioenergy News

First biomass conference in Ukraine

During five days in September, 23-27, 2002 the first international Ukranian conference on biomass for energy will be arranged in Kiev in Ukraine.

The conference programme will include plenary reports describing state-of-the-art of bioenergy technologies and prospects of their development and also oral and poster presentation on specific research, development, demonstration and commercial projects.

Technical tours and cultural pro–gramme will also be arranged. The event is organised by National acadamy of Science of Ukraine, Institute of Engineering Centre "Bio–mass" and is suppor–ted the European Commission.

For more information www.biomass.–kiev.ua

Pilot plant produce liquid biofuel

Fortum, Vapo and VTT has developed the technology used in a new plant in Porvoo, Finland. The plant will use forestry residues and sawdust, wich is converted into liquid fuel to be used as heating oil.

The capacity is two bulk cubik meters of wood chips or sawdust per hour, producing 300 liters of liquified wood fuel, branded Forestera.

EC BREC (RES-OPET Poland) and Swedish Energy Agency (OPET Sweden) are working together to promote EU experience and know-how with biomass CHP. A seminar a study tour and following e. g. POLEKO International Trade Fair, have shown that, especially in northern Poland, there are a serious interest for CHP.

For more information about the market for biomass CHP technologies in Poland please contact EC BREC offices in Warsaw or Gdansk (www.ibmer.waw.pl/ecbrec)
Tel/fax +48 22 6466850, +48 22 6466854, +48 58 301 66 36

Growing interest for combined heat and power from biomass in Poland

Currently, in countries to join European Union within the next 3 years, such as Poland, close atten–tion is paid to the evolution of the European renewable energy policies.

Rich of biomass

Recent EU-funded analyses and national studies have shown that Poland is quite rich of biomass resources and very little is so far utilized for energy.

At the same time, district heating systems typically burning coal are common in Poland supplying centralized heat to more than 50% of the Polish population.

Big chance

The big chance for the improvement of security of energy supply and the creation of new non-food-related jobs in the rural areas has been recognized by the Council of Ministers of Poland.

They have adopted a national strategy. It sets a longer term targets to increase the share of RES in the primary energy balance of Poland from 2.5% in 1999 to 7.5% in 2010 and 14% in 2020.

1,200 MW

Utilization of biomass is to be the main contributor to the achieving of the Polish national RES targets.

In order to reach the targets cumulative capacity (electricity + heat) at biomass CHP plants in Poland should increase in the year 2000 - 2010 by at least additional 1200 MW.

And yet, up till now biomass CHP (mainly combustion of bark) is common only in pulp and paper industry. The first municipal biomass CHP plants in Poland are still to come.

RES-e quatas

Current policy framework favours uptake of electricity from RES. The regulation of the Minister of Economy imposed obligatory minimum quotas for RES-e on utilities and obliged them to take any electricity produced in combined heat and power where cumul–ative efficiency of the process is more than 65%. The minimum quotas is during 2002 at 2.5 % rising up to 7.5 %in 2010. At presents, works are underway to prepare additional instrument of green certificates to boost RES-e market in Poland.

To be boosted

However, if the national RES targets for Poland by 2010 are to be achieved and the biomass CHP sector is to be boosted, first full scale pilot municipal installations are needed to come in the next few years.

Kzryzstof Gierulski, EC-BREC

Technical potential of renewable energy sources in Poland, Denmark and Sweden.

Source of energy	POLAND [PJ/year] 1)	DENMARK [PJ/year] 2)	SWEDEN [PJ/year] 2)
Biomass	895	216	638
Hydro	43	0.3	266
Geothermal energy	200	100	0
Wind	36	97	209
Solar energy	1340	84	194
Total	2514	498.3	1307

1) EC BREC' 'Economic and Legal Aspects of Utilisation..., 2000
2) Dansk Energi Management, 1999

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Ecotec pellets burner

Inside and outside pellet storage installations from Mafa.

Some of the pellets installations in the city of Kristianstad in the south of Sweden.

Installation in Wittskövle school.

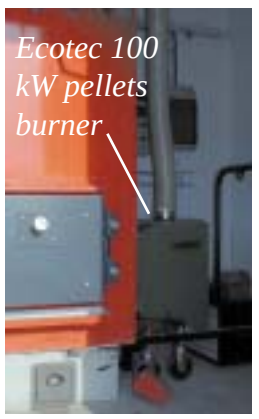

Hotab pellets burner

250 kW pellets burner in Degerberga school

the city of

Kristianstad

43 bioboilers in public buildings


Ecotec 100 kW pellets burner

The municipality of Kristianstad is a Swedish example of a community that has made a real effort to replace oil with pellets for heating public buildings. Kristianstad has also issued a policy document for environment and energy with the ambition to reach the goal of no fossil fuels. This work has been a success and the municipality has been awarded an EU prize for the best provincial community energy policy and also a honourable mention in the national competition for best ecological community.

