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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



Photo from VAPO

## Pellets are booming

# 195 plants listed



Inside you will find a and a map with 195 pellet fuel plants listed. This is first update of our popular pellet map. In the next issue of the Bioenergy international we will give you the next part in our series.

The ambition is that our readers shall be the most informed regarding the important bioenergy market, not only pellet but also the other areas like forestry fuels, recycle fuels, agrifuels as well as the different ways of taking care of the energy in small and large scale heating, power generating etc.



In this issue also lots of other stuff e. g.

- Nice two page story from the Italian forestry exhibition Boscoe Territorio.
- Wärtsila presents one of their projects the CHP plant of Wärtrenko located beside a sawmill for maximum efficiency.



**W**elcome to another issue of the Bioenergy International, paper version. As You probably know, we do also have an internet based magazine which you will find at [www.bioenergyinternational.com](http://www.bioenergyinternational.com)

We are proud to present to you our updated pellet map. We have talked with lots of producers.

Now we have listed 195 production plants. But there are more. But even though now when the big users are starting to buy the need will be even more.

And at the same time the home heating market grows very fast. We project a fast growing dynamic market with a lots of trade.

We look forward to discuss this and other matters with our readers and advertisers. Please share with us Your ideas and views. Just contact me on my e-mail or phone.

Lennart Ljungblom  
Editor and Publisher  
[lennart.ljungblom@novator.se](mailto:lennart.ljungblom@novator.se)



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## fulghum fibrefuels, ltd

- years of experience in the fibre supply business
- offering long term supply contracts
- large raw material supply
- innovative transport solutions

The companies within the Fulghum group have been a member of the forestry industry for over 50 years with experience in the areas of forestry equipment manufacturing, wood processing, chip mill construction and operation, and wood pellet manufacturing.

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**E**normous development in biopellet production is now taking place. There are three parallel trends. 1. In the established markets some big actors are growing and will be dominating. 2) In the new markets the plants are getting bigger 3) An impressive amount of small plants for local market are established everywhere.

The conclusion is that the production business is very dynamic.

On the other hand the market is also developing. The producers are waiting for the big market for large scale energy generation. So far big buyers only exists in a few countries but the utilities are preparing. It does not need to be so many to clean out the production - depending of course of the price paid.

This unique map are our own product.

The sources are quite different. In Germany and Sweden for example we have talked with most of the producers. For Italy a brand new report from AIEL is the source.

We do not guarantee that the information is absolutely correct or updated, but we think, this is the best market overview ever done. For some countries quite small units are also presented - for other not. This will be changed in the next update.

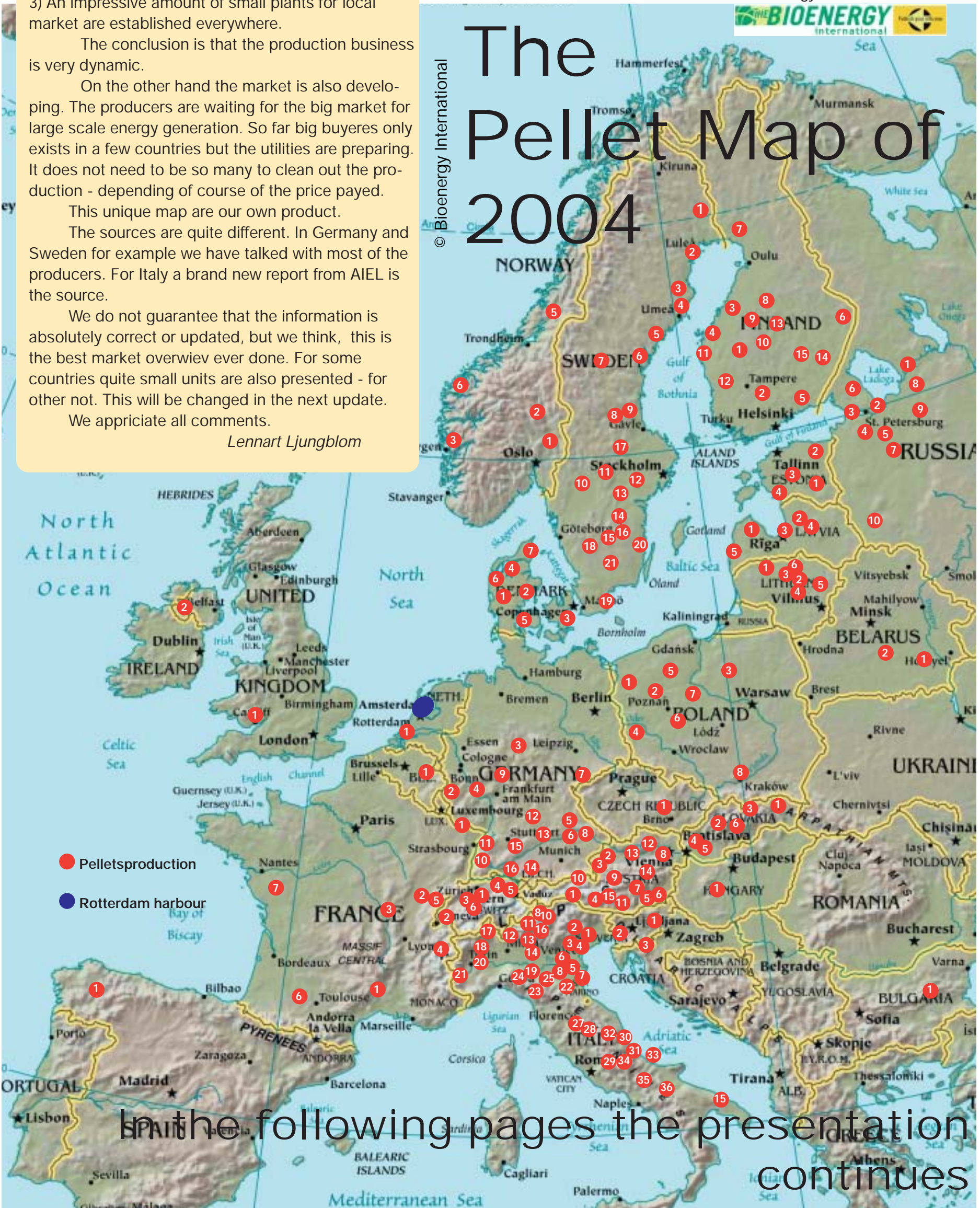
We appreciate all comments.

*Lennart Ljungblom*



# The Pellet Map of 2004

© Bioenergy International



In the following pages the presentation continues

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March

## World leader in biofuels



Vapo Pellets are produced at more than ten plants in Finland, Sweden and Estonia. Total production capacity will exceed 300,000 tonnes in 2004.

The product range consists of wood pellets, peat pellets, cat litter wood pellets and industrial wood and peat briquettes. The pellets are available in bulk, big bags, and small bags for retail.

Vapo Pellets are produced according to rigorous quality criteria in carefully controlled conditions.

The network of pellet plants, extensive storage capacity and flexible logistics ensure that Vapo can provide reliable deliveries all over Europe.

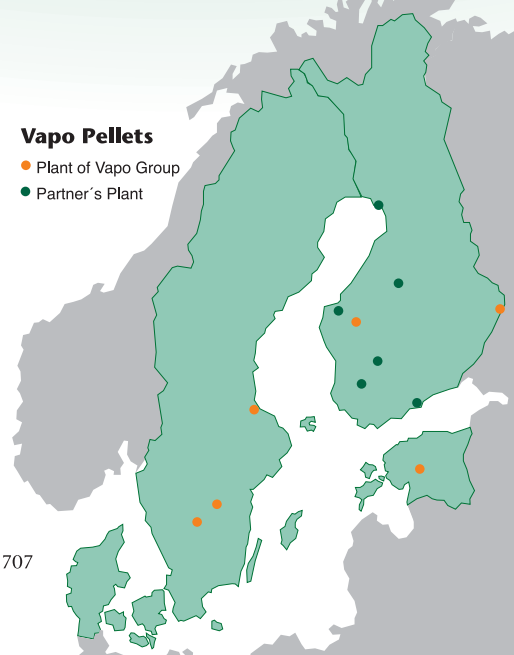
Vapo seeks to work with its customers to build solid, long-term business relationships. It already has more than 60 years of experience as a producer and supplier of biofuels.



