

EMAS - Newsletter

The European Eco-Management and Audit Scheme

Improving your environmental and business performance
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KHAL-07-004-EN-C

EMAS in figures

In December 2007, EMAS has collected the highest number of registered organisations in its history, even higher than in December of 2001, when EMAS II showed its first results on the register. A total of 5914 sites and 3935 organisations are in the EMAS register as of December 31st, which equals to a plus of 5.8% in sites and 5.6% in organisations for the second half of the year. This equals to more than 1.6 Mill. people working in these sites.

Registered organisations	and sites
Austria	252 488
Belgium	42 336
Bulgaria	0 0
Cyprus	0 0
Czech Republic	28 30
Denmark	96 249
Estonia	2 2
Finland	41 48
France	13 13
Germany	1,464 1,954
Greece	56 59
Hungary	13 16
Ireland	6 6
Italy	755 1046
Latvia	8 13
Lithuania	0 0
Malta	1 1
Luxembourg	0 0
Netherlands	11 15
Norway	27 27
Poland	7 7
Portugal	61 66
Slovak Republic	5 5
Slovenia	1 1
Spain	905 1090
Sweden	71 72
United Kingdom	69 369
TOTAL	3,935 5,914

Leading industrial sectors:

Sectors	Organisations
• Sewage and refuse disposal	268
• Chemicals	267
• Food and beverages	259
• Fabricated metal products, except machinery and equipment	247
• Electricity, gas, steam and hot water supply	202

Leading service sectors:

Sectors	Organisations
• Hotels and restaurants	233
• Public authorities	243
• Other business activities	189
• Education	156

News

Enhanced recovery and recycling of X-ray tube assemblies at Siemens AG Medical Solutions

Siemens Medical Solutions operations at Erlangen in Germany have been EMAS-registered since 1996. In 2007, with 6 273 employees, it won the German national EMAS award in the large enterprise category in recognition of its commitment to waste prevention and its innovative approach to waste management.

Siemens Medical Solutions has integrated recycling options in the product design phase for a number of years. One of the company's key waste management innovations has been the introduction of a process which allows the reuse of high performance x-ray tube assemblies. This process requires collection of used tube assemblies from around the world and transport back to Erlangen. To ensure a high level of product return, Siemens covers the delivery costs for returned components. In addition customers who return used equipment are then entitled to a reduction when purchasing new equipment. Customer product documentation provides all necessary information about the materials used and what happens to equipment at the end of its life cycle.

At present 98% of x-ray tube assemblies are returned to Erlangen. 50% of the weight of one x-ray tube assembly is recovered and reused on average. As 10 000 x-ray tube assemblies with an average weight of 50 kg are returned and recovered, this represents prevention of 250 tonnes of waste a year.

The processes used by Siemens Medical Solutions to recover and reuse old components complies with the international standard IEC 62309, Dependability of products containing reused parts - Requirements for functionality and tests. Siemens Medical Solutions contributed its experience on waste management and recovery and reuse to the development of this standard.

Contact : Dr. Peter Illini - Email : peter.illini@siemens.com



SIEMENS One of 10 000 x-ray tube assemblies being dismantled for re-use of parts.

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Upcoming events

21 April 2008
Midlands, UK
ISO 14001 and EMAS Foundation Courses
 Training course for EMS, programme & registration:
<http://www.iqms.co.uk/management-training/environmental/iso14001-emas-foundation.html>

10 - 12 March 2008
Vienna, Austria
EMAS Training Course for environmental managers
 Introduction in EMAS methodology;
<http://www.ars.at/pdf/EN831205.pdf>
 Programme: <http://www.ars.at/pdf/EN831205.pdf>

7 March 2008
Santiago de Compostela
Conference: New Trends in Sustainability Management
 More info is available from Noelia Romero mail: efcpca@usc.es

March 2008
Toulouse, France
International workshop EMAS Easy South

3 March 2008
North East, UK
ISO 14001 and EMAS Foundation Courses
 Training course for EMS, programme & registration:
<http://www.iqms.co.uk/management-training/environmental/iso14001-emas-foundation.html>