Kristianstad has converted 43 boilers in public buildings outside the district heating system from oil to pellets firing.

The plants are in the range of 50 - 350 kW.

About 1 000 m^3 of oil have been replaced with 2 100 ton pellets, meaning a reduction of carbon dioxide emissions of almost 3 000 tons per year.

No consultants

The installations were done without assistance from consul–tants. The community took advantage of the knowledge within its own ranks, a successively developed experience.

At an early stage it was discussed to entrust private companies with the operation of the plant.

The municipality, however, chose to train its own staff to operate the plants.

– An important factor has been the enthusiasm of our energy engineers Claes–Uno Widerfors and the staff of the Works Department, says Staffan Branting, the community project manager.

Important has also ben the political unanimity and the good effect on the community finances.

Use an architect

Bulk vehicles deliver the pellets. For some plants it has been difficult to obtain building permits for silos. Today we always use architects to design the silos properly. Another wisdom is that silos doesn't have to be situated next to the boiler room. At an Åhus plant the pellets are stored as far as 40 meters from the boiler house. The fuel is fed to the boiler with a screw.

– We have not had any problems with local opinion, says Staffan Branting.

It is however important to adapt transports to the specific situations. For example, deliveries to schools are not done during school hours.

–Pellets for school heating also sets a good example for the promotion of conversion among private house owners, says Staffan Branting.

Ash handling

The amount of ash from the plants is rather small (10 - 15 ton/year) but must of course be handled.

An employee visits the plants according to a timetable to vacuum clean the ashes.

By his visits local operators also get an indication on the present condition of the plant.

– This is a good routine and a very modest cost com–pared to stationary ash removal systems in every plant, says Staffan Branting.

The vacuum cleaner with trailer costs 7 000-8 000 Euro and is transported by a car using biogas as fuel.

The future and conclusions

– The community will now move on to a project for remote supervision of the plants, says Staffan Branting and concludes

– We consider this project a success and others should not hesitate to start similar projects.

Fredrik Lagergren, Swedish Bioenergy Association

Bioenergy News

Norway

2001 was an important year for Norweigan bio–energy development. Some large district heating operations started using bio–energy under 2001, e.g. Viken, Trondheim, Kristiansand and Drammen.

Also the large oil companies Statoil, Shell and Hydro Texaco has launched their own bioenergy solutions.

– For 2002 there is a problem with falling prices for electricity and oil, says Erik Nielsen chairman of the Norweigan bio-energy association Nobio.

Also the small scale use of wood is im–portant. Aproxima–tly 25 percent of the Norweigan small houses has wood as major heat source.

The Norweigen Bioenergy Association now has 80 company members and 190 private members. CO is Silje Schei Tveitdal.

More information on www.nobio.no.

New waste boiler in Italy

Ecoenergia S.R.L., a part of the Italian Sistema Eco-deco Grooup has ordered a power boiler using BFB technology for their Corteolone new energy from waste plant in northern Italy. A waste drying system from ITS and combustion technology from Kvaerner will be used. The capacity is 30 MWth and 60,000 tons of waste per year.

Bioenergy News Portugal

Wood chip boilers

Arealima - Lima Valley Regional Energy and Environment Agency in Portugal are studying a few projects regarding the possibility of using recovered wood

Arealima would like to receive, technical information and prices for wood chip boilers and the automatic feeding system for wood fuel.

The thermal demands for heating the relevant houses is between 7.5 to 15 kW (thermal).

Contact person is Mr José Miguel Oliveira at arealima–@valima.pt

Estonia

Outstanding performance awarded

During the ENEREX 2002 fair in March in Tallin the winners of a national contest was announced. The company TERTS Ltd was awarded for best user and producer of biomass. Mr Indrek Tiideman received the price. TRETS is working with biogas network and biogas fueled CHP. ENER Ltd was awarded for best renewable energy project for a biomass fuelled plant. Mr Rein Veski was awarded for best bioenergy promoter in Estonia for numerous articles, presentation and recommendations to policy makers. The contest is initiated and organised by Estonian Biofuels Association, EBA.

Benet creates the framework for co-operation

Kirsi Knuuttila

In 1990's there was a boom in bioenergy development in Finland. The discussion of constituting a bioenergy institute woke up. A survey, how to activate existing bioenergy resources and know-how more efficiently indicated, that existing organisations already had the resources. It was considered impractical to build up a new institute. Therefore the BENET Bioenergy Network was established in June 1997.