Vapo Energy  
P.O.Box 22, FIN 40101 Jyväskylä  
Tel. +358 14 623 623, fax +358 14 623 5707  
www.vapo.com  
Contact: pellets@vapo.fi

**Vapo Pellets**

- Plant of Vapo Group
- Partner's Plant



# Pellets



www.bioenergyinternational.com

## List of pellet plants

No	Company name/Location	capacity	© Bioenergy International	
<b>Austria</b>				
1	Binder Franz/Jenbach und Fügen/Zillertal	80 000	12	Vapo Länsi Suomen Biopower/Vammala
2*	BioStar/Eberschwang	5 000	13	Keurak Oy/Keuruu
3	Glechner/Mattighofen	25 000	14	Punkaharjun Pelletti
4*	Hasslacher Holzwerke/Kötschach-Mauthen	2 000	15	Savon Bioenergia/Rantasalmi
5	Holzindustrie Leitinger/Wernersdorf	15 000	16	Jannpellet Oy/ Paltamo
6	Holzindustrie Preding/Preding	50 000	17	Hehkupelletti Oy/Saarijärvi
7	Pabst Holzindustrie/Obdach	50 000	18	Formados Oy/Kuusamo
8	Krippel Julius/Kirchberg	1 000	<b>France</b>	
9	Loitzl Holz/Steinach	10 000	1	Cogra 48 /Mende
10	Pfeifer/Kundl	100 000	2	SAS Fontaine des Auges/Gendrey
11	Seppel Peter/Feistritz an der Drau	27 000	3	SCA /Baigneux les Juifs
12	Umdasch AG/Amstetten	10 000	4*	Savoie Pan /Tournon
13	Ökowärme/Ybbs	90 000	5	Sofag/Arc sous Cicon
14	Holzindustrie Preding/Leoben	40 000	6	SICA Grasasa/Sainte Sabine en Born
15	Seppel Peter/Sachsenburg	30 000	7	Archimaud Ets. /Brioux Boutonne
<b>Belgium</b>				
1	Exinor SA Wood pellets/Malmedy	-	<b>Germany</b>	
<b>Bulgaria</b>				
1*	Axis /Sofia	-	1	WEAG & Mohr /Trier
<b>Czech Republic</b>				
1	Mayr-Melnhof/Ostrava	-	2	Assenmacher/Ormont
<b>Denmark</b>				
1	Statoil Danmark/ Vildbjerg	90 000	3	Blankenburg Öhls/Mainzholzen
2	Statoil Danmark/Vejen	35 000	4	Westerwälder /Langenbach
3	Energie E2/Köge	330 000	5	Trocknungsgenossenschaft/Neuhof an der Zenn
4	Bodilsen/Glyngøre	15 000	6	CompacTec/Zertlarn
6	Dangront/Aars	20 000	7	Drechserei Spiegelhauer/Pfaffroda-Hallbach
7	Rode & Rode Traimil/Frederikshavn	6 000	8	FireStixx/Vilsbiburg
5	Assens Träpiller/Assens	30 000	9	Ante-Holz/Bromskirchen-Somplar
<b>Estonia</b>				
1	AS Hansa Graanul/Tõrva	120 000	10	Holzenergie Klaus Fallert/Appenweiler
2	AS Flex Heat/Rakvere	85 000	11	Allspan/Karlsruhe
3	Delcotec AS /Paide	40 000	12	Holzkraft Rodehorst/Hambühren
4	Tootsi Granul /Vapo Group/Pärnu	20 000	13	Trocknungsgenossenschaft Weissenburg/Ellingen
<b>Finland</b>				
1	Biowatti Oy/Parkanon Pellet/Parkano	15 000	14	Lockfisch/Bobingen
2	Biowatti Oy/Turenkin pellettehdas	70 000	15	Pellets/Kirchheim unter Teck
3	Biowatti Oy /Vörä Finncambi/Vöyri	25 000	16	Schellinger & Co Mühlenwerke/Weingarten
4	Biowatti Oy/Kaskisten /Kaskinen	35 000	<b>Hungary</b>	
5	Vapo Haminan Puunjalostus OY/Metsäkyliä	15 000	1	Kek Bolygo /Bioenergia/KFT /Nagycekn
6	Vapo Oy/Illomantsi Plant, Illomantsi	60 000	<b>Italy</b>	
7	Vapo Lapin Ekolämpö Oy /Keminmaa	30 000	1	Sitta srl (San Giovanni al Natisone)
8	Vapo Scanpell/Kärsämäki	24 000	2	Biocalor (Romans d'Isonzo)
9	Vapo Peräseinäjoki Pellet Oy	60 000	3	Kaminella srl (Martignacco)
10	Vapo Paahtopuu Oy/Korkeakoski/Juupajoki	25 000	4	Segatifriuli srl (Percoto)
11	Vapo Luoman Oy/Kylänpää /Ylistaro	40 000	5	PST la pedemontana di pizzato pierantonio (Lusiana)
			6	La Tiesse srl (S. Michele di Piave di Cimadolmo)
			7	Il truciolo s.r.l. (Michele di Piave di Cimadolmo)
			8	Legno vivo (Cassola)
			9	Nordpan spa (Valdaora)
			10	Lanz s.r.l. (Rio di Pusteria)
			11	Sartorilegno snc (Fondo)
			12	Valpellet srl (Ponte in Valtellina)

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### American update

Canada in 2004 produced about 700,000 ton of pellets 375,000 ton on the West Coast and 325,000 on the East Coast. USA produced 550,000 ton in 2004.

The total North American production was about 1,250,000 ton.

### Expectations

Expected pellet production for 2005

Canada: West Coast 525,000 and East Coast 325,000 making a total of 900,000.

USA around 600,000 ton.

Total North American production 1,500,000 ton, of which about 1,025,000 ton is expected to go into the residential bagged market and about 475,000 tons to be shipped overseas, 110 000 from East Coast Canada and about 365,000 from West Coast Canada.

Source: John Swaan Pellet Flame Inc.

## Leitinger builds new plant in Obersteiermark, Austria

### "Booming market needs more fuel"

The construction work for a new pellet plant is being performed at the S6 in Leoben-Göss, in Austria. This will be the most modern and biggest pellet production plant of Obersteiermark.

The plant is needed to supply the booming market of pellet fuel.

Constructor is Holzindustrie Leitinger, a company that has been

producing biopellets since 1996.

From the beginning of March 2005 the saw dust that comes from Mayr Meinhof Holz will be used in pellets production.

#### 50 per cent increase

The production of wood pellets is among the core competence of Leitinger, and the company produces about 55 000

tonnes annually in the two existing plants in Wernersdorf and Preding (both in the region of Weststeiermark).

At the moment costs for heating with pellets are 40% lower than heating with oil in Austria.

The two managing directors Wolfgang Leitinger and Heinz Gach underline the importance of the regional utilization of raw material and

they are counting on company-overlapping synergies. In the future they will produce within an industrial network.

#### Capacity

The pellet production plant as well as the drying plant will be constructed and run by Leitinger.

Each of the two CPM-presses will have a press capacity of 8 t/h. Loading capacity will be at

80 t/h, which corresponds to a filling capacity of 3 tank vehicles.

Pellets for central heating are available loose, and will be delivered in a bulk truck or for stores in a practical stable 15-kg sack.

by Nadine Gross  
more information also available in  
www.leitinger.com

New section

## UNDERSTAND YOUR MARKET

## TIME FOR AN INTERVIEW WITH BUSINESS PEOPLE

This is a start of a new section. From now on we will publish each time few interviews with important people inside the bioenergy business.

This time we will present opinions regarding pellet sectors. In total we interviewed 26 persons which have given us a good understanding of the situation.

You can check all the material in [www.bioenergy-international.com](http://www.bioenergy-international.com)

### Six questions asked

Q1. The pellet market this year and next year. In your opinion will it be very good (VG), good (G) or bad (B)?

Q2. What products/market are you referring to?

Q3. Aspects regarding countries/regions?

Q4. Investments/number of employees will it increase or decrease in 2005?

Q5. Policy wish and/or comments?

Q6. Comments and suggestions for articles in BioInt?