28 February 2008
Vienna, Austria
EcoBusinessGala
 Companies and institutions which have implemented eco-efficiency tools including EMAS in 2007, will receive awards for best improvements in environmental protection. Participation can be sought from Mr. Thomas Hruschka: thomas.hruschka@m22.wien.gv.at

26 February 2008
Frankfurt/Oder, Germany
Introduction into EMAS Easy
 A workshop for small SME wanting to improve the environmental performance.
 Programme: http://www.mlv.brandenburg.de/cms/media.php/2315/up_kurse.pdf

19-20 February 2008
Prague, Czech Republic
EMAS Workshop for the Czech administration
 More information is available from: <http://taiex.ec.europa.eu/>

13 February 2008
Berlin, Germany
Implementing an ISO 14001 or EMAS Environmental Management System
 Training course:
<http://www.seminarmarkt.de/seminar.html?sindex=240998&search=S&rubrikid=13&sw=Bank-%20und-%20Kreditwesen&rob=Bank-%20und-%20Kreditwesen&pg=1>

12 -13 February 2008
Berlin, Germany
Managing a Sustainable Future for Cities and Regions
 Managing a Sustainable Future for Cities and Regions Final conference presenting the output of LIFE project Managing Urban Europe-25. More info is available under:
<http://www.mue25.net/ListFullArtGrp.aspx?m=2>



Editorial

The waste issue



Each year, the European Commission rewards the special achievements of EMAS-registered organisations. In 2006, the focus was innovative communication about EMAS, this year waste has moved into the limelight! The EMAS Awards 2007 were held on 19th November 2007 in the marvellous Oceanarium of Lisbon.

All 32 companies and public authorities nominated for awards have demonstrated a great achievement in this field. EMAS Awards were presented to the 4 following winners by Portuguese State Secretary, Humberto Rosa, by Pavel Misiga, Head of the Environment & Industry Unit, DG Environment, European Commission and by Miguel Tiago Lopes de Oliveira, Head of the Jury and head of the Quality, Environment and Operations Department of the Oceanario de Lisboa:

- o Grundfos, Danish manufacturer of pumps (+ 250 employees)
- o Gustafsberg AB, Swedish producer of eco-designed sanitary equipment (50-249 employees),
- o Multiprint Ltd., on-demand manufacturing of closed circuit boards in Austria (10-49 employees)
- o Environmental office, municipality of Telfs, Austria (<10 employees)

This enlarged edition of the EMAS Newsletter shows examples of EMAS Awarded and Award-nominated organisations that implemented innovative actions to reduce their production of waste.

The EMAS Team, Environment Directorate General, Unit G2, European Commission.

EMAS and waste management

Status Report

Waste - the EU Headache!

As European society has grown wealthier, it has created more rubbish. Each year, in the European Union alone, we throw away 1.3 billion tonnes of waste - some 40 million tonnes of it hazardous. This amounts to about 3.5 tonnes of solid waste for every man, woman and child, according to European Environment Agency statistics. Add to this total a further 700 million tonnes of agricultural waste and it is clear that treating and disposing of all this material - without harming the environment - is a major headache.

Between 1990 and 1995, the amount of waste generated in Europe increased by 10%. Most of what we throw away is either burnt in incinerators or dumped in landfill sites (67%) but both these methods create environmental damage. Landfilling not only



And the EMAS Award went to: From left to right: Jørgen Hjelesen (Grundfos A/S, Denmark), Monika Koberger (Multiprint Ltd, Austria), Helena Källström and Mats Anderson (Gustavsberg AB, Sweden), Michael Raffelsberger and Christoph Schaffenrath (Municipality of Telfs, Austria)

takes up valuable land space, it also causes air, water and soil pollution, discharging carbon dioxide (CO₂) and methane (CH₄) into the atmosphere and chemicals and pesticides into the earth and groundwater. This, in turn, is harmful to human health, as well as to plants and animals.

