ANNUAL REVIEW 2001







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Steel erection of Unit 4 at the Turów site began in November 2001.



## Leading-Edge Energy Generation Solutions

Foster Wheeler Energia Oy is a specialist in turnkey power station projects, boiler technology, and related maintenance and service operations. Products and services are supplied to a wide range of utility and industrial customers in the Nordic countries, around the Baltic Rim, Continental Europe, and Asia.

Fluidized bed boiler technology lies at the heart of Foster Wheeler's offering. Foster Wheeler Energia and other companies owned by Foster Wheeler Ltd. have supplied more than 300 fluidized bed units to customers over the years. Over 200 of these are advanced circulating fluidized bed (CFB) designs, a market in which Foster Wheeler has close to a 50% share of global sales.

Foster Wheeler's CFBs and bubbling fluidized bed (BFB) boilers have an excellent track record of delivering high levels of efficiency and availability, and are capable of firing a wide variety of fuels – including many difficult-to-burn biofuels – with very low levels of environmental emissions. This technological leadership has seen an increasing number of customers opt for turnkey project deliveries.

Foster Wheeler Energia's head office is located in Helsinki. The bulk of personnel are based in Varkaus,

where engineering and manufacturing takes place. Research and development activities are based in Karhula. Outside Finland, Foster Wheeler Energia has subsidiaries in Poland, where manufacturing also takes place, Germany, Sweden, Thailand, and Indonesia.

Foster Wheeler Energia employs some 970 people, of whom close to 600 are based in Finland. Annual net revenues in 2001 totaled  $\in$  307 million. A total of 32 projects in 12 countries were in progress during the year; and the order book as of the end of 2001 stood at some  $\in$  720 million.

#### Products and services

- Turnkey power plants
- Complete boiler islands
- Circulating fluidized bed boilers
- Bubbling fluidized bed boilers
- Gasifiers
- Waste heat recovery boilers
- Heat recovery steam generators
- Boiler modernization projects
- Maintenance, service, and training

#### Engineering for a better world

Foster Wheeler Energia Oy is part of Foster Wheeler Ltd., an international organization providing engineering services and products to a broad range of industries, such as oil and gas, petrochemicals, pharmaceuticals, chemicals, and power generation.

Services include design, engineering, construction, and procurement, as well as project management, research, plant operation, and environmental services. Operations are divided between two business areas: Engineering and Construction, and Energy.

Foster Wheeler Ltd. had net revenues of USD 3.4 billion in 2001, and employs over 10,000 people.

#### Foster Wheeler Energia's revenue by market area in 2001





# The Year in Focus

#### January

Anhui TongDu Copper Stock Co. Ltd. ordered a waste heat recovery boiler plant for its smelter in Tongling in eastern China.

#### February

In line with a decision to focus Finnish operations in Varkaus, it was announced that activities at Foster Wheeler Energia's project design and management office in Kaarina will be transferred to Varkaus. The phased transfer should be completed by late 2002.

#### April

Foster Wheeler received a notice to proceed on the modernization of Unit 4 as part of the ongoing repowering project at the Turów power plant in Poland. Disassembly of the old unit began immediately.

#### May

AS Narva Elektrijaamad, a subsidiary of Estonia's stateowned utility, Eesti Energia, awarded Foster Wheeler an approximately € 250 million turnkey repowering contract. The project covers modernizing 400 MW of capacity at the world's two largest oil shale-fired power plants with new CFB technology offering considerably enhanced environmental performance.

Foster Wheeler Energia and Taitotalo Oy signed a lease agreement covering a new office building for 290 people, half of whom will be Foster Wheeler personnel, to be built at the company's Varkaus site. Work on the first stage of the project began in July.

#### June

Installation work began on the site of the new Elcho CHP plant in Poland.

Germany's MVV Energie AG ordered a 20 MWe turnkey power plant to be fueled on demolition wood for a site near Berlin. The CFB-based plant is the first to be built within the framework of Germany's new bioenergy legislation.

Heizkraftwerk Kehl GmbH placed an order for a 44 MWth CFB boiler plant to generate electricity for the national grid and process steam for a nearby paper mill.

Electrabel selected Foster Wheeler to supply a 50 MWth biofuel gasifier for its Ruien power station in Belgium.