*The interview part was done by Nadine Gross and edited by Lennart Ljungblom and Dorota Natucka.*

## List of pellet plants cont. from page 5

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13	M.a.b.e.f. Srl (Cardano al Campo)	-
14	Braga spa (Casalmaggiore)	-
15	Bs bollareto impianti industriali (Darfo Boario terme)	-
16	Boffi s.r.l. (Cinisello balsamo)	-
17	C & b Calor s.r.l. (Limbiate)	30000
18	Cortinovis geremia e f.lli s.n.c (Lenna)	-
19	Del curto s.r.l (Verderio inferiore)	-
20	S.i.e.r. Snc (Chiusa di Pesio)	-
21	Ligna tech italia srl (Pinerolo)	-
22	Amga energia (San Mauro Pascoli)	-
23	O.m. legno snc (Bordalone)	-
24	Agripellet srl (San Miniato Basso)	-
25	Legnopress (Mossumano terme)	-
26	Thermopellet srl (Pistoia)	-
27	Ecopellet srl (Ellera di Corciano)	-
28	Mancini f.lli snc (Matigge)	-
29	Tagliaboschi (Frosinone)	-
30	Sozio snc (Sambuceto)	-
31	Effesystem (Avezzano)	-
32	Ditta donadei (Pratola peligna)	-
33	Rossikol srl (Sambuceto)	-
34	Eco calor snc (Pietracatella)	-
35	Comunità terapeutica Molise soc coop. (Toro)	-
36	F.lli Ragosa (Mercato san severino)	-

Estimated total production in 2004: 200 000 tonnes.

### Latvia

1	SBE Svensk BrikettEnergi/Lauciena	60 000
2	Latvall, SIA /Iecava	15 000
3	Latgranula/Incukalns, Riga	12 000
4	CED /Drabesi, Cesu	8 000
5	Sia Marama/Talioil/Liepaja	35 000

### Lithuania

1	UAB Baltic Wood/Mazeikiai	15 000
2	UAB GaireLita/Radviliskis	15 000
3	UAB Granulta/Kursenai	1 500
4	UAB Nemora group/Radviliskis	6 000
5	UAB Utenos gelz betonis/Utena	4 200
6	Vizerana /Tytuvenai/Siauliai	14 000

### Netherlands

1	Labee Group Moerdijk	100 000
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### Norway

1	Cambi Bioenergi Vestmarka AS /Vestmarka	30 000
2	Statoil Norsk Träpellets /Brumunddal	20 000
3	Vaksdal Biobrensel AS /Dalekvam	12 000
4	Frya Bioenergi AS /Sor-fron	15 000
5	Vi-Tre AS /Roros	3 000
6	Statoil/Sykkylven på Sunnmøre	-

### Poland

1	Arnoeko /Szczecin	27 000
2	Barlinek /Barlinek	30 000
3	P.H.Bestpol /Zielona/Zuromin	12 000
4	Enpal /Slubice	100 000
5	Pellets Sp. z o. O/Krojanty /Chojnice	60 000
6	Task /Kiszkowo/Pobiedziska	6 000
7	Toreco/ Brzezinki/Bydgoszcz	10 000
8	Zacisze /Czestochowa	10 000

### Russia

1	Ecotech LTD /Podporozhie	25 000
2	RosPoliTechLes	25 000
3	Sallotti LTD/LomonosovSt petersburg	15 000
4	Biofuel LTD /Gatchina	10 000
5	Gatchina	25 000
6	Biotek LTD/Nevkaya Dubrovka	10 000
7	Novgorod /Grate	25 000
8	Ecoresources Company/Lodeyoe Pole	10 000
9	Tikhvin/Leninrgad Region	25 000
10	Velikie Luky/Pskov Region	25 000
11	Visny Volochok/Tver Reg	10 000
12	Murom/Vladimir Region	10 000
13	Cherepovets	20 000
14	Vologda	25 000
15	Tver	10 000
16	Moscow	10 000

Estimated total production in Russia in 2004: 30 000 tonnes.

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# CPM 7900 SERIES



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<http://www.bfp.se>

# Pellets



www.bioenergyinternational.com

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<b>Slovakia</b>			12	Bo Forssjö AB/Katrineholm	40 000
1	Drevomax/Rajecke Teplice	-	13	Borensberg	20 000
2	Holz-Produkt/Ruska Nova Ves	-	14	Såbi Pellet/Forsnäs	60 000
3	FERT/Branska Stiavnica	-	15	Såbi Pellet/Vageryd	75 000
4	AVS Plus/Bratislava	-	16	SBE Svensk BrikettEnergi/Nassjö	25 000
5	Pelletia Heso/Bratislava	-	17	SBE Svensk BrikettEnergi /Norberg	50 000
6	Pellets Zipser/Spiska Nova Ves	-	18	SBE Svensk BrikettEnergi/Ulrichshamn	80 000
Estimated total production in 2004: 15 000			19	SBE Svensk BrikettEnergi/Sölvesborg	45 000
<b>Slovenia</b>			20	Södra Skogsenergi/Mönsterås	40 000
1	Istrabenz/Nazarje	25 000	21	Wida Energi	40 000
2	Profiles/Hrusevje	10 000	22	Helsinge Pellets AB/Edsbyn	50 000
3	Enerles/Pivka	40 000	Furthermore there are around 35 small plants with production under 5 000 tons a year each.		
<b>Spain</b>			<b>Switzerland</b>		
1	Ecoforest /Villacanas	20 000	1	Bürli Trocknungsanlage/Gettnau	10 000
<b>Sweden</b>			2	Interspan Tschopp/Buttisholz	35 000
1	Pajala Bioenergi/Luleå	8 000	3	AEK Pellet Schweiz/Solothurn	45 000
2	Bioenergi/Luleå	90 000	4	Keller Konrad/Unterstammheim	3 000
3	MBAB Energi/Robertsfors	25 000	5	Bartholdi AG/Koblenz	2 000
4	Skelleftea Kraft AB	130 000	6	Nyffenegger Rudolf AG/Hornbach	3 000
5	SCA BioNorr AB/Härnösand	160 000	<b>UK</b>		
6	Statoil/Mellanskog/Ljusdal	23 000	1	Welsh Biofuels/Bridgend/Wels	50 000
7	Statoil/Mellanskog/Orsa	23 000	2	Balcas/Enniskillen/North Ireland	50 000
8	Statoil/Mellanskog/Valbo	13 000	<b>White Russia</b>		
9	SÅBI Pellet/Fremlingshem	60 000	1	Belameks/Gomel	24 000
10	Statoil/Säffle	40 000	(*) <i>datas from the PelletMap 2003- BioInt No 6</i>		
11	Laxå pellets/Laxå	85 000			



New section

**Franz Blieninger,**  
Managing director  
Blieninger Holzspäne  
GmbH, FireStixx  
regional dealer

"Wants more distributors"

Q1. The tendency of grow for the pellets market is increasing.

However, a continuous growth is better than an fast increase, because it is quite difficult for the company to grow so fast either.

Q2. We have a sales organisation of the label firestixx. We are also selling firings for one-family-houses and for apartment houses.

Q3. Our main markets are Germany, Austria, Switzerland (the eastern part) and Italy.

Q4. We have hired additional employees especially for external work.

We have invested in an internet for dealers and producers for dispatching, an info-forum and a sector to download documents.

We are still looking for distributors and franchisers to represent firestixx in foreign countries.

Q5. On the whole I am satisfied with politics. Some details could be changed.

However, the most important thing is that tax on sales/purchases will not be increased.

## Heavy investments in Latvian plant



**G**aujas Granulas in Latvia has recently installed a complete wood pelleting plant consisting of drying, grinding and 6 pelleting lines

and 6 pelleting lines Sprout-Matador PM30 pellet mills.

The plant produces

120.000 tonnes pellets per year. The raw material is sawdust. The pellet mill PM30 ensures high output and efficient monitoring of the pellet quality.

**Process control**  
Efficient process control gives large flexibility and optimum energy utilization. The energy consumption for operation of the pellet mill and the

steam requirements are equivalent to 2.5-3% of the energy content of wood.

**Moisture content**  
To achieve efficient pelleting the moisture content of the raw material must be reduced to approx. 10%. If the moisture content is higher than this, the material undergoes a drying process.

Proper drying and

grinding of the raw material is of great importance to the quality of the finished pellets. The increased surface and open fibres of the ground promotes absorption of steam in the cascade mixer. Steam and increased temperature in the cascade mixer softens the lignin of the wood, which allows pelleting without addition of binders.

Lars Block



## World largest the Køge update

**D**enmark takes care of the wood remainders - from the production of furniture, paper, and especially parquet flooring and utilized them to generate energy.

In the world's biggest pelleting plant in Køge near Köpenhamn, Denmark, pellets are made simultaneous from wood by products and straw.

**Operation**  
The operator of this large-scale installation is the Danish energy group Energi E2.

Buhler(Swiss) has developed two different lines on the basis of the customer's specifications.

### From pelleting line to electrical system

Large straw- and wood-fired cogeneration plants supply the larger Copenhagen area with electrical and thermal energy.

Energi E2 transports the straw and wood pellets by ship to two large power plants.