The consortium agreement was signed by ten organisation operating actively in the field of bioenergy.

However, it is typical for network co-operations, after the first enthusiasm, the co-operation intensity become more rare.

Therefore the establishers of BENET defined three principles to maintain the continuity of the network.

1. Definition

The first BENET principle was to define the character of BENET operation. Only the actions, that gain genuine additional value of BENET co-operation, would be accepted as network projects.

2. Jointly specializing

The second BENET principle is to maintain the network as flexible as possible.

Therefore the consortium has a minimum of administration. Besides, each BENET project has unique resources from BENET organisations.

Every member has their own field of activity and there is no competition between the organisations. Therefore, the distribution of project work is natural.

The network manager is Jyväskylä Science Park that has been elected by the management group that operates BENET.

3. The term for continuity is genuine interest

The weakness of a consortium is to provide the continuity.

The third BENET principle is to develop the consortium as a network and to improve the management of co-operation, so that the manager organisation perceive his duty as core and productive business.

Further together

BENET network organisations have more than 400 experts and about 40 of them have been involved in BENET co-operation projects.

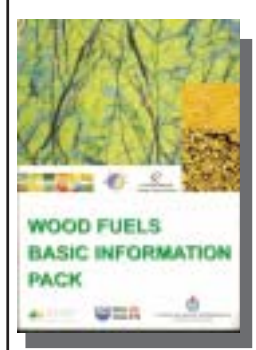
In practice, these experts are becoming the interorganisational team that has impressive know-how and experience of bioenergy development.

Since the very beginning, BENET activities have been strongly international and BENET has wide and functional collaborative network in the Europe.

Kirsi Knuuttila

Wood fuel basic information pack (WIP)

Wood fuel basic information pack is compact two-day training course. It was designed in EU Altener programme in co-operation of Swedish and Finnish professionals.



It considers the following subjects

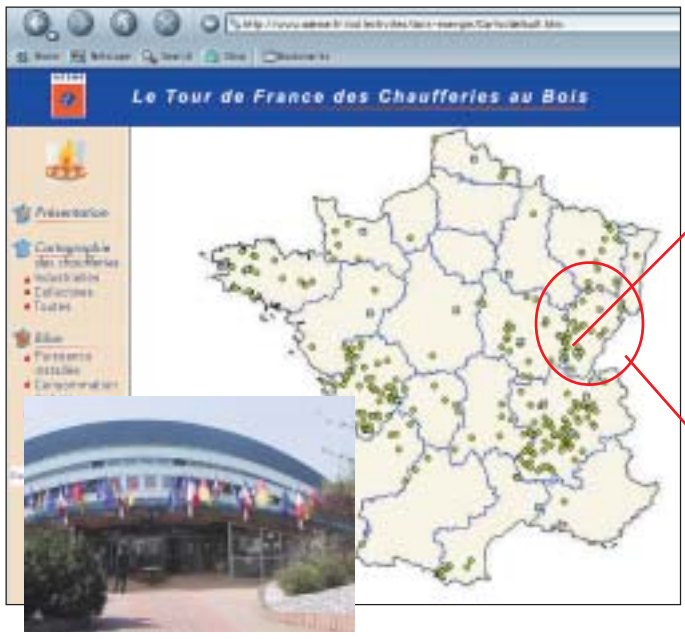
- Bioenergy in Europe
- Energy wood procurement
- Wood based fuels and their production technologies
- Heat and energy production and distribution techniques
- Wood energy and environment
- Energy production as business

Available in English, Swedish and Finnish.

For more information visit www.finbio–energy.fi/benet/english

Bioenergy fairs

THE BIOENERGY international
www.bioenergyinternational.com



In Lons le Saunier, a city with around 30 000 inhabitants ITEBE, the institute for wood energy arranged their third exhibition in April this year. Last year it was held in Mullhouse. Lons le Saunier is located in the region of Jura in the department of Franche - Comte. In the region there is a lot of high productive forests.

Bioenergy is common in France. Most of the biomass is burnt in stoves and other local heating places, mostly on the countryside. But there is also an increasing number of larger boilers that uses wood and wood products in the industry and local collective groups which are indicated with rings in this map. This map is reproduced from www.ademe.fr/collectivites/bois-energie. As you can see the use of bioenergy is concentrated to the eastern part and the department of Poitou Charentes in the west.

Lons le Saunier

Bois energie exhibition

Prize winners awarded by ITEBE for good bioenergy products and work.

Weiss was one of the exhibitors.

One of the most intense regions for bioenergy in France is the region of Frenche -Comte in the north eastern parts. As this map from Ademe shows the installations that has been made during the period 1995 to 2001. The red signs are those over 1 MW, we counted 17.