#### September

AS Narva Elektrijaamad issued an official notice to proceed on phase one of the Estonian repowering project awarded in May.

#### November

A new Power Plant Engineering Department was set up to support turnkey engineering, procurement, and construction (EPC) projects. The new department will reinforce and further develop Foster Wheeler Energia's inhouse power plant technology expertise for the company's growing number of turnkey projects in Estonia, Finland, Poland, and Germany.

#### December

Germany's Prokon Nord Energiesysteme GmbH ordered a 63 MWth CFB boiler plant fired on demolition wood for a plant in Papenburg.

Russia's Norilsk Nickel ordered a waste heat recovery boiler for its Nadezda smelter.

# **President's Review**

Last year, 2001, was quite a satisfactory year in terms of performance for Foster Wheeler Energia. Our revenues grew by 23% compared to 2000, to  $\in$  307 million, and our operating profit also improved by a similar percentage. Sales, at  $\in$  390 million, came in only slightly below the record levels booked in 2000 and 1999. Our order book grew by over 15%, to  $\in$  719 million at the turn of the year, our largest ever. Foster Wheeler Energia's strong balance sheet and good cash situation, combined with this performance, give us a good base for the future.

The global market for new energy generation plants and related services remained largely unchanged compared to the last couple of years. Europe was the focus of new projects for us, while Asia remained quiet. Within Europe, the share of our business accounted for by Nordic customers was relatively small, as we had expected it would be, with a large service component. Our success in winning a contract to repower two large boiler islands in Narva in the spring put Estonia at the top of the list of new contracts. Estonia was followed by Germany, where we won three projects on the back of the country's wave of bioenergy investments. We also agreed new deliveries with customers in Belgium, China, and Russia.

All in all, 2001 saw us working on a total of 32 projects in 12 countries. The most important of these were Turów and Elcho in Poland and Narva in Estonia. A large proportion of projects, as measured in terms of order book value, were turnkey deliveries, where Foster Wheeler is responsible for supplying a complete plant.

The company's structure and product range remained unchanged in 2001. In Finland, we continued to focus activities at our main location in Varkaus, where a new office building will be completed at the end of 2002. Elsewhere, we strengthened our resources in Germany to complement our increased number of projects there.

The prospects for 2002 are very positive. Our strong order book in itself guarantees good growth. Preliminary agreements and other indications point to us achieving sales at least as high as those booked in



the last couple of years. We are also committed to seeing through our existing projects on timetable and on budget. We expect to see a clear improvement in our result in 2002, both in absolute and relative terms.

Timo Kauranen President & CEO

Turów has been Foster Wheeler's largest project to date in Poland. The notice to proceed on Unit 4 was received in April 2001. Steel erection began in November and the installation of pressure parts started in April 2002.

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## **Continental Europe**

#### Strong in Europe

Continental Europe – Poland and Germany in particular – continues to account for a large proportion of Foster Wheeler Energia's current projects. The company's success here highlights the competitiveness of its overall offering, whether in the form of complete boiler islands or turnkey power plants, both technologically and from a project delivery standpoint.

#### The CFB leader in Poland

In Poland, Foster Wheeler Energia has continued to consolidate its leading position and 75% share of the local market for CFB deliveries – and progressed well on its two major projects, Turów and Elcho, during 2001. Foster Wheeler has been contracted to supply 2,000 MWe out of Poland's 2,700 MWe of new CFB capacity since 1995.

The Turów and Elcho projects have been instrumental in developing in-depth project and site management expertise in Poland, and extending cooperation between Foster Wheeler's project personnel and manufacturing base in Finland with those in Poland. These strengths will further reinforce Foster Wheeler's position in the future.

This will be particularly important, given the govern-

ment's reassessment of Poland's energy policy and the likely slow-down in new power projects over the next few years. The fact that some 95% of Polish generating capacity is coal-fired, and a significant proportion an underperformer in terms of environmental emissions – combined with the country's application to join the EU – means, nevertheless, that Poland will remain an important market.

#### Turów on track

The current € 370 million stage of the company's single largest project to date, the repowering of the 2,000 MWe lignite-fired Turów power plant in south-western Poland, the country's second-largest, is progressing to timetable and budget.