The large-scale plant in Køge comprises three storage bins with level probes and discharge screws, twelve purpose-designed pellet mills, three coolers with filter systems, three sieving machines, and two pellet storage bins.

Buhler supplied the pelleting system on a turnkey basis.

Transforming straw and wood into energy Energi E2 does that with its Buhler pelleting system in Køge. For more specific information please check BI no 6 /October 2003 or contact detlef.janssen@buhlergroup.com

New section



**Rudolf Huber, Sales Manager for the sector of bio fuels, Umdasch AG Vertrieb Bio-Brennstoffe**

Q1. In 2004 the pellets market increased about 10-15 % and for 2005 we foresee an increase of 20 %.

Q2. We are pellets producer and wholesaler.

Q3. The Austrian, German, Swiss and Italian market (biggest market for bagged cargo) are the most important for us .

Q4. Investments are being done in Europe; wood fuels are available everywhere here.

Q5. Biomass should obtain more popularity, especially in Germany. Biomass could also support the Kyoto agreement and all the conditions must be fulfilled until 2008.

If we do not start now to use more renewables, we will have to pay a lot of money later on.

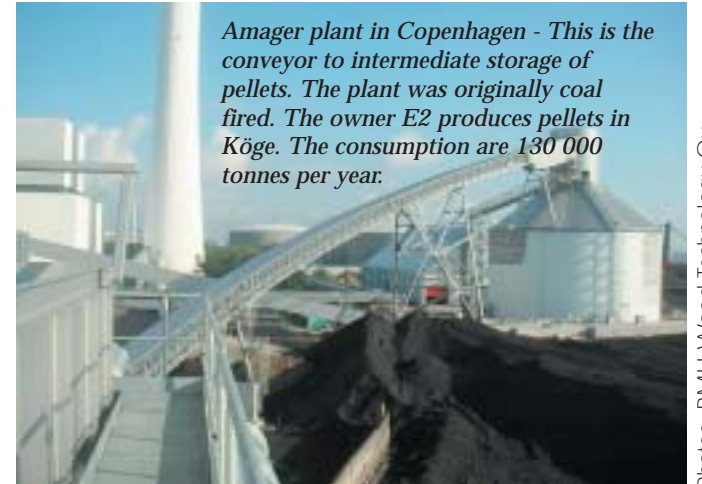
**Gerhard Selinger, Sales manager, RIKA**

Q1. The development of the pellet market is very positive and there will be a high growth rate between 30 and 50% in 2005

Q2. We produce boilers and stoves up to 12 kW.

Q3. The most important markets for us are Germany, Austria,

*Amager plant in Copenhagen showing the harbour with receiving unit, handling system and dust cleaning.*



*Amager plant in Copenhagen - This is the conveyor to intermediate storage of pellets. The plant was originally coal fired. The owner E2 produces pellets in Köge. The consumption are 130 000 tonnes per year.*

Photos: BMH Wood Technology Oy

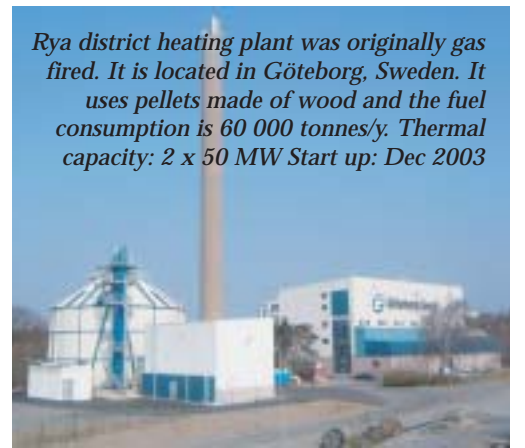
## XL users of pellets

The use of pellets in large and very large CHP and heat plants is getting more and more common. Big boilers originally made for using coal, gas or oil have been converted to pellet. Future pellet users can benefit from experiences made in various plants with various pellets fuels.

New actors will enter the pellet market to meet the growing need of transportation of pellets across the seas. New

sources of raw material for pellets are being used in all parts of the world to supply the converted plants. Today pellets from sawdust and bark is traded from Canada, Russia, the Baltic states and South Africa, palm kernel is traded from Malaysia. Other types of useful biomass is citrus pellets, olive pit pulp, sunflower pit pulp and ground cacao pods. Bioenergy International will continue to monitor the fast developing global pellets market.

*Rya district heating plant was originally gas fired. It is located in Göteborg, Sweden. It uses pellets made of wood and the fuel consumption is 60 000 tonnes/y. Thermal capacity: 2 x 50 MW Start up: Dec 2003*



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# Pellets



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## Pellets from Peat

In addition to wood pellets, Vapo started production of peat pellets in early 2004.

Production has been in full swing at Vapo's new Haukineva pellet plant since March 2004. – We've been working in three shifts, except for the summer holiday in July. Everything has gone to plan," says Mikko Pentinmäki, the plant's Production Manager. The plant has an annual production capacity of 66 000 tonnes of peat pellets.

**A versatile fuel**  
The Haukineva plant is located near Seinäjoki in western Finland. Pellets produced at the plant are mainly used in power and heating plants around Finland and Europe. According to Tommi Ruha, Director of Vapo's Refined Fuels Business Unit, there will be plenty of demand for peat pellets in the future. – Consumption of pellets is increasing in countries like Sweden, Denmark, Finland, the Benelux countries, UK, Germany and Austria. In many countries pellets are used to replace coal. Peat pellets - like



Pellets produced from peat

wood pellets - have a low moisture content, making them similar to coal in their calorific properties and combustion characteristics. Coal can therefore be replaced with peat or wood pellets without a major loss of power. Peat pellets are particu-

larly in demand in Sweden, where peat is classified as a renewable bio-fuel in the production of electricity. In addition to coal-fired power stations, there is also potential for using peat pellets in district heating plants and space heating boilers.

### New plant under construction

In addition to the Haukineva plant, Vapo is also investing in a new pellet plant in Haapavesi. Construction began at the end of October 2004. This plant will have an annual production capacity of 70 000 tonnes, and it will also produce pellets from peat. At the same time Vapo is also upgrading and expanding its Ilo-mantsi pellet plant, which started up in 2001. – All three plants have a dryer so that pellets can be produced from peat as well as wet sawdust, Tommi Ruha explains.

## Renewable fuels gaining momentum in UK

Renewable Fuels Ltd promotes a variety of biomass fuels, such as refined wood, and supplied wood pellets for co-firing applications at Drax Power Station in Yorkshire, in December. Early in 2005, Renewa-

ble Fuels Ltd will also be supplying Short Rotation Coppice Willow - in its processed form of wood chips - for trials of co-firing with coal at Drax. As Europe's largest power station, Drax will need 0.5 million tonnes of dry biomass

by 2009 to comply with the UK's renewable energy targets that demands that by 2010, 10% of UK's electricity should be supplied from renewable sources. In addition, the company will be shipping up to 30,000 tonnes of oli-

ve residue into the UK during 2005 for co-firing purposes. The proposition of growing energy crops, such as SRC willow, is gaining momentum rapidly in the UK and farmers are beginning to view this crop as a viable

alternative to food crops. Renewable Fuels Ltd has the advantage of benefiting from its Swedish parent company SBE Svensk BrikettEnergi AB who is Europe's largest wood pellet manufacturer.

## Largest UK wood pellet plant

The first production of pellets by Balcas will begin shortly. The potential supply will be 50,000 tonnes per annum. In reality this supply will be divided most likely bet-

ween the commercial users and the domestic market. Balcas has chosen a distributor for its pellets in bagged form which will then find their way to pellet stove users through all of Ire-

land. Boilers are now beginning to be installed and the need for automatic pellet delivery into the burning chamber is there. The distribution of bagged and loose pellets, by way of

a pressurized bulk truck, will commence in the new year, the truck size will be approx 10 tons and the minimum delivery will be 2 tonnes with a cost of 150-190 Euro/ton.



Peter Kernohan Balcas, bio fuel market development manager beside one of the new CPM pellet mills.

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### Råsjö Torv on the up and up!

The Råsjö Torv Group produces and sells bio-fuels such as sod and milled peat and peat briquettes, and wood-based fuels like chips, sawdust, wood pellets and wood briquettes. Råsjö Torv AB is Sweden's leading supplier of energy peat.



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PHONE +46 (0)650 54 74 00 FAX +46 (0)650 54 74 57 [www.rasjotorv.se](http://www.rasjotorv.se)

Switzerland, Belgium, the Netherlands, France, Ireland, Italy, and Scandinavia. We can say that we are active in whole Europe and we want to expand.