Continued on next page >

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By 2020, the OECD estimates, we could be generating 45% more waste than we did in 1995. Obviously we must reverse this trend if we are to avoid being submerged in rubbish. But the picture is not all gloomy. The EU's Sixth Environment Action Programme identifies waste prevention and management as one of four top priorities. Its primary objective is to decouple waste generation from economic activity, so that EU growth will no longer lead to more and more rubbish, and there are signs that this is beginning to happen. The EU is aiming for a significant cut in the amount of rubbish generated, through new waste prevention initiatives, better use of resources and encouraging a shift to more sustainable consumption patterns. This approach to waste management is based on three principles:

1. Waste prevention: If we can reduce the amount of waste generated in the first place and reduce its hazardousness by reducing the presence of dangerous substances in products, then disposing of it will automatically become simpler. Waste prevention is closely linked with improving manufacturing methods and influencing consumers to demand greener products and less packaging.

2. Recycling and reuse: If waste cannot be prevented, as many of the materials as possible should be recovered, preferably by recycling.

The European Commission has defined several specific 'waste streams' for priority attention, the aim being to reduce their overall environmental impact. This includes packaging waste, end-of-life vehicles, batteries and electrical and electronic waste. EU directives now require Member States to introduce legislation on waste collection, reuse, recycling and disposal of these waste streams. Several EU countries are already managing to recycle over 50% of packaging waste.

3. Improving final disposal and monitoring: Where possible, waste that cannot be recycled or reused should be safely incinerated, with landfill only used as a last resort. Both these methods need close monitoring because of their potential for causing severe environmental damage. An EU directive sets strict requirements for landfill management. It bans certain types of waste, such as used tyres, and sets targets for reducing quantities of biodegradable rubbish responsible for leachate and methane emissions. Another EU directive lays down strict emission limits values for incinerators.

As you will see from the sample of the EMAS Awards 2007 nominated companies and public authorities presented in this newsletter, they have all demonstrated a great achievement in this field.

This table shows the 32 nominees from 14 EU Member States. Because there is limited space in this newsletter, only a few of these organisations and the four EU Award winners were chosen at random.

Micro	SME	Medium	Large
Municipality of Telfs (AT)	Multiprint Elektronik Ltd (AT)		Voestalpine Schienen Ltd (AT)
Eco-Conseil Entreprise scrl (BE)		Intercommunale du Brabant Wallon (BE)	Cooperation Technique Belge (BE)
		Schultz Grafisk A/S (DK)	OEZ s.r.o. (CZ)
Kneissler Brünertechnik GmbH (DE)	Waste Management of the Darmstadt-Dieburg County (DE)	Galvanotechnik Baum Ltd (DE)	Grundfos A/S (DK)
	Premed Pharma Kft. (HU)	Büchl Hungaria Kft. (HU)	Siemens Medical Solutions (DE)
			Audi Hungaria MotorKft. (HU)
Procopio S.r.l. (IT)	Comunità Montana Valli Stura e Orba (IT)	Officina dell'Ambiente S.r.l. (IT)	AHP Manufacturing B.V. T/A Wyeth Medica Ireland (IE)
		NV Avfalzorg (NL)	
	Grip Senter (NO)	Kraft Foods Norge AS (NO)	
			The Center of Oncology Franciszka Lukaszczyk (PL)
		Lemona Industrial, S.A. (ES)	Industria de Turbo Propulsores ITP, SA (ES)
	Rambo AB (SV)	Gustavsberg AB (SV)	Stora Enso Packaging Boards (SV)
	Bovince Limited (UK)	SITA (Isle of Man) Ltd. (UK)	Lafarge Cement UK (UK)



Best practice

EMAS Award Winner 2007

Austrian SME Manufacturer Promotes Sustainable Business

Multiprint produces printed circuit boards to order on the southern outskirts of the Austrian capital Vienna. The company has excelled in its holistic approach to the efficient use of resources for 20 years.

This starts in the design of apparatus, revamping of existing apparatus, motivation of employees on the issue of eco-efficiency (this includes a bonus for feasible improvements) and motivation of customers (better price for environmentally friendly production). Multiprint Elektronik Ltd employs a very comprehensive EMAS, covering the development of new techniques and the involvement of customers, who are encouraged to wait a little longer for the delivery of the closed circuit boards, but receive a more

eco-efficient product at a lower price.