This stage was preceded by the modernization of three units with 235 MWe CFBs. These are now operating highly successfully, providing reliable power with large reductions, in the order of 90%, in  $SO_2$  and particulates emissions, as well as a sizeable reduction in  $NO_x$  emissions, compared to the original technology.

Units four, five, and six at Turów are being fitted with advanced CFBs, which will generate 260 MWe on a footprint no larger than the original 200 MWe units they are replacing – and are the largest CFBs of their "We're one and half years into the project, or half-way," says Elcho's Project Director, Tore Ahlgren (left), "and making excellent progress. We've got some 70 to 80 people in the project team and around 800 people on site at the moment in spring 2002, with advance commissioning personnel beginning to arrive."



"Elcho is very much a joint effort between us here in Poland and our colleagues in Finland," says Jaroslaw Mlonka, Director, Projects (right) at Foster Wheeler Energia Polska. "We've really made an effort to learn each other's ways of doing things and get the maximum benefit from both. And it shows on the ground I believe, the site's working very well. The Finnish contribution was bigger during the engineering stage, and now the focus is on the Polish side."

"Glueing everything together just right has been especially important, as Elcho is Foster Wheeler Energia's largest turnkey project of its type on a greenfield site to date – and it will be an important reference for us in the future," says Tore. "Not only in Poland, but generally."



type to be designed and delivered to date by Foster Wheeler. The turbine islands, electrical and control systems, and other auxiliary equipment are being supplied by Foster Wheeler's consortium partner, Alstom.

Commissioning of the first unit will begin in June 2002, with handover to the customer scheduled in November 2002. Full output at all three units is officially timetabled for early 2005.

#### First turnkey power plant delivery in Poland

Work on Foster Wheeler's first turnkey power plant delivery in Poland, a  $\in$  235 million CHP plant at Chorzów in Upper Silesia, reached approximately 50% completion by the end of 2001. Full-scale work at the site started in November 2000, immediately after the notice to proceed with the project was received from the customer, EC Chorzów Elcho.

Installation work at the site started in June 2001, with the erection of the steel frame for the boiler building and silo facility. Drum lifting of the first boiler took place in October 2001, and of the second in December. Hydrotesting of the first boiler took place in April 2002.

Foster Wheeler is supplying two 112 MWe units, each equipped with a state-of-the-art 274 MWth CFB, together with turbine generators, cooling towers, district heat system, fuel handling equipment, water treatment plant, automation and electrification systems, storage facilities, and ancillary buildings.

The plant will be capable of generating up to 500 MWth of district heat for the Chorzów-Katowice region, an area where Foster Wheeler-built units are already in operation in Jaworzno and Katowice. The two latter plants were completed in 1999 and 2000; operations there are supported by Foster Wheeler's 24hour service cover. The latter service is also offered in the Czech Republic and is being developed for German customers.

The Elcho plant, which will replace an existing pulverized coal-fired station located adjacent to the new site, is scheduled to begin commercial generation in 2003, with handover to the customer the same fall.

#### A milestone year in Germany

In Germany, 2001 was a milestone year in new biopower plants, with Foster Wheeler winning all three of the country's CFB-based, biomass-fired projects awarded to date. This confirms the proven track record of Foster Wheeler's boiler designs in firing wood and process waste produced by the pulp and paper industry and a wide range of other fuels. The ability of Foster Wheeler's CFBs to fire biomass efficiently with a minimum requirement for flue gas scrubbing puts the company in an excellent position to compete for further new plants of this type in Germany. The latter is an exciting market, as 20 to 30 more projects in the 5-20 MWe size range are expected to be put out for tender in the wake of the introduction of progressive new bioenergy legislation.

The new projects also underline Foster Wheeler's growing reputation as a reliable CFB supplier on the German market, thanks to the success of its deliveries to Hornitex Werke, most recently a 94 MWth boiler plant fired on waste wood, chipboard waste, and sawmill dust.

#### Three new projects

The three new projects – for MVV Energie AG, Heizkraftwerk Kehl GmbH, and Prokon Nord Energiesysteme GmbH – represent an approximately EUR 80 million addition to Foster Wheeler Energia's order book.