Q4. Our investments are staying at the same level. However we are hiring more people for the technical division as we are developing new models.

Q5. I think that frame conditions are basically all right. It is important to inspire customers, so they want to use renewable energies. The Kyoto protocol has to be realised.

### Thomas Ries, Sales Manager, Wodtke

Q1. We count on further increase in 2005, especially in the north of Germany.

Q2. We first invented pellet primary stove technique for living space, other products are pellets - and chimney stoves, water pellets- and air pellet stoves.

Q3. The most important markets for us are Germany, Austria, Switzerland, Europe, all Scandinavian countries, whereas France and Italy are still being built-up.

Q4. Constant developing, especially the invention of a differential pressure switch (this is to control chimney and the room where the stove has been placed). Investing carefully because of the economic situation in the whole of Germany.

Q5. Today's politician has created good conditions.

New section

New  
section



Fr Dorothee Glöckle  
Marketing manager  
Köb & Schäfer KG

*Q1: The pellet market this year and next year?*

I think that the development of the pellet market is ideal at the moment, there are not many suppliers in the sector of 100-1000 kW.

We are producing boilers in the range of 100-1 000 kW and in the range of 30-150 kW firewood, wood chips and pellet firings.

*Q3. In which markets are you active?*

Our export quota was about 68% last year. Main countries are Germany, Switzerland, the Netherlands, Canada, France, Italy, Great Britain, Sweden, Belgium, Norway, Czech Republic, Slovakia.

*Q4 Next year for Köb?*

We are increasing investments and number of employees.

The fact, that the oil price is rising constantly is positive for the pellet market.

*Q6: Wishes of future Bioenergy International articles?*

I am very interested in reading about the developments and changes in Europe, projects and articles about companies.



## Boscoe Territorio Itailan field exhibition

### Bosco e Territorio

Imagine if you will, the delight of young Hannah shaking the branch of the new Christmas tree draped with decorative figures and tinsel ... everything moves and shines, to her, the tree truly comes to life.

And so it was at Bosco e Territorio in Usseaux in the Italian Alps in September last year where not only did the trees really shake and the sun shine, but the whole mountainside came to life in resplendent colour and movement. Oranges, greens, yellows, blues, reds, not

decorative figures but real life equipment suppliers all demonstrating their part in the wood processing value chain, from forest management to harvesting, to handling and moving, to fuel conversion and production and in the indoor tent, a range of domestic to industrial combustion equipment. Here you

had it all on show - and in full swing too.

### Leisure or expert guide

You could choose to wander at leisure or be accompanied by an expert guide, who escorted crowds of people in a timed rhythm throughout the day through the forest and around the

# Forestry



mountainside and as they went, offered clear and concise explanations as to the role each piece of equipment played one to the other, whilst the operators ran the equipment in tandem. To complete the picture, the guides fielded questions on the impact of wood processing and wood energy

for forest management and the environment as well as the economic value of sustainably utilising this valuable resource.

#### Many visitors

Paulownia Italia, the organisers, reported that in the region of 9,000 visitors attended Bosco Territorio and more

than 100 exhibitors graced the slopes to show-off their skills over the course of this lively 4 day event

#### On the spot

As for Hannah's beaming little face, you may not have to imagine much longer - but should she shake too hard then sadly it'll all

come tumbling down. Naturally, Paulownia had that well covered too, the whole event was fully stewarded by well trained staff, protocol's were predefined, no-go areas clearly marked out and well marshalled, so the whole event went to plan and was deemed a great success by all - especially those exhibitors

who went home that much lighter than when they had arrived, having sold their equipment directly on the spot.

*By Paul Stewart, Itebe*

*For more information visit : [www.bosco-territorio.it](http://www.bosco-territorio.it)*

#### New Central Heating unit from RIKA

Rika, a pioneer in pellet technology in Europe, is offering, as of recently, the new, 12 kW central heating pellet fired oven, EVO AQUA.

Special features: fully-automatic vacuum cleaning system, 85 % dispersion in the water cycles, automatic oxidation bag, and a rear-firing inhibitory cell wheel sluice.

Applicable as all-over home heating and furthermore ideal as a supplement to currently used heating systems.

#### Strong sales and result for John Deere, Timberjack included

Timberjack performance is part of John Deere Construction & Forestry Division.

The Division sales rose 65 per cent for the 4th quarter and 54 per cent for the year 2004 reflecting strong activity at the retail level.

Operating profit improved to \$194 million for the quarter and \$587 million for the year, compared with \$41 million and \$152 million last year.

Full-year results included a \$30 million pretax gain from the sale of an equipment-rental company.

Markets are expected to be supported in 2005 by moderate economic growth and relatively low interest rates.

## Biomass plant in Mannheim

With the new law for renewable energies (Erneuerbare-Energien-Gesetz (EEG)) and the biomass regulation, the legislator has opened the market for electricity production from biomass since the middle of 2000.

### Kvaerner Power wins boiler modernisation contract in Sweden

**K**vaerner Power, a member of the Aker Kvaerner Group, has won a contract for the first phase of the modernisation of a Swedish cogeneration plant in Ängelholm in the south of Sweden.

The contract is worth more than EUR 10 million, should be completed in November 2006. It also includes an option for the second phase, providing a fully rebuilt plant.

#### 20 years old boilers

The two, more than 20-year old district heating boilers, are to be rebuilt without interrupting production.

The second phase is included in the contract as an option and is to reach completion in December 2006.

#### 60 percent capacity increase

Once fully completed, the capacity of the boilers will be 50% higher than today.

There will be extended possibilities when it comes to choosing various types of fuel, such as demolition wood.

Do not forget to visit frequently [www.bioenergyinternational.com](http://www.bioenergyinternational.com)

**S**ince EEG was put into force MVV Energie AG has been preparing itself for the possibility to supply the general electricity network with bioelectricity.

Together with partners from the waste management sector, MVV Energie AG is preparing three biomass power plants where utilised wood is used for electricity production.

#### New CHP

Another biomass power plant for combined electricity- and heat production in an industrial company was started up

during the first term of 2002. Investment volume of project amounts about 160 million Euro. MVV Energie AG can invest all of it for embracing know-how concerning the direction and operation of burning plants.

#### Expansion

Project partners are powerful suppliers of used wood with cooperation- and supply contract during the whole project period of 20 years.

Further projects will follow. Until 2005 investments of 255 million Euro on the whole have been planned for bio-

mass power plants. MVV Energie AG is already pioneer in realizing its expansion plans.

#### Implementation

Bioenergy projects that are being developed and built up at the moment:

- Königs Wusterhausen 20 MW
- Mannheim 20 MW
- Flörsheim-Wicker 15 MW
- Gengenbach 2,7 MW

Already in 2000 the first biomass heating plant of MVV Energie AG for local heating supply in the bavarian Ruppolding has been started up. The modern 4-MW-biomass heating

plant provides firstly the sports- and leisure centre with environmentally friendly heat.

During a second extension stage the city hall complex and the centre will be connected. Hackled weak wood of the regional forest industry as well as rest wood that has not been treated from saw mills and of landscape conservation in form of wood chips will serve as fire wood.

#### Lowering the emission

High-efficient, modern flue gas cleaning facilities equipped biomass heating plants and com-

bine active environment protection through drastic reduction of harmful emissions with immense cost savings.

Moreover further biomass heating plants on the basis of contracting are being developed, and these concepts can be improved consequently. For realisation of their biomass projects MVV Energie AG is using successfully their experiences developed during decades with district- and local heating systems as well as burning plants to expand their strong market position.

*Text Narine Gross*



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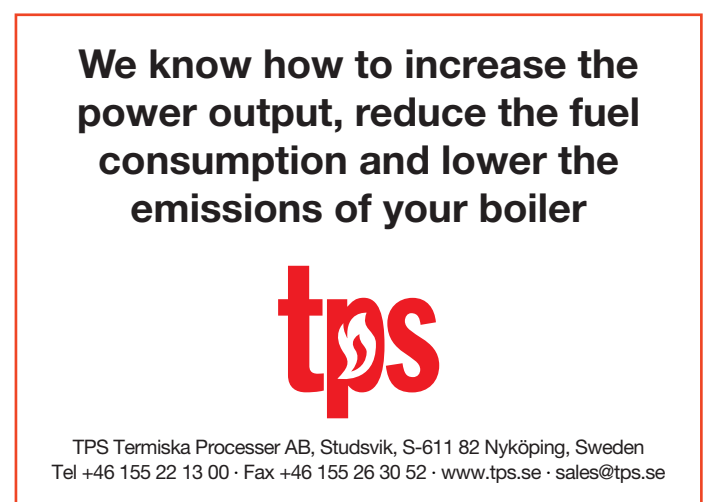
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# Heat & Power

## CHP helps sawmills raise profitability



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Wärtsilä's first CHP installations at Finnish sawmills have proved the reliability and cost-efficiency of new BioPower technology for burning wet biofuels. Using byproducts such as very wet bark and sawdust for fuel, the sawmills are now almost self-sufficient in energy as well as environmentally and financially competitive.