The Environment manager from Multiprint Elektronik Ltd, Tatjana Koberger, reports some examples from most recent improvements:

Surface treatment from nickel/gold to lead-free tin plating (saves cyanide baths which were highly toxic); Technicians often take a coating depth of 1,55 mm as the approved standard, even if 1,00 mm thickness of the imprint would suffice for the quality targets. Potential savings worldwide are 250.000 tons of metal, of which a tiny fraction of this potential is already harvested in Multiprint; Customers receive a cut in prices if they accept longer production time, which offers more efficiency in the use of machinery and

less energy, waste energy and lighting; Savings from these processes are fully re-invested in more efficient technology.

Some environmental performance indicators show that:

Closed circuit process introduced in the etching of circuit boards reduced the hazardous waste fraction from 26,49% (of total waste) to 0,87% (2005 to 2006). As a consequence, of 47 tons of material in 2006, only 185 kg of hazardous waste are now left; Optimized clipping: The ratio of material not used in the product has been reduced from 54% to 21,9% since 2004 through computer steering; Printed circuit boards are produced according to the customers' requests. As each is individually designed, the most efficient carrier is automatically selected by computer software from a collection of previous products.

Contact: Tatjana Koberger (environmental manager); email: t.koberger@fels-multiprint.com

Report

Italian Mountain Community Favours Renewable Energy Scheme

The Mountain Community of Stura and Orba Valleys is one of the 19 Mountain Communities constituted by Liguria's Regional Authorities (Regione Liguria) in the north-west of Italy. It has administrative responsibility for agriculture, forests and mountain economy.

The local authority of Stura and Orba Valleys is specially active on the issues of land protection from deforestation and the prevention of hydrological problems.

The local authority also manages a biomass power plant (heat generation from mountain wood). Wood needed for combustion is taken from community mountains, with the aid of a Global Information System (GIS) to prevent geological problems. This wood is taken mainly from mountainsides that have not been managed for 40 years. Although it is necessary to cut trees for wood management, past climatic and biological events have made the wood no longer useful for

other purpose. This can be seen as a waste conversion into energy. Some figures:

80 % of matter for heat generation is supplied by local mountain wood.

100 % of the wood ashes derived from the biomass combustion

are recovered into two compost plants to improve compost quality.

These compost plants are also receiving the waste collected from public and private gardens, which in an mountain area represents a significant amount of waste.

The compost and the wood ash derived from combustion are used for the protection of mountain slopes naturally sympathetic engineering works and to promote the



Waste wood fixes steep slopes in the mountain forrests.

recovery of the areas from which the fuel wood has been taken.

This example shows well the integration of different activities in environmental protection and territorial safety.

Contact: Renata Duberti; email: sSegretario.generale@cmvallisturaorba.it

Case study

A Decade of Environmentally Friendly Surface Finishing!

Kneissler Brüniertechnik is a small, but fast-growing black finishing company (9 employees) from Deggenhauseral, near Stuttgart, which also offers galvanizing and manganizing processes to their customers.

This micro company implemented EMAS more than 10 years ago! Throughout the years, Kneissler Brüniertechnik has developed an integrated waste management concept which helped them keep their output of waste constant, although production has increased from 12.600 to 14.800 carriers (+ 17%).

The processes of black finishing, galvanizing and manganizing produce a lot of chemicals, the innovative black finishing machinery (basket-drum apparatus) has been equipped with many accompanying measures to protect the environment, which include:

A 2-step de-greasing process : the first bath is used for rough cleaning and de-greasing and when needed a second bath is used for fine cleaning . Specific cleaning products help to separate the oil and to send it to the surface of the baths. A skimmer collects grease continuously, providing efficient chemical de-oiling. The estimated reduction in waste is 70 % compared to a standard 1-step procedure.

The air from the evaporated baths contains aerosols and those have to be kept before leaving the room. A water-based air treatment spray is used to dilute the aerosols. All the wastewater

from the air treatment spray is used as rinsing in the de-greasing process. Waste prevention : 100 %

Trapping and re-use of metal waste from cleaning and de-greasing bath, which means no indirect waste from waste treatment of bath and no further underground disposal for this waste. The waste water from acid baths and phosphatising pre-treatment are neutralised in a separate system and do not form hazardous sewage sludge.