Italy is an increasing market for bioenergy according to reports from some companies. Justina Mezzalira is manager for the Italian association for wood energy, AEL. He says that the most interesting parts are the region of south Tyrol and the western part, the region of Piemont. Also in the south, in Calabria there is several bioenergy projects going on, for example are three biopower units being built.

Bruks is one of the world leading suppliers of chipping equipment. –We have for the French market constructed a modifed model suitable in size and production, says John Eriksson, marketing manager.

Most common in France is inserts for traditional wood stoves. This is a very elegant model.

Talbot is an English manufacturer of biomass energy products, 50 kW to 10 MW
– We employ about 30 people and are located in the middle of Great Britain, says Bob Talbot, the founder and owner of the company.
– On a yearly basis we sell around 100 units.
– We do also have an exciting new product, a biofuel feeded electrical generator, says Bob Talbot, but we will keep it under wraps until it is ready.
– It will be quite small, three sizes 50 kW, 250 and 300 kW electricity output.

It is now 20 years ago since I started my first production of pellets, says Bernard Chapon, the owner and manager of Cogra 48, one of the few Frensh pellet mills.

The company is located on the countryside in the middle between Lyon and Toulose.

In the beginning Cogra 48 was only supplying big boilers such as hospitals and schools, but they have now have desided to go down the scale.

– We are since three years the importer of the american Harman pellets stove, says Bernard Chapon. – This is quite unique because it is underfeeded and therefore according to my opinion a better product.

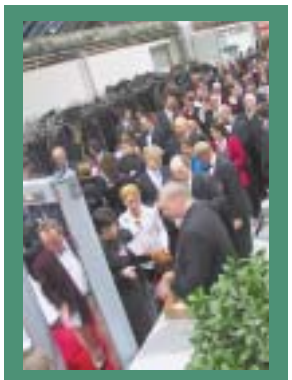
– For the moment we produce 12 000 tonnes pellets a year. With the new mill, we are planning to build next year, the production will increase to 40 000 tonnes.

– We do not have any problem with the supply of raw material. We have sawmills as shareholders in the company.

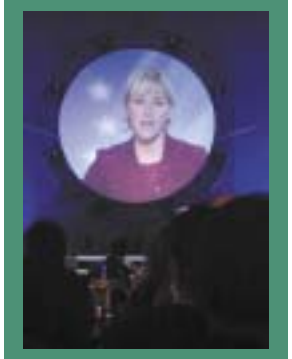
Frensh people know so far very little about pellets according to Bernard Chaupon

– But I think there will be a god interest for this Harman stove and my idea is to sell the stove together with the fuel supply.

Bioenergy fairs



Security, Security! Every guest had to pass through the metal detector before getting into the dining room.



The EU commisionar Margot Wallström addressed the invited through a video speach.

Video was also used in the conference the following days. The motive for the camera is now Christiane Egger the major force in the arrangement. She is now making a comment during the conference.

During the evening there was also musical entertainment with big band music and later on also the international star Maria Serrano and her flamenco show group.

Energy Globe Award

Michail Gorbatschow in the pressconference that preceeded the Energy Globe Award 2002, later on he rewarded the winning projects.

Michail Gorbatschow, former President of the Soviet Union, honoured the Winners of the Energy Globe Award 2002 competition. The "Energy Gala" - the "Awards Ceremony" for the Energy Globe Award 2002, was a truly festive event, held on 6 March 2002 in Linz/Austria and televised to many European countries.

Some 1 300 sustainable projects from 98 countries world wide competed for the Energy Globe Award 2002.

The most outstanding projects in five categories (companies, transport & communities, building & housing, private & public initiatives and water globe) were honoured at the gala event.

The best projects was also presented at the World Sustainable Day, a conference held in nearby city of Wels the two following days after the gala.

Amongst the winning project was a major wind power park in Spain covering 100 percent of the electricity demand, a leading PV project implemented by the American Episcopal Church, a Polish environmental programme and a comprehensive South African water supply and sanitation initia–tive.

The only biomass project to be awarded was the Finnish Alholmen Biopower project which was awarded with a second price.

The Energy Globe Award and the World Sustainable Energy Day are organized by O.Ö. Energiesparverband, the energy agency of Upper Austria. For more information visit www.esv.or.at

Energie Spar Messe Wels

Guntamatic, one of the major Austrian firms presentet among other products a brand new "biomasse converter".

Around 1 650 companies showed their products outside and inside 27 halls.

A very large part of the exhibition was bioenergy related.

There was also solar, heatpumps oil- and fossilgas pro–ducts. Also presented was energy saving and ecobuildings systems.