The official notice to proceed on the largest of the projects, for MVV Energie, which was received in February 2002, covers a 20 MWe turnkey power plant located at Königs Wusterhausen near Berlin, scheduled for completion in mid-2003. The design features an advanced CFB boiler equipped with Foster Wheeler's proven INTREX<sup>™</sup> heat exchangers. This will provide high steam values, together with excellent levels of efficiency and availability, using the plant's primary fuel, demolition wood and wood waste, while fully complying with Germany's tough environmental emission norms. The plant will be the first to benefit from changes in legislation introduced in May 2001 to promote the use of bioenergy in Germany, and will qualify for guaranteed electricity prices for 20 years from completion.

Foster Wheeler was selected by Heizkraftwerk Kehl GmbH, majority owned by a subsidiary of Germany's second-largest utility, RWE, to supply a turnkey 44 MWth CFB boiler plant in June 2001. This biomass-fired unit will be part of a plant supplying green electricity to the national grid and process steam to the Köhler paper mill in Kehl. The plant is scheduled for completion in early 2003.

At the end of the year, in December, Foster Wheeler was awarded a contract by Prokon Nord Energiesysteme GmbH for a 63 MWth CFB unit, also fired on demolition wood, for a power plant in Papenburg. The plant, which is scheduled for completion in fall 2003 and will primarily supply industrial customers, will also generate 20 MW of electricity.

#### New gasifier for Belgium

Electrabel, one of Europe's major energy companies and the market leader in the Benelux countries, has awarded Foster Wheeler an order for a 50 MWth biofuel gasifier to be built at its Ruien power station, as part of the company's expanding renewable energy program.

Foster Wheeler will supply a Kymijärvi-type gasification plant together with ancillary systems, including structures, electrification, instrumentation, automation, and commissioning services. Completion is scheduled for October 2002, with commercial operation starting in early 2003.

Foster Wheeler has pioneered commercial fluidized bed boiler technology, and is the world's leading developer and supplier of this technology today. A Global Center of Excellence, Fluid Bed Technology based in Finland coordinates work in this key area, in particular that on advanced circulating fluidized bed (CFB) boilers.



## **The Baltic Rim**

Foster Wheeler Energia continues to be the supplier of choice for many utilities and industrial users on its traditional home markets of Finland and Sweden, which saw very few new power plant orders in 2001. Work progressed well on the two largest projects awarded in 2000, for Äänevoima Oy and Jämsänkosken Voima Oy, as well as on other smaller ones – such as the turnkey delivery of a 52 MWth district heating plant handed over to Turku Energia in November. The most important single development, however, was the winning of a major repowering contract in Estonia.

#### A major step forward for Estonia

AS Narva Elektrijaamad, a subsidiary of Estonia's stateowned utility, Eesti Energia, awarded Foster Wheeler an approximately  $\in$  250 million, three-year turnkey repowering contract in May.

Foster Wheeler is to supply four 100 MWe CFB boilers in two boiler islands, modernize two existing 200 MWe turbogenerators, and carry out extensive construction and ancillary work at the Eesti and Balti power stations in Narva. With a total combined design capacity of some 2,900 MWe and 590 MWth of district heat, the plants are the world's largest oil shale-fired facilities. Work at the first phase site (Eesti) began in midOctober. Completion and hand-over of the Eesti unit is scheduled for March 2004, and of the Balti unit for September 2004.

The advanced design of Foster Wheeler's CFB boilers was a key factor in winning the contract. Extensive studies have shown that they are capable of firing oil shale highly efficiently and with excellent levels of environmental emissions. This is especially critical as oil shale is a notoriously difficult fuel, with low calorific value and a high level of corrosion-promoting ash content.

Reductions of some 91%, 97%, 34%, and 10% in emissions of SO<sub>2</sub>, particulates, NO<sub>x</sub>, and CO<sub>2</sub> respectively will be achieved without the need for separate desulphurization or limestone feeding – as the limestone present in the fuel, together with Foster Wheeler's modified single reheat boiler design, will be sufficient.

#### Two large contracts in Finland

Work on the turnkey contract for Äänevoima Oy – to supply a 157 MWth bubbling fluidized bed (BFB) boiler and 35 MWe steam turbine plant – progressed on target for the start of commercial generation in October 2002. Erection of the plant's pressure parts began in September and hydrotesting took place in December. The new plant will generate process steam and electricity for M-real's Äänekoski pulp and paper mill, electricity for a carboxymethyl cellulose (CMC) production facility, and district heat for municipal use.