Due to the long list of environmental improvements, the potential for further improvements might seem to be limited but the company will continue looking for innovative approaches.

Contact : Adolf Stecher, Director - www.kneissler.de - email: info@kneissler.de



Kneissler's unspoilt environment inspired the management to work hard for the reduction of chemicals.

Case study

Resource Efficiency in Pharmaceuticals

Wyeth Medica is located in Newbridge, Ireland. With 1500 employees it generates an annual turnover of over 50 Million €, manufacturing pharmaceutical products. Facilities comprise six main buildings, a solvent recovery plant, a combined heat and power plant and laboratories. The facilities are operated under an Integrated Pollution Control license from the Irish Environmental Protection Agency.

One of Wyeth's environmental priorities is to create products and processes which incorporate the principles of waste prevention and "doing more with less", based on: efficient use of raw materials, maximising on-site waste recycling and minimising the need for off-site waste disposal.

Wyeth carries out Raw Material Efficiency Assessments, to identify options for improving raw material efficiency during manufacture, thereby preventing waste. Assessments have been done for two products to date. A packaging reduction project has led to the elimination of secondary packaging for Oral Contraceptive products.

Wyeth is evaluating options for recovering and reusing solvent waste under its Solvent Recovery System and Solvent Abatement System and looking at options for recycling empty solvent drums, currently incinerated.

The separation system in the canteen differentiates between recyclables (plastic and aluminium) and non-

recyclables and a canteen food-recycling machine allows organic waste to be used as fertiliser for green areas on-site.

Construction works on-site since 2004 led to an increase in the volume of non-hazardous waste generated on-site. Wyeth introduced a separation system for the contractor's waste to ensure recycling and reuse.

The success of Wyeth's waste management initiatives is reflected by the increased level of recycling of non-hazardous waste from 42% in 2004 to 86% in 2005.

Contact: Dr Edward Molyneux - Environmental Manager - mail: molynee2@wyeth.com



Case study

Afvalzorg: Taking Responsibility Towards Society Seriously

Afvalzorg Holding, an innovative waste management company based in the Netherlands, has been the only Dutch organisation nominated for the European EMAS Award 2007. The award is for the sustainable use of landfill sites in support of the business. With 90 employees and seven locations the company is active in re-use, treatment and disposal of inorganic waste and in the development of 'safe landscapes' from waste. Waste that cannot be recycled and re-used has to go to landfill. Afvalzorg has invested a lot of effort in reducing the environmental impact of its landfills.

With an EMAS registration covering five sites, Afvalzorg is one of the few EMAS registered organisations in the Netherlands. The company is founding member of the Dutch Foundation for Sustainable Landfilling, which is developing guidelines in order to reduce, monitor and prevent emissions to the

environment. Sustainable landfill sites are less dangerous because pollutants are:

- broken down into harmless substances and/or
- flushed out (and therefore rendered harmless) or
- immobilised in the landfill and so remain there for ever

In 2006, Afvalzorg NL opened their new headquarters on the location of a partly closed landfill (the Nauerna site). Working in offices located on a landfill can potentially have health and safety implications. The landfill therefore needs to be carefully managed and the emissions have to be continuously monitored. Underneath the building a gas-impermeable membrane was installed.

The headquarters' building has been constructed on environmental principles with a special focus on landscape integration.

The design includes:

- Heating and cooling equipment is operating on landfill gas,
- Sustainable wood (FSC certified) for the building,
- A grass roof, which reduces noise volume and isolates the building better,
- The use of recycled materials.

The landfill has been capped with one metre of soil to enhance the landscape and the surrounding of the buildings.

For more information on Afvalzorg Holding please contact Rick Riggelink, SHE coordinator: www.afvalzorg.nl • www.duurzaamstorten.nl



Afvalzorg NL opened its new headquarters on a partly closed landfill.

Case study

Holistic Waste Management in Hungary



Waste separation leads to separate compartments being taken to the related storing places.

BÜCHL Hungaria Kft. is one of Hungary's leading waste treatment companies and part of Büchl Holding Ltd., a family company founded fifty years ago in Germany. In 2001, Büchl established its facilities in an international industrial park in Gyor, Hungary. It currently employs about 115 people and has a turnover of approximately € 17.9 Million.