In this issue of the Bioenergy International we only give you some examples. Later on we will present more of the different products and methods shown.

THE BIOENERGY international
www.bioenergyinternational.com

Rika is one of the major producers of stoves for wood and pellets.

An Austrian researcher showing a handmade pellets from forest residues, a future raw material.

An innovation from the Austrian Pellets Association. Small plastic codemarks are blended with the pellets and makes it possible to recognise the producer and when they where produced.

A pellets storage tank to dig into the ground.

Modern kitchen stove design

Biom 2001 in Straubing

The city of Straubing is located on the shores of Donau in the south of Bavaria.

34 percent of the area of Bavaria is forests and they are also growing fast. In other words, here are good opportunities for bioenergy.

The Bavarian promotion organisation C.A.R.M.E.N. was responsible for the arrangement.

The largest wood processor comes from Pinosa, Udinese in Italy, a specialized company for automatization of industrial and other processes. Roger Borro, sales manager, says they sold 30 units of the wood processor so far. The price starts at 100 000 Euro.

Also one of the three Czech pellets producers participated in the exhibition.

– So far there is no pellet market in Czech Republic so we export to southern and northen Germany, says Wladimir Fabian from Formasa ltd.

– To the north of Germany, we export 8 mm pellets and to the south 6 mm. So far we have quite a small production, 2 000 tonnes but we have our own raw material and a potential to increase.

Above a car fueled with biogas. To the left an automatic press to produce biofuel, rape seed oil.

We have a potential in Germany to replace around 30 percent of our energy consumption with energy-savings and bioenergy, says professor Arnold Strehler.

Dr Strehler is probably one of the most expereinced bioenergy experts in the world. He has worked with biomass for energy since 1973.

– The most important thing to be decided by the german politicians is to introduce an ecotax reform, states dr. Strehler.

– Today there is no stability at all in the oil and gas prices. The people and companies needs more stable conditions to really get the market going.

– The other important thing is information on all levels.

– We for example arrange weekly courses in our institution and we have a permanent exhibition in our premises.

An increasing number of wood based heating centrals are located in Bavaria.

AEBIOM Wiews

Kent Nyström, president of AEBIOM

The flexible mechanisms in the Kyoto agreement are just starting to be implemented. They consist of trade with emission quotas, joint implementation (JI) and clean development mechanism (CDM).

Right now the proposed directive on trade with emission quotas is processed at the European Commission. It could be the first harmonised, general steering instrument that will be implemented in the industry- and energy sector all over the European Union. And that is a big step into a so far almost forbidden area.

AEBIOM is of course working on a position paper on the subject. It will be sent to the commission the other day.

The first project of JI are growing between the Netherlands and the Czech Republic and CDM projects are discussed between some European and South American countries.

The Kyoto protocol is supposed to be ratified in Johannesburg, September 2-4.

I believe that we now have passed the point of no return concerning the implementation of politics that will decrease the CO_2 emissions.

UK launches £66 million capital grants for biomass projects

A £66 million support scheme for bioenergy projects was launched on the 26th of April by Energy Minister, Brian Wilson.

The money will support the establishment of up to six power stations to produce electricity from burning fast growing crops such as straw, willow or miscamphus (elephant grass), and up to a hundred smaller power and heat plants.

The Bioenergy Capital Grants Scheme, jointly funded by DTI and New Opportunities Fund, will support power generation and combined heat and power projects using energy crops and other biomass. It is expected to lever in approximately £200 million of private sector investment.

First initiative

Mr. Wilson emphasised the potential benefits to the rural economy of crops for energy.

– Biomass projects up to now in the UK have been mainly small. This scheme, the first initiative of its kind, will stimulate this technology.

–Rural communities have much to gain from the growth of this industry, in terms of jobs and farm incomes. Harvesting and transport will provide employment throughout the difficult winter months - when most energy crops-management takes place.

– A key reason for DTI funding of this programme is to bring forward advanced technologies - such as pyrolysis and gasification and to develop supply chain networks.

Energy crops scheme

– At the same time, the Government has already put in place support for the establishment of energy crops through DEFRA's Energy Crop Scheme, worth an additional £29 million over the next 6 years.

Application packs

Projects will be assessed for quality against published criteria.

The money will go towards the capital costs of new projects - application packs and guidance notes are available from:

www.dti.gov.uk/renew/eoi.htm.

Stammtisch for operators of biomass heating plants

3rd International Stammtisch for operators of biomass heating plants 29th and 30th April 2002 in the BBV Herrsching, Germany

Two years ago Austrian Energy Agency Styria (LEV) has organized in Bad Aussee 1st International Stammtisch for operators of biomass heating plants.