A large part of the work on Foster Wheeler Energia's largest BFB order to date, a 185 MWth plant for Jämsänkosken Voima Oy, was completed by the end of the year, enabling it to be handed over to the customer in spring 2002. The unit is the first solid fuel-fired boiler to be ordered from Foster Wheeler for use by UPM-Kymmene, and will supply the company's Jämsänkoski paper mill.

#### Good progress in Sweden

The 46.5 MWth CFB delivery for Lycksele Energi AB was handed over at the beginning of the year, while test runs were carried out at the 98 MWth CFB boiler plant ordered by Vattenfall for SCA's paper mill at Munksund in December prior to hand over in early 2002. Katrinefors Kraftvärme AB's BFB-based CHP plant (36 MWth) began generation at the end of the year and was handed over in spring 2002. Mechanical erection of a 125 MWth boiler for Jämtkraft AB in Östersund, a long-time Foster Wheeler customer, was also largely completed.

Foster Wheeler Energia's turnkey plant for Äänevoima Oy in Finland is approaching completion.



"The Narva project is definitely a 'big job'," according to Project Manager Pertti Niemi (right). "We're talking about two sites, four boiler islands, 27,000 tonnes of material, purchases across Europe, and a combined maximum workforce of around 1,000 people – as well as a tight timetable."



"The fact that there's no recent experience in Estonia of this scale of power station construction is a special challenge," says Kari Kauppinen, Construction Manager (left), "and we're bringing in quite a lot of specialists from elsewhere as a result. Things have gone very positively so far, and we've been very happy with our local partners and the quality of their work. We'll start erecting the first boiler in August 2002, and then we'll really start moving."

"We're also working with a difficult fuel," says Pertti. "Our CFB technology is renowned for its ability to burn problem fuels, however, and the boilers we're using here have been specifically designed to deal with the quantity and corrosive nature of the ash that burning oil shale generates. The improvement in environmental performance and reliability will be really dramatic."

## **Service Operations**

Service is becoming an increasingly integral part of Foster Wheeler Energia's operations. Close cooperation with the customer – through preventive condition monitoring, rapid-response repair work and replacement part deliveries, and modernization projects – is central to ensuring that plants offer high levels of availability and cost-effective performance throughout their operational life.

Extending the scope of service operations, personnel began assuming responsibility for warranty period work on new deliveries during 2001. This approach will give customers a greater degree of locally based assistance and help build stronger long-term customer relationships. Reflecting Foster Wheeler's growing number of turnkey power plant deliveries, additional personnel were recruited in Finland, Sweden, Poland, and Thailand to broaden the in-house skill base in the service area beyond the company's core boiler know-how, and develop a service partner network.

2001 was another busy year for service operations. Important projects in Finland included those for Outokumpu Harjavalta Metals, Kemira's phosphate plant at Siilinjärvi, and the Corenso gasifier in Varkaus. In Sweden, Foster Wheeler Energia's second-largest service market, projects for new customers included work on a soda recovery boiler for SCA Packaging at Obbola and modernization of a waste heat recovery unit at a pelleting plant operated by LKAB in Svappavaara. The latter was the first project carried out in the metallurgical industry in Sweden.

#### Growth outside the Nordic area

The last few years have seen the focus of growth in the service area shifting increasingly to markets outside Finland. The service-related experience that has been built up in Sweden over a number of years, for example, has been instrumental in the successful development of a solid service presence in Thailand and Indonesia to support customers here and elsewhere in Asia over the last couple of years.

Work moved ahead during 2001 to develop service activities in Poland, based at the Fakop site in Sosnowiec, into a fully-fledged service center. As part of this, service has been extended to utilities using pulverized coal boilers. Initial work has been started in Germany aimed at offering service packages to customers of existing plants and as part of new deliveries.

The better a plant is maintained, the more efficiently and the longer it will operate – benefiting both the operating utility and the end-customer.



"We cover a wide range of power plants and boilers, all with different needs. In terms of what's particularly challenging, at least for me, the waste heat recovery boilers used in the metallurgical industry are probably at the top of the list," says Project Manager Hannu Vainonen.