Büchl Hungaria collects, transports, sorts and pre-treats different types of hazardous and non-hazardous waste. It also provides waste management planning and consulting services. In all of its activities, Büchl Hungaria focuses on applying the best technology and optimising recycling, reuse and recovery options for the resulting waste. The company's emulsion separator can treat 50 types of hazardous waste

and has a capacity of 34.000 tonnes. Liquid waste, containing substances such as lubricants, is separated into water and emulsion. 90% of the incoming waste is turned into wastewater, which can be discharged into the municipal wastewater system, and energy can be recovered from the remaining 10% emulsion.

The sorting technology used for mixed packaging waste can deal with 11.000 tonnes per year. The amount of packaging waste recovered has increased over the last few years.

Büchl Hungaria works to minimise the risks and impacts related to waste transport. It equips vehicles and trains its drivers to ensure pollution and risk prevention. It also runs an internal logistics system, which aims to optimise i.a. waste separation, collection and transport.

Finally Büchl Hungaria is also engaged with the local community. To give an example, together with the municipality, it organises environmental awareness-raising events, during which school children can learn about selective waste collection.

Contact : László Horváth. Environmental Manager -email: extern.laszlo.horvath@audi.hu

Best practice

EMAS Award Winner 2007

ECO-Design Brings Environmental Improvements to Leading Sanitary Ware Manufacturer

Today, Gustavsberg AB is one of the leading manufacturers of bathroom and plumbing products in Sweden. Amalgamation with the Villeroy & Boch group in Germany means that the company is one of the largest manufacturers of bathroom products in Europe. It sells to Scandinavia, Russia, Belorussia, the Ukraine, the Baltic States and other export markets.

The combined companies' extensive knowledge and experience of working with water means that they consider it their responsibility to develop more efficient and less water intensive products. Reduced water consumption means reduced energy consumption. This results in a saving for both the environment and household economy. The company supports this responsibility with continuous environmental training and regular re-signing of workstations to keep employees up to date with performance and areas for improvement.

Gustavsberg AB is a great example where design, production and lifecycle analysis go along with good environmental performance. The company invested in pure, simple design for their products, meeting the industry's toughest environmental standards and employing energy and water-saving technology for the production of sanitary equipment.

An ambitious Eco-design policy is to be achieved through new product lines. New product development - fittings made in aluminium - has reduced product weight and, hence transports costs. The new products are 100% recyclable and the use of aluminium has led to a dramatic reduction in the use of chrome. Another change to production techniques has seen the introduction of Softpex piping which avoids the use of solder, a hazardous

lead-containing medium, in pipe work connections.

A strong reduction in the need for machining, such as grinding and polishing, saves a large amount of waste in the form of environmentally hazardous dust.

Eco-design approaches have also led to a unique water-saving solution, thereby reducing energy loss through the unnecessary heating of warm water. Life cycle analysis has also confirmed that mixer taps manufactured in anodised aluminium has a lower environmental impact.

One of Gustavsberg AB's aims has been to reduce the amount of waste sent to landfill by 5% a year from 2001. The results have far exceeded their initial

target. In fact, the Vårgårda factory has reduced waste to landfill by as much as 50% during that period.

Finally, it has abandoned its climate unfriendly heavy oil-fired boilers in favour of the use of biofuels - wood chips - to heat the factory at Vårgårda. This change has further improved the factory's carbon footprint as the supplier of energy is 500 metres down the road and no more heavy takers are hauling oil to the plant!

Mati Weinland, Environmental and Quality Manager at the Vårgårda plant says 'The overall impression is that we are entering a new generation of environmental work. However large or small the individual measures, all progress is, of course, worth making!'



Helena Källström and her Managing Director Mats Anderson (Gustavsberg AB) take over the award from State Secretary Humberto Rosa



Contact : Mati Weinland, Environmental and Quality Manager at the Vårgårda plant email : matti.weinland@gustavsberg.com

Waste separation of larger volumes receives the space it calls for.