That was followed by 2nd International Stamtisch in Toblach Italy organized by Southtyrol Biomass Association and this year the 3rd International Stammtisch organized by C.A.R.M.E.N. on 29-30 April in Herrsching, Germany.

The original idea of organizers these 'Stammtisch' was to provide organisation and the right contact partners (i.e. marketing and insurance experts or chimney sweeps) and otherwise keep out of the way great presentations, but on the first place to put experts together where they can exchange experiences.

Around 120 participants from Germany, Austria, South Tyrol, Switzerland and Slovenia has attend this workshop.

Next year the 4th International Stamtisch for operators of biomass heating plants will be organized in Switzerland by 'Holzenergie' Switzerland.

Text and photos Martina Sumenjak and Anton Sabol

The 2001 Wood Energy Barometer

More than 47 million toe wood energy was produced in the EU during 2000. In the European Union, it is estimated that wood energy represents 54% of primary energy of renewable origin. France is among the countries that produce the most energy from wood. However, it is difficult to know the exact size of this sector because a large part of the market, in particular wood for heating, transits outside of the trade networks.

Sweden and Finland are the two other "big wood energy countries in Europe.

The Wood Energy barometer is published in Systèmes Solaires by Eurobserv'ER.

Countryproduction in 2000 (Mtoe)	
France	9.8
Sweden	8.3
Finland	7.5
Germany	5.0
Italy	4.6
Spain	3.6
Austria	3.0
Other E.U. countries	5.5
Total	**47.3**

Primary energy of wood energy origin in EU (1Mtoe = 11.63 TWh)

International Slovak Biomass forum 2002

Photos by Anton Sabol

One interesting sessions during the conference in Bratislava was *Financing of Biomass Projects*.

Susan Legro from United National Development Programme presented *GEF Program*, and Zelmira Harvankova presented how the 32 million EUROs from Environmental Investment Fund for Central and East Europe will be invested by 2008.

The fund operates in Central and Eastern Europe with special aim at Poland, Hungary, Slovakia and Czech Republic.

The conference was organised by the Energy Centre Bratislava with support from Austrian Biomass Association.

Martina Sumenjak

Fridrich Rauter, representative of Government of Lower Austria stressed the importance of the cooperation between Lower Austria and Slovakia.

The ISBF Award ceremony.

Behind the moderators from left to right: Thomas Owen, Danish Environment Agency, Ramon Haas, KKH, Josef Vigalski, vice president AEBIOM. Winners: Ivan Kristan, Lubor Zak and Eduard Majer.

The winners

1) Best thesis Mr. Lubor Zak was awarded or Multi-parameter Optimization of form and Size of moulds from organic Fuel.

2)Best project implemented Mr. Ivan Kristan was awarded for Combustion of wood chips in SES a.s. company project.

3) Best project idea Mr. Eduard Majer was awarded for Feasability Study of forest biomass utilisation for heating in Ulic Municipality.

Slovenia
Biomass in South East Europe

The Slovenian Biomass Association is celebrating 5th Anniversary, and also organizing *4th International SLOBIOM Conference "Biomass and other RES for South-East European Region" on 30th Sept. - 1st October in Ljubljana, Slovenia.*

During the conference a multilateral memorandum will be presented. It will be undersigned by ministers of Environment and Agriculture from Austria, Croatia, Federation Bosnia and Herzegovina, Hungary and Slovenia.

Martina Sumenjak
slo.biomass@usa.net

Bioenergy news
Finland

New 67 MW bio boiler plant to Kotkan Energia

Fortum Engineering Ltd and Kotkan Energia Oy have signed a contract on the delivery of a biomass BFB boiler plant.

The fuel input of the boiler plant is about 67 MW. The boiler will use peat and various wood fuels, and it will produce steam at a pressure of 62 bar and a temperature of 480°C. The project will be completed on 28 November 2003.

Prestudy for co-firing of biomass and coal

Fortum Engineering will study the practical aspects of the co-firing of biomass and coal, and the optimum proportion of biofuel in the boiler of the Suomenoja plant in Espoo. The study will be completed by the end of November 2002.

The boiler capacity is 280 MWf , and the intention is to replace 10-20% of coal with biomass. The firing of biomass in a pulverised coal boiler is based on a new method patented by Fortum.

This pilot phase is targeted to test the method for the possible following phase, in which a full-scale combustion system for biomass would be installed.

The Netherlands

Hubert Stassen honoured with two awards

Mr Hubert E.M. Stassen of the Netherlands has been awarded a prize and a royal decoration for more than 20 years of professional efforts aimed at the development of biomass energy technologies.