**T**he new Biopower concept from Wärtsilä Bio-power Oy is a way of using biofuels in small-scale heat and power co-generation. The first reference plants, in Finnish sawmills, have yielded good results in terms of both performance and environmental conservation.

tral Finland. (see also BioInt No 6 October 2003). With annual production of 600,000 cubic metres, Vilppula is one of the world's largest sawmills. The new plant, with an electrical output of 2.9 MW and a heat output of 13.5 MW, also includes an integrated 9.0 MWth heat boiler.

**The largest sawmill**  
In 2003 Wärtsilä Biopower delivered a BioPower 5 HW plant to Finnforest Corporation's Vilppula sawmill in cen-

**Self-sufficient**  
In operation since early 2004, the plant has produced over 70% of the electricity needed by the sawmill as well as all the

heat needed for wood drying. The plant also produces most of the district heat required for the town of Vilppula with its two thousand inhabitants and local industrial enterprises.

Wärtsilä Biopower has also delivered a BioPower 2 HW plant with an electrical output of 1.3 MW and a heat output of 8.0 MW to Finnforest's 280,000m<sup>3</sup>/y sawmill in Renko in southern Finland. This plant, too, was brought into commercial operation in 2004.



The plant at Renko in southern Finland.

Investment	
Construction costs and interest	EUR 8.5 million
State subsidies	EUR 2.1 million
Total investment	EUR 6.4 million
Profitability	
Payback time	4.2 years
Internal rate of return (IRR)	26.7 %
Net present value	EUR 15.1 million

Economical data for the plant in Vilppula

### Large structural bio-merge in Finland between private forestry owners and the state

**M**etsäliitto to raise its shareholding in Vapo Oy. Finnforest's power plants and Biowatti's pellets business to be sold to Vapo Oy

The result is that Vapo Oy will jointly controlled by the Finnish state and the private forestry owners Metsäliitto Cooperative.

Metsäliitto will also sell seven biofueled heat and power plants operated by its subsidiary Finnforest Corporation to a new company in which Vapo Oy will have a controlling interest.

Metsäliitto will furthermore sell its wood-based fuels business to Biowatti Oy's present management.

Under its new owners the company will employ 30 people.

#### All pellet plants directly to Vapo

Biowatti's wood pellets plants, which will be sold to Vapo Oy, are located at Turenki, Kaskinen and Vöyri, while the briquette plant is in Pihlava.

The transactions require the approval of the competition authority and a decision by the Council of State.

The transactions will bring the Finnish state EUR 46.9 million and will have a positive impact on the cash flows of both the Metsäliitto Group and Finnforest Corporation.

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# Message board

## Britain REEEP to make 1 million Euro available

The Renewable Energy and Energy Efficiency Partnership (REEEP) is to make 1 million Euro available to fund renewable and energy efficiency projects internationally.

### Now seeking projects

REEEP, was established by the UK government in 2002 to drive the integration of renewable and energy efficient systems (REES) into national and global energy policy, is seeking project proposals for its third funding round, for the period 1 April 2005 to 31 March 2006.

REEEP expects to fund about 15 projects with an average REEEP contribution of Euro 70,000.

### Int. Pulpwood Resource and Biotrade Conf. Uruguay

This new conference builds on the tradition of the International Woodchip Exporters' Conferences.

The focus will be to bring together international forest owners, pulpwood and biomass suppliers, and wood fiber and biomass buyers.

For more information on the conference, go to web site or send email:

[www.pulpwoodconference.com](http://www.pulpwoodconference.com),  
[florencia.herrera@pike.com.uy](mailto:florencia.herrera@pike.com.uy)

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## EUROPEAN PELLETS CONFERENCE 2005 PELLETS - A FUEL FOR THE FUTURE!



The European Pellets Conference in the frame of the World Sustainable Energy Days will be held from 2-3 March 2005 in Wels/Austria.

The first European Pellets Conference was organised in March 2004; more than 600 participants from all over the world attended.

## Join us for the "European Pellets Conference 2005!"

Further information  
please visit: [www.esv.or.at/pellets05](http://www.esv.or.at/pellets05) or contact  
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## Seasons Greetings...!



Biomass in Sweden

## Increased use and environmental concerns

In Sweden bioenergy has grown into the second largest source of energy, reducing emissions of carbon dioxide and improving energy security of supply. The use in 2003 was 378 PJ (105 TWh), or 42 GJ/capita. Dr. Tomas Kåberger, chairman of the Swedish Bioenergy Association explains how this was achieved.

When a tree has been cut for the purpose of providing wood products or paper, only half of the biomass ends up as the desired product.

The other half is available as co-products for energy purposes. And later, as the wood has served its purpose as building materials or the fibers have been recycled as paper a few times, most of the energy may still be recovered.

Utilisation of by-products has provided new income to the forestry sector. Today, the bioenergy market is vital to the economic competitiveness of the forest industry in general and sawmills in particular.

Previous to the expansion, environmental concerns were voiced regarding several risks of bioenergy: Local air pollution, issues on increased local transports of fuel, forestry practices threatening biodiversity and, in addition, new risks to labour were some of the more important.

The early environmental concerns have been resolved. Local air pollution has been managed by using raw biofuels preferably in efficient high-power boilers. While refined wood pellets are increasingly used for the more difficult

small-scale applications. Transport in relation to large district heating plants in cities is often made using railroad or ship.

The increased use of bioenergy has been achieved during a period when forestry has become more respectful to ecological values and mechanisation has reduced labour risks.

Now, attention is on multi-functional energy forestry, such as when salix plantations are used to develop game havens or treating sewage water or sewage sludge. More than other parts of forestry and agriculture the bioenergy sector is developing systems for recycling of nutrients.

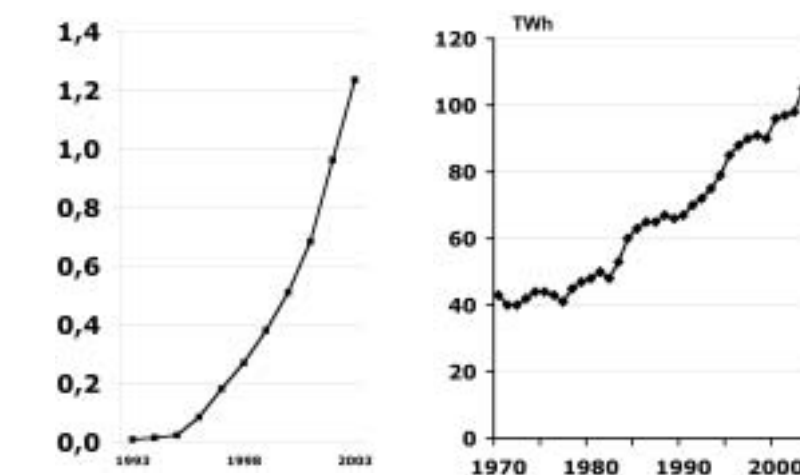
### Significant increase in bioenergy

In Sweden, the bioenergy sector has responded readily. As shown in figure 1, bioenergy supply has increased from 40 TWh in 1970 to 105 TWh in 2003.

If disregarding the use of oil for transport, bioenergy even overtook oil and became the largest source of energy for stationary uses in Sweden.

### Increased industrial use

Most of the biomass used for energy purposes in 1970 was residues in the pulp industry.



Use of pellets in single family houses (TWh) Total use of bioenergy in Sweden.

Black liquor, bark and other residues were burned substituting oil to provide heat to the industry itself, while avoiding the problem of waste production.

In the 1980s residues in the sawmills and wood industry were increasingly utilised for energy purposes and in the 1990s foresters started to collect branches and tops while logging.

EU legislation has also increased the supply of biomass waste that should be combusted with energy utilisation rather than sent to landfills.

There was also an early market among farmers using wood from their own forests, and sawmills using their own residues.

### District heating expanded

Despite being weak, a tax incentive created to encourage bioenergy use made district heating plants turn to bioenergy opening a market for the excess residues that could not be utilised in the forest industries. District heating-networks were built in Sweden, mainly by municipal en-

ergy companies, from the late 1960s.