"We've developed a close relationship with nickel and copper producer, Outokumpu Harjavalta Metals, for example. Working alongside them like this, we can monitor and evaluate their needs and offer them a good maintenance and development and upgrade path for their equipment that can be implemented in their very short production outages. These typically last a week to 10 days, when the 50 to 100 people we have on site work virtually around the clock. Our 2001 project for them was particularly successful.

"Working to very tight timetables like this means there's no time to experiment or redo, you pretty much have to get it right the first time around. Giving a good standard of service today on existing units, either supplied by us or other manufacturers, only strengthens our longterm position when customers have a new project they want delivered."



# **Emerging Markets; Technology**

#### **Cautious prospects in South-East Asia**

The South-East Asian market for new power plants continued to be quiet in 2001. Foster Wheeler Energia's main emphasis in the region was focused on service work associated with existing deliveries. The role of locally based service operations, which have been in place for around two years now, has been particularly important here. This presence also gives Foster Wheeler an on-the-spot opportunity to follow market developments and monitor the opportunities for efficient, clean-burning CFB technology that are likely to be brought by the region's economic recovery.

In China, good progress was made on the delivery of two 156 MWth CFB units for Jinling Petrochemical Corporation, a Sinopec company, and the handover took place in early 2002. Mechanical erection reached its peak during the spring on two 218 MWth boilers at Sinopec's Jinshan facility. Foster Wheeler's success in winning its first order for a waste heat recovery boiler for an Ausmelt process-based smelter in 2000 saw Anhui TongDu Copper Stock Co. Ltd. order a waste heat recovery boiler plant for its smelter modernization project in Tongling, also based on Ausmelt technology.

Russia's Norilsk Nickel, ordered a waste heat recovery boiler for its Nadezda smelter, based on Outokumpu's flash smelting technology, in December.

#### Maintaining our technological leadership

2001 was the first full year of operations of Foster Wheeler's Global Center of Excellence, Fluid Bed Technology, established in summer 2000. Together with the basic research on fuels, materials, and core technologies carried out by the Karhula Research & Development Center, the Center of Excellence will be a critical factor in coordinating Foster Wheeler's extensive range of technology in this area and maintaining the company's technological and market leadership.

The Center of Excellence has moved ahead rapidly in practical areas such as updating global engineering manuals and further developing design software. The Center represents an important resource for sales teams in helping them offer the best technological concepts for the different needs of individual potential customers, and for project teams designing and engineering deliveries. This has been particularly highlighted in work on the demanding Narva oil shale project and the series of three biomass plants fired on demolition wood awarded to Foster Wheeler in Germany.

Foster Wheeler is developing a series of new, intelligent on-line systems for analyzing and optimizing power plant operation and maintenance. Diagnostic tools covering boiler bed condition, fuel quality, emission optimization, corrosion, and fouling are being integrated with process performance software to offer enhanced availability, better boiler and maintenance management, and improved training opportunities.

Further work has been done on enhancing the peat combustion capability of Foster Wheeler boiler designs, and developing waste to energy concepts, as well as supercritical CFB technology. The latter offers a further step-up in efficiency and emissions performance over existing technology. Development work at the Karhulabased R&D Center continued on the gasification of biomass fuels and waste, and on the development of syngas cleanup systems to meet requirements stipulated by new EU directives.

# Project deliveries in progress in 2001

Customer/Project name or location	MWth	Fuel
Circulating fluidized bed (CFB) boilers		
AS Narva Elektrijaamad, Narva, Estonia*	4 x 243	Oil shale
Jämtkraft AB, Östersund, Sweden	125	Forest residue, peat,
		bark, saw dust, recycled wood
Vattenfall AB Energimarknad, Munksund, Sweden	97.5	Bark, paper reject, forest residue
Viken Energinett AS, Oslo, Norway	34.5	Solid recovered fuel
Mälarenergi AB, Västerås, Sweden	157	Forest residue, peat, coal
Lycksele Energi AB, Lycksele, Sweden	46.5	Forest residue, bark, peat,
		wood pellets
Stockholm Energi AB, Högdalen, Sweden	91	Solid recovered fuel, recycled
		wood, forest residue, bark
MVV Energie AG, Königs Wusterhausen, Germany*	60	Demolition wood
Prokon Nord Energiesysteme GmbH		
Papenburg, Germany	63	Demolition wood
EC Chorzów Elcho Sp. z o.o., Chorzów, Poland*	2 x 274	Bituminous coal
EC Turów, Bogatynia, Poland*	3 x 557	Brown coal
Heizkraftwerk Kehl GmbH, Kehl, Germany	44	Demolition wood
China Petro-Chemical International, Jinling, P.R.C.	2 x 156	Petroleum coke, coal
China Petro-Chemical International, Jinshan, P.R.C.	2 x 218	Petroleum coke, coal
Bubbling fluidized bed (BFB) boilers		
Äänevoima Oy, Äänekoski, Finland*	157	Bark, sludge, forest residue, peat
Jämsänkosken Voima Oy, Jämsänkoski, Finland	185	Bark, sludge, forest residue, peat
Katrinefors Kraftvärme AB, Mariestad, Sweden*	36	Deinking sludge, forest residue,
		recycled wood
Salmivoima Oy, lisalmi, Finland	45	Peat, bark, wood residue,
		solid recovered fuel