Huub Stassen retired in December 2001 as managing director of BTG Biomass Technology Group BV. The management of BTG (www.btg-world.com) was taken over by Mr Rene Venendaal.

Huub Stassen received the Dow Energy Prize for his contribution to the promotion of sustainable technologies. The prize consists of a certificate and a sum of 25 000 Euro. Huub Stassen was also presented the highest civil decoration (Knight in the Order of the Dutch Lion) in recognition for his dedication to the furtherance of biomass energy technologies.

Thermonet

ThermoNet is a newly established cluster of two networks on thermal processing of biomass for fuels and electricity. GasNet is addressing biomass gasification and PyNe is biomass pyrolysis. Both networks focus on technology commercialisation and provide support for more rapid and more effective market implementation.

cont. p 19

Project "BioHeat"

Information will stimulate the market development of medium scale use of biofuel

Bioheat is an EU project with the goal to increase knowledge on the possibilities to use wood fuel for heating of large buildings and blocks. Fredrik Lagergren from the Swedish Bioenergy Association presents the project

Wood fuels contribute to the reduction of emissions of carbon dioxide to the atmosphere. This will accordingly keep back the global environmental threat.

In order to obtain a more cyclic European energy system it is therefore necessary to use more of our renewable resources.

The use of wood fuels for heating means of course emissions of carbon dioxide, nitrogen oxides and heavy metals to the atmosphere.

However, these emissions do not exceed the limits for what is bound by the growing biomass. Therefore, use bioenergy does not increase the amount of greenhouse gases in the atmosphere

Furthermore, ashes from burning become a resource as a fertiliser against acidification.

Decreased import

More use of biofuels reduces the dependence of imported fuels.

Imports accounts today for 50 percent of the fuels used in EU. If no measures are taken the share will rise to 70 percent within 20 to 30 years.

Global awareness

The increased global awareness of the greenhouse effect will also promote interest in combustion equipment as well as knowledge on combustion of wood fuels with a unique possibility for Europe to gain a leading position within this field.

Employment

The use of biofuel will also enhance local employment.

Estimations show that in Sweden every 1 TWh (3.6PJ) biofuel creates about 300 new jobs.

During the last 20 years the use of biofuels has increased dramatically in Sweden and now amounts to 97 TWh (349 PJ), meaning that biofuels account for 16.5 percent of the total energy supply.

This expansion has been done in all markets. For example has the use of pellets delivered to medium sized heating plants in two years increased by 300 percent and was 112 000 tons during 2001.

CTO

The Campaign for take off (CTO) has established the goal of implementing 2 000 MWth of wood heating systems in large buildings and blocks.

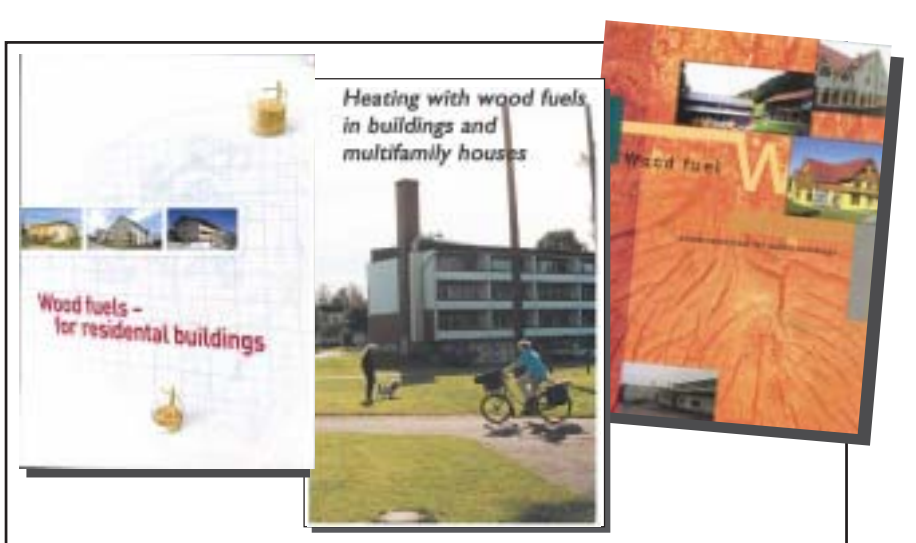
Project Bioheat

With the aim of disseminating information and knowledge on the possible use of wood fuels for large buildings and blocks the EU Commission is financing the project "Bioheat". It is also financed by national organisations/authorities.

Representatives from ten European countries participate in this project. The aim is to increase the use of wood fuels for heating of large buildings.

Bioheat will produce brochures adapted to every specific country. National and international field trips will also be organised as well as seminars and telephone hot lines for companies/organisations interested in undertaking such projects.