Low electricity prices, due to over capacity after nuclear expansion, resulted in only minor interest in electricity production from biomass.

The priority was to maximise total energy efficiency. As a result technologies like smoke-stack condensation were developed making it possible to utilise the energy otherwise lost as moisture in the fuel was released as water vapour through the chimneys.

From 1990 the carbon tax on fossil fuels was sufficient to encourage substitution of coal in existing district heating plants and, sometimes, even substitution of oil with wood powder or oils from biomass.

### Small scale expansion during recent years.

Small-scale wood pellet use has accelerated during recent years.

While only a few hundred existed pellet stoves substituting or supplementing direct electric heating existed in the mid 1990s, more than 3500 were installed

in 2003. A similar increase has occurred for installations of pellet burners substituting oil-burners in conventional central heating systems.

The resulting increase in pellet use for small-scale applications is shown in figure 2. In addition larger quantities are used in district heating plants.

### New developments

An ethanol market has been developed initially based on ethanol from a forest industry. One plant producing ethanol from grain has added significant capacity, while most of the ethanol used as automotive fuel is imported.

Ethanol as a fuel has been favoured with exemptions from the general fuel tax.

Large import is justified as sugarcane based ethanol is produced at low economic cost in Brazil and show good environmental life-cycle performance despite long distance transport.

The number of ethanol vehicles has increased dramatically during the last two years

Cont. on page 16

### New Bioenergy center in Veliky Novgorod

The Russian-Swedish Bioenergy Information and Training Center's Branch was opened on 9<sup>th</sup> of August, 2004 in the city of Veliky Novgorod.

Its full name is Novgorod Branch of the Non-Commercial Partnership "Russian-Swedish Bioenergy Information and Training Center".

The aim is - promotion of scientific and technical progress development in forestry and forest products industry,

- implementation of the newest environmentally safe technologies,

- promotion of safe, effective and ecologically clean biofuel production

- utilization methods,

- dissemination of bioenergy information and more, as well as not the least important, joining together working in this direction scientists and specialists from Russia, Sweden and other countries.

More info. please contact: [tatjana.stern@bioenergi.slu.se](mailto:tatjana.stern@bioenergi.slu.se)



Dr. Tatjana Stern, Swedish Forest and Agricultural Academy, explains how the Bioenergy centers are developed in co-operation in the North - West region of Russia.

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## First seminar for technician of small biomass boiler installations in Slovenia

The seminar took place on 18<sup>th</sup> and 19<sup>th</sup> November 2004 in Lukovica and was organised by Slobiom together with Cupertino of AURE, GEF and Austrian biomass organisation in the frame of Alpenenergywood.

It was very interesting and useful event during which Austrian and Slovenian experience was discussed.

Slobiom try to stress the importance of the modern heating under the slogan "logs, chips and pellets for heating our houses".

Slovenia will go very progressive on in 2005, and will organise many more seminars, also regarding chimney, architecture, planning, building, as well as schools, mayors and other responsible authorities.

*More than 30 experts attended the seminar. At the end together with organisers, Austrian and Slovenian experts made photo to remember the beginning of new bioenergy era in Slovenia.*

## Better efficiency with soot blowing

A soot-blowing unit can increase the efficiency of a boiler using biomass as fuel. One of 400 installed Aerovit soot-blowing units is working in a 2 MW boiler owned by the company DLG in Haselager, Denmark.

**A** new boiler was installed in 2001. The fuel used is a mixture of seed and grain as well as feedstuff residue, dust, chaff, whole grain and

pressed grain.

The boiler is a Dantoker Multimiser No. 19, which is a 5-pass hot-water boiler with a 2 MW output.

The problematic fuel meant that the boiler needed to be cleaned manually for every 14 days of operation because of heavy deposits in the tube passes.

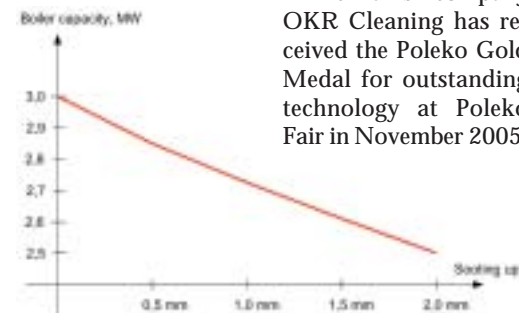
The decision was consequently made to retrofit with a soot-blowing system.

After the installation 528 operating hours per year was gained. Also 202 working hours was saved.

Overall savings is calculated to 251 600

DKK. Further to this is the improved efficiency of the boiler. The annual efficiency increased by approx. 8 per cent.

The investment cost for the system was 170.000 DKK to install the system. The pay back time on the investment is approximately six months.



Reduced boiler capacity due to soot build up.



Tubes before installation of Aerovit



After installation of Aerovit

For a fraction of a second the release of 400 litres of air compressed to 8 bar produces a shockwave and removes the soot.

The Danish company OKR Cleaning has received the Poleko Gold Medal for outstanding technology at Poleko Fair in November 2005.



*Bo Vernegren, Operating Manager at DLG, says, The AEROVIT soot-blowing system has provided DLG with definite improvements.*

*Cont. from page 15* as more than 10 000 Ford Focus with flexible fuel engines have been sold. During autumn 2004, SAAB and Volvo announced they will introduce FFV-models in 2005.

**Local environmental and health effects**  
Incomplete combustion of fuels leads to emissions of hydrocarbons and particles associated with health risks and environmental regulation. The continued use of old types of wood

burning practices may still be a considerable problem in villages and towns.

With modern large-scale combustion the emissions are under strict control with negligible external effects.

There are still thousands of old-type wood-burning systems in operation. However, as the modern equipment is not only environmentally superior but also more convenient and uses fuel more efficiently, modernisation is taking place. Heat accu-

mulating tanks and modern pellet equipment, are reducing local pollution. The relation between the best and worst is in the order of a factor 1 000 in emissions of hydrocarbons. However, there is new evidence that the risks of old-type equipment may be low provided good birch wood is used. The chemical composition of smoke particles is such that the health effects may be expected to be less severe than effects of particles from other sources.

### Sustainability issues

There are some sustainability issues related to bioenergy systems that deserve attention.

A fundamental condition is that the forestry or agriculture delivering the biomass should be sustainable under material flow- as well as biodiversity criteria.

### Conclusion

In Sweden bioenergy use has increased rapidly and it is a major source of energy. The development has occurred in

symbiosis with forest industry. Bioenergy systems may be utilised to reach other objectives than increasing renewable energy supply. Modern technologies have reduced local air-pollution while long-term sustainability can be achieved provided forestry and agricultural practices by well management.

*By Tomas Käberger, Ass. prof. International Institute for Industrial Environmental Economics, Lund University, Sweden.*

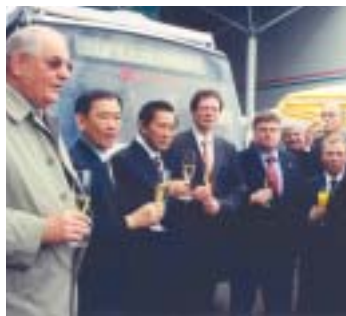




# Events



www.bioenergyinternational.com



The official opening was effected by a ceremony where the fuel bus was given the symbolic nickname Ele-phant in honour to the high represented delegation from Thailand including Deputy Prime Minister Phinij Jarusombat.



10.000 visitors, 800 exhibitors, 240 conference participants. The director Johann-Georg Röhm was very pleased.



In the evening: Dr. Paul Wengert, the Mayor of Augsburg together with Dan Asplund, President of AEBIOM and Martina Sumenjak, President of SLOBIOM



## European Bio-mass days of the region 2004 in Jarenina-Slovenia

The 9<sup>th</sup> of October the exhibition for the local community was organised in the primary school in Jarenina.

A presentation of the feasibility study for the small scale heating system at the school (new biomass boiler) was made.

The organic farms, and the older pupils - in co-ordination of Slobiom discover the bioenergy. The activities "future with nature" were very interesting for the children and the teachers.



The local community day - children together with oldest Slobiom member, 95 years old Martin Sumenjak play with European Biomass Days balloons.



Cent a meter  
A wireless electricity monitor that let's you take control of the costs, more info at [www.centameter.com.au](http://www.centameter.com.au)



## HolzEnergie in Augsburg

Exhibitors presented technology for small scale electricity production (seed oil) lots of pellet stoves, pellet boilers and pellet burners, a pellets based barbeque and biogas. Outside production of wood fuel was demonstrated.