Customer/Project name or location	MWth	Fuel
Turku Energia, Turku, Finland*	52	Forest residue, bark, saw dust
Vamy Oy/Vattenfall Oy, Anjalankoski, Finland	80	Bark, sludge, forest residue,
		peat, solid recovered fuel
Modo Paper AB, Husum, Sweden	87	Bark, sludge
Södra Cell AB, Mönsterås, Sweden	73/105	Bark, sludge
Heat recovery steam generators (HRSG)		
Fortum Engineering, Wacker-Chemie, Germany	318	Natural gas
Waste heat boilers (WHB)		
Norilsk Nickel, Norilsk, Russia	60	Smelting furnace gases
Anhui TongDu Copper Co., Jinchang Smelter,		
Tongling, China	30	Smelting furnace gases
Caraiba Metais S.A., Dias D´avila Bahia, Brazil	30	Smelting furnace gases
Foster Wheeler America Latina, Paraibuna, Brazil	20	Roasting furnace gases
Amplats, Rustenburg Platinium Mines Ltd.		
Rustenburg, South Africa	30	Converting furnace gases
Nicico, Middle East	40	Smelting furnace gases
Oil and gas-fired boilers		
Vamy Oy, Myllykoski, Finland	2 x 45	Oil, natural gas
Gasifiers		
Electrabel, Ruien, Belgium	50	Biofuel
Corenso United Oy Ltd., Varkaus, Finland	40/68	Liquid packaging reject
* Turnkey EPC plant delivery		

# Consolidated Income Statement, January 1 - December 31, 2001

€ 1,000	2001	2000	1999
REVENUES	307,444.7	238,189.6	196,882.4
Change in inventories of			
finished and unfinished goods, +/-	318.2	-5,080.9	-4,722.9
Production for own use	-		20.8
Other operating income and expenses	-705.7	4,625.7	3,864.4
Other operational expenses	24,754.7	23,222.4	-24,562.9
Other expenses, total	277,314.5	210,446.5	161,401.0
OPERATING PROFIT	4,988.0	4,065.5	10,080.8
Financial income and expenses	1,381.4	-897.7	-2,170.7
Profit (loss) before extraordinary items	6,369.4	3,167.8	7,910.1
Extraordinary items, +/-	-	353.3	
Profit (loss) before appropriations and taxes	6,369.4	3,521.1	7,910.1
Income taxes	-1,815.6	-875.6	-2,574.7
Minority interest	-1,429.8	-50.2	-187.6
NET EARNINGS	3,124.0	2,595.3	5,147.8