So far three brochures have been produced. They are presented below and can be ordered free of charge.



The brochure addressing developers
- presentation of successful projects
- comparative calculations
- historical price development
- information on emissions
- life cycle analysis
- items to be considered when implementing a project

The brochure addressing municipalities
- general information on wood fuels and technical development of combustion techniques
- a feasability checklist
- successful example
- what to consider when planning and calculating the project

The brochure addressing consultants etc.
- conversion of the heating system
- choice between pellets and woodchips
- storage
- equipment
- integration with solar heating
- operation and maintenance
- subsidies and regulations
- purchasing

The information brochures could be ordered free of charge on national languages. For further information please visit www.bioheat.info.

Bioenergy News
cont. from p 18

ThermoNet will organise regular meetings and workshops with the aim to establish a successful European thermal bioenergy industry. Outputs include a biannual newsletter, websites (www.–thermonet.co.uk or www.gasnet.uk.net) and technical reports.

The ThermoNet net–work is financially supported by DG TREN of the European Commission.

For more information on ThermoNet please contact Harrie Knoef at knoef@–btg.ct.utwente.nl.

Spearheads for a succesful Dutch Bioenergy policy

The Netherlands Bioenergy Association (PBE) has recently published *Spearheads for a successful bioenergy policy*. This publication contains papers presented at a workshop held in December 2001.

The purpose of the workshop was for bioenergy market players to formulate policy recommendations and proposals for action for the Ministries of Economic Affairs (EZ) and Environment (VROM). At the workshop, Essent, Electrabel, Nuon, Afvalzorg, Royal Shell participated.

The booklet is available in Dutch. The report and English summary can be obtained from PBE, Email: pbe@xs4all.nl.

THE BIOENERGY international
Local news spread world wide
www.bioenergyinternational.com

1st WORLD PELLETS CONFERENCE

Conference, business forum, exhibition and study tour

Monday 2nd September
OPENING SESSION
- Official Opening Speech
- The Importance of International Cooperation for Development of the Bioenergy Sector and Sweden's commitment
- Pellets - an Important Contribution to the EU Strategy for Renewable Energy Sources
- The Global Wood Fuel Situation and the Role of Densified Fuels
- Bioenergy Trends in Europe
- Pellets in Sweden

THE INTERNATIONAL MARKETS
- Pellets in the United States
- An Integrated European Market for Densified Biomass Fuels
- Strategy and Methods to Create a New Market
- Full Service to Residential Customers
- The Role of the Oil Companies in the Pellet Market
- How to Establish Pellets in Competition with Fossil Fuels
- Great Britain, a New Market for Pellets

Tuesday 3rd September
EQUIPMENT/COMBUSTION
- The Hässelby Operation: Large Scale Conversion From Coal to Pellets by Vertical Integration
- Pellets to Powder for Combustion in the Intermediate Range
- The Current State of Austrian Pellet Boiler Technology
- Pellet-burners for Small Houses: an Overview
- Micro-scale Co-generation with Pellets
- The Dell-Point Close Coupled Gasification Combustion System for Use in Residential and Commercial Heating Applications
- A Development of Bio-energy Technology in China

LOGISTICS AND DISTRIBUTION
- Sea Transports of Pellets
- Pellet Fuel Logistics in Denmark
- Pellet Distribution to Residential Customers and Heating Centrals
- Bagged Pellets to One Million Users
- New Technology for Bulk Storage of Pellets for Residential Houses
- Different Possibilities for User Storage of Pellets

Wednesday 4th September
PELLET PRODUCTION
- Present and Future Technologies for Pellet Production
- Pellet Production in an Energy Combine
- Pellet Production and Outlets: Prospects & Development
- Pellet Production Connected to District Heating
- Production of Fuel Pellets from Different Raw Materials
- Innovative Pelletisation Technology
- Micro Scale Pellet Production Technology

RAW MATERIAL RESOURCES
- Global Woody Biomass Resources for Densified Biofuels
- Densification and Other Biomass Energy Technologies in Asia
- Pelletising of Source Separated Municipal Solid- and Commercial Waste
- The Philosophy Behind Wood Biomass: Past, Present and Future
- Ending and resolution

PARALLEL SCIENCE SESSIONS

Thursday 5th – Friday 6th September
STUDY TOURS

2-6 September 2002 Stockholm, Sweden

Organised by Swedish Bioenergy Association in co-operation with OPET Sweden, PiR, SBBA, SLU, Swedish Energy Agency, Alterner, Pellet Fuel Institute, ITEBE and the Swedish and Japanese Pellet Clubs

Conference online registration, exhibitor information and updated information at:

www.pellets2002.com

Register online now!

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