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## PELLETS-EXPO Bydgoszcz, Poland

From 15<sup>th</sup> to 17<sup>th</sup> June 2005, the 3rd edition of PELLETS-EXPO will be held in Bydgoszcz, Poland.

Last time, more than 42 companies were presenting themselves during three days of the event. There were exhibitors from Poland, Germany, the Czech Republic, Italy, Sweden, Austria and the Netherlands. Compared to the past year, the fair in 2004 resulted in over triple as many exhibitors.

For more info please contact:  
info@ctpik.com.pl  
www.ctpik.com.pl

Don't miss  
Central European  
Biomass  
Conference  
2005  
January  
26<sup>th</sup>-29<sup>th</sup>  
Graz Austria

More information  
can be found:  
www.eva.ac.at/(en)/  
service/veranst/  
ceeconf.htm



Dr Heinz Kopetz  
invites you to Graz

## Clean Energy Exhibition - Poleko Fair in Poznan

For the 16th time the International Ecological Fair POLEKO was held in Poznan, Poland between 16<sup>th</sup> -19<sup>th</sup> of November. Poleko is considered as one of the largest ecological fair in Poland and in Central and Eastern Europe with many international companies pre-

senting ecological focus and experience.

Moreover renewable energy aspects had their own, special place in so called clean energy exhibition including very large biomass part. Many seminars were held during four days of event - many speakers presented their opinion

and reflection. Bioenergy International was also present there and apart from regular English version magazine first Polish edition was introduced to the Polish readers and was very popular. Next year we will meet there again!

Text and photos  
Dorota Natucka



Many larger and smaller representative of bioenergy sector were showing their technology and experience during Poleko 2004 in Poznan. From the left Polish pellet boiler produced by company Falencyk, next Italian pellet stove from Cs Thermos. German Fisher together with representatives of Swedish companies Agrobränsle and Iwabo were on the same stand. Pellets are becoming more and more popular in Poland...



Company Synergia uses CPM pellet mills when designing the new pellet production lines.



## Sustainable Energy Expo and Energy Efficiency Expo 2004 in London



Swedish stand



Bioenergy International  
was presented on almost  
each stand

Sustainable Energy Expo and Energy Efficiency Expo 2004 held in London between 19<sup>th</sup> and 21<sup>st</sup> of October opened its door for many delegates, speakers, exhibitors and visitors from different parts of the World. Few companies represented however not very large but very popular in UK bioenergy sector. Event was a combination of exhibition, conferences, workshops and on-floor seminars.

Text and photos Dorota Natucka

# BAXI

## WWW.BAXI.DK

Check our webpage under  
Export for Heating  
with Biomass around the world



EVO AQUA





MEMO



RIKA



www.rika.at

# Calendar



www.bioenergyinternational.com

## 2005

### January

26 - 27  
Clean Energy Power 2005  
Berlin, Germany  
www.energiemessen.de

26 - 29  
Central European Biomass  
Conference Graz, Austria  
www.eva.ac.at/(en)/service/veranst/ceeconf.htm

30 - 2 February  
Environment 2005 -  
Exhibition & Conference  
Abu Dhabi, United Arab  
Emirates  
www.ee-uae.com  
blohm@imag.de

### February

1 - 3  
PowerGen India and  
Central Asia 2005  
New Delhi, India  
info@interadsindia.com  
www.power-genindia.com

2 - 3  
GreenTech 2005-with  
9th Symposium on Re-  
newable Resources  
Potsdam, Germany  
mbouman@europoint-  
bv.com;www.europoint-  
bv.com/greentech2005

7 - 8  
5th International Slovak  
Biomass Forum  
Bratislava, Slovak Republic  
www.ecbratislava.sk/

8  
SEEC 2005 - Scottish  
Energy & Environment  
Conference Glasgow, UK  
www.seecon.org.uk

15 - 20

RIO5-LAREF 2005 -  
Latin America Renewa-  
ble Energy Fair  
Rio de Janeiro, Brazil  
info@rio5.com  
www.rio5.com

23 - 25  
Genera 05-Energy and  
Environment International  
Trade Fair Madrid, Spain  
www.genera.ifema.es

25 - 27  
Erneuerbare Energien  
2005 Böblingen, Gemany  
redaktion@energie-  
server.de  
www.erneuerbareenergien.com

### March

2 - 3  
European Pellets Conf.  
Wels, Austria  
www.esv.or.at/pellets05

2 - 4  
World Sustainable Energy  
Days 2005 Wels, Austria  
www.esv.or.at

16 - 18  
ENEX - New Energy  
2005 - International Fair  
and Congress for Rene-  
wable Energy and Ener-  
gy-Efficient Construc-  
tion and Rehabilitation  
Kilece, Poland  
www.enex-expo.com

### April

11 - 15  
International Pulpwood  
Resources and Trade  
Conference  
Montevideo, Uruguay  
www.pulpwoodconference.com  
florencia.herrera@pike.com.uy

14 - 15

Emissions Trading  
Developing Effective  
Risk and Trading Strate-  
gies for 2005 and Beyond  
London, UK  
www.mefinance.com

19 - 24  
Hannover Messe 2005  
Hannover, Germany  
www.messe.de

### May

2 - 6  
Ligna+ Hannover, Ger-  
many, www.ligna.de

23 - 25  
Rise International Ener-  
gy Conference 2004 -  
Technologies for Sustai-  
nable Energy Develop-  
ment in the Long Term  
Roskilde, Denmark  
h e i d i . a n d e r s e n  
@risoe.dk  
www.risoe.dk/conferen-  
ce/energyconf05

25 - 26  
All-Energy Opportuni-  
ties 2005, Aberdeen, UK  
www.all-energy.co.uk

### June

1 - 4  
Elmia Wood 2005 Jönkö-  
ping, Sweden www.elmia.se

15 - 17  
3rd International Fair of  
Devices and Technolo-  
gies for the wood pellets  
industry "Pellets-Expo"  
Bydgoszcz Poland  
www.ctpik.com.pl

23 - 25  
Astur Foresta  
5th National Trade Fair  
for Forestry Exploitation

Tineo, Asturias, Spain  
www.asturforesta.com

### September

12 - 15  
Bioenergy 2005  
In wood Industry, Inter-  
national Bioenergy Con-  
ference and Exhibition  
Jyväskylä, Finland  
www.jklpaviljonki.fi/  
bioenergy2005

14 - 16  
International Exhibition  
of Woodworking  
www.jklpaviljonki.fi/  
puu2005

22 - 25  
IHE - WoodEnergy  
2005 - International  
Trade Fair and Confe-  
rence for Wood Energy  
Augsburg, Gemany  
www.ihe-woodenergy.  
com

22 - 25  
RENEXP0 2005  
International Trade Fair  
and Congress for Rene-  
wable Energy and Ener-  
gy-Efficient Building  
and Reconstruction  
Augsburg, Germany  
www.renxpo.com

### October

17 - 21  
14th European Confe-  
rence & Exhibition on  
Biomass for Energy  
Industry & Climate Pro-  
tection Paris des Con-  
gress, Paris, France  
www.biomass-  
conference.com

26 - 28  
Bioenergy 2005  
International Nordic  
Bioenergy Conference  
Trondheim, Norway  
post@nobio.no  
www.nobio.no

### November

8 - 9  
Regular Recycling of  
Wood Ash to Prevent  
Waste Production, Rec  
Ash - seminar  
Prague, Czech Republic  
lars.andersson@svsst.svo.se

15 - 18  
Clean Energy Exhi-  
bition, Poleko2005 - Inter-  
national Ecological Fair  
Poznan, Poland  
www.poleko.mtp.pl

### 2006

#### March

10 - 12  
International Fair and  
Congress for Renewable  
Energy and Energy Effi-  
cient Building and Re-  
construction  
Böblingen, Germany  
www.erneuerbareenergien.com

30 May - 1 June  
World Bioenergy 2006  
Conference & Exhibition  
on Biomass for Energy  
Jönköping, Sweden  
www.worldbioenergy.se

#### October

19 - 22  
IHE - WoodEnergy 2006  
www.ihe-woodenergy.com

19 - 22  
RENEXP0 2006  
www.renxpo.com

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Do not forget that the Bioenergy International will be published 6 times in 2005. Inform us about your fair, conference, seminar and we will put all the information in our calendar.

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sales@taloil.se • www.taloil.se

TalOil has its own production and storage facility in the harbour of Liepaja, located on the west coast of Latvia.

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