# **Consolidated Balance Sheet as of December 31, 2001**

€ 1,000	2001	2000	1999
ASSETS			
Non-current assets	41,705.8	43,328.1	45,130.2
Intangible assets	21,185.9	22,088.1	22,829.7
Intangible rights	607.8	687.2	619.4
Goodwill	20,140.1	20,840.7	21,541.2
Other capitalized long-term expenses	438.0	560.2	669.1
Tangible assets	19,802.0	20,542.9	22,277.3
Land	790.6	790.6	790.6
Buildings	13,491.2	14,810.5	15,482.2
Machinery and equipment	5,148.3	4,584.1	5,374.1
Other tangible assets	323.0	93.5	88.5
Prepayments and			
projects in progress	48.9	264.2	541.9
Investments	717.9	697.1	23.2
Other shares and holdings	17.7	17.0	23.2
Participating interests	700.2	680.1	-
Current assets	179,932.7	131,153.3	106,763.3
Inventories	3,673.1	4,732.9	3,584.0
Raw materials	3,552.8	2,804.1	1,508.6
Work in progress	120.3	1,928.8	2,075.4
Receivables	133,185.9	95,923.0	72,978.9
Long-term	201.8	1,076.4	983.9
Notes receivable	201.8	1,076.4	983.9
Short-term	132,984.0	94,846.6	71,995.0
Trade receivables	61,165.0	35,208.5	27,541.1
Uncompleted projects	57,934.7	53,484.8	36,178.5
Notes receivable	1,048.2	1,078.1	734.9
Other receivables	547.8	-	943.5
Accrued income	12,288.3	5,075.2	6,597.0
Cash and cash equivalents	43,073.8	30,497.4	30,200.4
Assets, total	221,638.5	174,481.4	151,893.5

€ 1,000	2001	2000	1999
LIABILITIES			
Shareholders' equity	65,184.5	44,258.0	43,383.3
Common stock	15,000.0	15,000.0	15,000.0
Paid-in capital	14,220.3	14,220.3	14,220.3
Legal reserve	792.6	741.5	582.5
Retained earnings	12,748.0	11,701.0	8,322.2
Net earnings	3,124.0	2,595.3	5,258.3
Minority interest	3,158.4	1,567.5	1,398.4
Subordinated loan	19,299.6	-	-
Group reserve	88.1	88.1	439.2
Other provisions	273.7	201.3	344.9
Liabilities	152,933.8	128,366.4	106,327.7
Deferred tax liability	3,810.2	3,705.3	3,633.8
Long-term			
Loans	250.6	104.6	31.3
Loans from consolidated subsidiaries	-	19,299.6	19,299.6
Short-term			
Trade payables	52,212.4	36,317.9	23,424.5
Advances received	13,974.0	27,760.1	7,025.2
Other payables	82.7	265.0	6,546.5
Accrued expenses	82,603.9	40,913.9	46,366.8
Liabilities, total	221,638.5	174,481.4	151,893.5

Company auditors: PricewaterhouseCoopers Oy



Foster Wheeler Energia Oy's Management Team, from left to right: Riitta Hovi (Corporate Counsel), Ari Aalto (Vice President, Sales), Timo Kauranen (President, CEO), Matti Meltti (Chief Financial Officer), and Tuomo Hulkkonen (Executive Vice President).

### **BOARD OF DIRECTORS**

Henry E. Bartoli (Chairman), (until April 22, 2002) Thomas O'Brien (Chairman), (beginning April 22, 2002) Timo Kauranen Anthony Scerbo

## **PROFIT CENTERS**

Europe, Markku Kostamo Home Market & Emerging Markets, Matti Maskuniitty Service, Jari Hankala

## **SUPPORT UNITS**

Design, Jouni Tuononen Field Services, Ari Reunanen Power Plant Technology, Jorma Pellikka Research & Development, Folke Engström Technology, Ragnar Lundqvist

## **GROUP SERVICES**

Accounting, Tuula Rissanen Communications, Peter Herring Financing, Sirpa Hämäläinen Human Resources, Lea Rosqvist Information Management, Riitta Kauppinen Information Systems Development, Seppo Tunturi

## **LOCAL OPERATIONS**

Foster Wheeler Energi AB, Sweden, Christer Olson Foster Wheeler Energie GmbH, Germany, Kari Niemelä Foster Wheeler Energia Polska Sp. z o.o., Poland, Boguslaw Piekarski Foster Wheeler Energy Fakop Ltd., Poland, Andrzej Niderla Foster Wheeler Energy Central Europe, Inc., Czech Republic, Jiri Smola PT Foster Wheeler Services, Indonesia, Hendrik Setiarso Foster Wheeler Service (Thailand) Limited, Tommi Ijäs



Markku Kostamo Regional Director Europe



Matti Maskuniitty Regional Director Home Market Emerging Markets





Ragnar Lundqvist Vice President Technology



Folke Engström Vice President Research & Development



Boguslaw Piekarski President Foster Wheeler Energia Polska Sp. z o.o.

Kari Niemelä President Foster Wheeler Energie GmbH



Christer Olson President Foster Wheeler Energi AB



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