Report

EMAS Award Winner 2007

Pump Manufacturer Reduces Epoxy Waste

Founded in 1945, Grundfos is one of the world's leading pump manufacturers. Its mission is to develop, produce and sell high-quality pumps and pumping systems world-wide, contributing to a better quality of life and a healthy environment. In its environmental management system, there are special waste procedures and a description of the organisation, staff responsibilities, waste operators, waste types and marking of waste containers and dustbins is widely available.

The environmental management system focuses continuously on the issue of waste. Each factory has objectives and targets for reduction of waste, which are evaluated every month through a balanced scorecard.

Regarding waste prevention and minimisation, since 1997 the company has reduced the total indexed volume of waste by 33 % proportional to the production activity and improved its recycling ratio to 84 %.

Chemical waste amounts to 7 % of the total waste and reduction of this waste was one of the environmental objectives in 2007. In order to focus on the substances most hazardous to health and the environment, all chemicals are classified in the categories red, yellow and green (red is the unhealthiest). New products, categorised red, will not be introduced in Grundfos unless it is technologically impossible to find an alternative. For the existing products, action plans for substitution or limitation of consumption will be made. The consumption of chemicals categorised as red was reduced in 2006 by 35 % in relation to 2005. This has considerable influence on the harmfulness of the waste.

Since 2004, Grundfos has reduced the epoxy waste by 73 %. The reduction followed an environmental improvement suggestion from an employee. The hardener to the epoxy was delivered in 200 litre barrels, which could not be used in time before it hardened because of air intake. On behalf of this a spiral hermetic closing system was developed to prevent air intake in the barrel.

Here are some other examples of environmental improvement suggestions concerning waste made by the employees and implemented:

Attachment of oil separator to the oil pan with cooling lubricant to clean cooling lubricant for oil waste. This attachment prolongs the lifetime for cooling lubricant considerably.

For plugging a leakage, packing material made of Teflon is used. Before the improvement suggestion was made, the rest of the Teflon was disposed of as inflammable waste. Now, it is recycled. After receiving components in cartons, they are returned to the factory for recycling instead of disposing them.

Grundfos sees its waste management strategy as an ongoing one. The company is now using life cycle analysis as one of the key waste management tools. Using life cycle evaluation and a clear and ambitious environmental policy for suppliers offer interesting ways of reducing waste.

Contact : Ms. Henriette Vincents - Email : hvincents@grundfos.com

Best practice

EMAS Award Winner 2007

Community Rewarded for Best Practice in Waste Minimisation

The environmental bureau and the drop-off recycling centre of the municipality of Telfs are public institutions responsible for waste management in the community of Telfs, Tirol, Austria (15.000 inhabitants). It is not really their task to reduce self-generated waste, as the municipality is equipped with a very efficient waste separation system. They see themselves more as being responsible for providing incentives for residents and companies to reduce waste and to inform the community about these opportunities.

Mr. Schaffenrath, the environmental manager, informs citizens and companies about opportunities to reduce waste in the "Telfer Blatt", a newsletter which is distributed regularly to all households and is also available electronically. This information is

also published in "Abfall-Trenn-Fibel", a very comprehensive and didactic publication which provides information on the separate waste fractions and the public collection points within the community.

The Telfs environmental bureau sets a good example, demonstrating that efficient waste management by the municipalities is possible. It is an interesting organisation with limited resources, but with a wide impact on the community in which it operates. The jury acknowledged the large number of initiatives undertaken by Mr. Schaffenrath and colleagues and their involvement with the residents.

The environmental bureau has created significant awareness among residents, including the provision of outstanding communication concerning waste manage-

ment and great organisational work with incentives.

Some of the inspiring achievements of the environmental bureau include: Introducing the yellow bag in 2005 for plastic collection (+10% plastic collected compared 2004 to 2006)

Household cooking oils: 85% of the oil is converted into "Biodiesel", 15% are added to the sewage sludge of a local waste water treatment plant and is converted to biogas in the digester tower.

Collection of hazardous waste (medicines, bulbs, etc) increased by +25% in 2006.

Contact : Mag. Christoph Schaffenrath (environmental manager) email: umwelt-schaffenrath@telfs.com