

Environmental Report 2002 Update / Location Graz



# update '02

This abridged version of the environmental report contains updates on the most important subjects. For details of long-term projects, please refer to the Environmental Report 2001.



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Contacts ...



The MAGNA STEYR Fahrzeugtechnik AG & Co KG Board (from left): Harald J. Wester, Herbert Demel, Hubert Hödl, Klaus Iffland, Wolfgang Sauerzapf and Wolf-Dietrich Schulz

MAGNA STEYR Fahrzeugtechnik's Graz-Thondorf plant is poised for a quantum leap into a completely new dimension of automotive production. The number of vehicles manufactured here will be increased from 90,000 at present to around 200,000, i.e. more than doubled. New manufacturing facilities therefore had to be built or the old ones extended in 2002 and the entire infrastructure adapted to cater for the planned expansion. Naturally such significant changes were not made without taking all the environmentally relevant aspects into consideration. For example,

- A closed circuit was installed in the paint shop at the former EUROSTAR plant that was integrated in MAGNA STEYR Fahrzeugtechnik's Graz-Thondorf plant in summer 2002, which enabled the process wastewater to be reduced by two thirds
- Substantial energy savings have been achieved by changing the compressed air facility over from high to low pressure
- A special recycling group was set up in our complete vehicle engineering department to ensure that every aspect of a vehicle's subsequent recyclability is taken into consideration in the early stages of development

These and many other measures detailed in the Environmental Report document that the following principle applies and is strictly observed at MAGNA STEYR Fahrzeugtechnik: "We are dedicated to taking environmental protection into consideration in all our activities!" To show the rapid development at our site, the present abridged Environmental Report contains data from both 2001 and 2002.

The Board



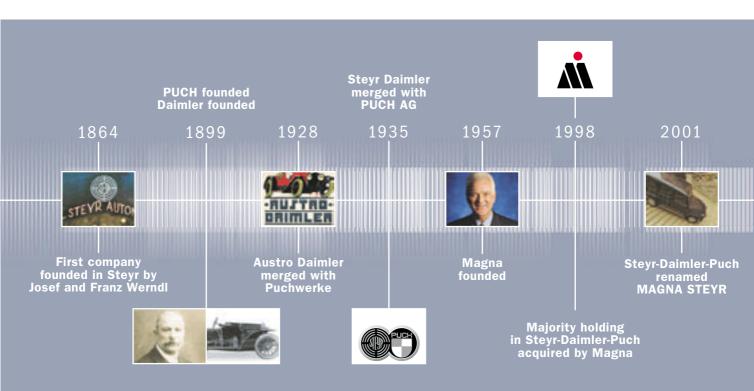
### the company

MAGNA STEYR Fahrzeugtechnik AG & Co KG

1.1

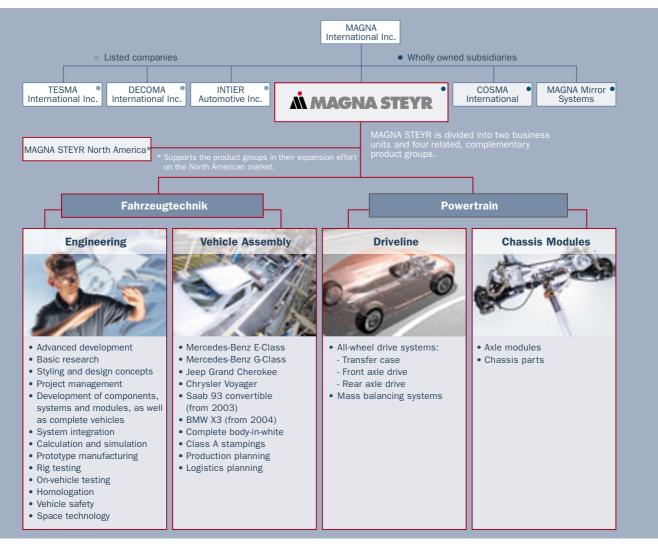
#### History of MAGNA STEYR

MAGNA STEYR's chronicle looks back on a long history of successful mergers. The beginning of this success story is inextricably linked to three big names – Steyr, Daimler and Puch, which form the Austrian roots of MAGNA STEYR. The Steyr branch of the company even predates the birth of the world's motor industry.



#### Magna Group and Organizational Structure

Embedded in the Magna Group, MAGNA STEYR is the result of Magna International's systematic response to global competition. Its in-depth expertise has put the company at the top of the traditional supplier pyramid and enables us to offer our customers a truly unique range of products and services – focusing on quality, innovative solutions and reliability.



#### 1.3

#### Changes in 2001

The complete relocation of the former Components Division, which manufactured various products for the chassis, transmission and driveline, marked the end of single part production at the Graz-Thondorf plant. This had a profound effect on our environmental impact, as the wastewater and scrap levels in our output balance

were substantially reduced as a result. Furthermore, MAGNA STEYR Fahrzeugtechnik rented two external stores (Kastner and Lenhardt buildings) where cabling is manufactured for Division G and production parts are also kept.

#### P. C

#### Changes in 2002

#### • Purchase of the EUROSTAR plant

The most far-reaching change is undoubtedly the purchase of the EUROSTAR plant. Not only is it a valuable addition, but will also generate synergy between the MAGNA STEYR Fahrzeugtechnik site and the DaimlerChrysler EUROSTAR plant for assembly of the BMW X3. The environmental management system to ISO 14001 and EMAS in place at the time of purchase were transferred and integrated in the EMS at MAGNA STEYR Fahrzeugtechnik. Following extensive conversions, the plant will be ready for vehicle assembly by the middle of 2003.

#### . Setting up of new divisions

Our paint shop at the Graz-Thondorf plant had been considered independent within the Jeep Division for quite some time. When we acquired EUROSTAR, we also gained a second paint shop. As a result, the two paint shops were combined into one new division. The former Division A (systems, modules, sequencing) has become the Logistics Division and BMW X3 production at the former EUROSTAR plant has been renamed Division X.

#### • Puchstrasse plant

The Puchstrasse plant has been sold, but parts of it rented to house vehicle safety and aerospace technology for Division E.

#### 1.5

#### **Innovations**

A highly promising innovation is the liquid hydrogen tank for use in production vehicles, which is currently being developed for BMW's CleanEnergy project. The MAGNA STEYR liquid hydrogen tank system will be suitable for use both in production vehicles with combustion engines and also for fuel cell technology. One of the greatest challenges in terms of engineering is maintaining the liquid hydrogen constantly at the extremely low temperature of -253° Celsius. Fortunately, MAGNA STEYR engineers can draw on their expertise from aerospace technology – MAGNA STEYR develops and supplies the liquid hydrogen fuel lines for the European launch vehicle Ariane 5 – and have used high vacuum of 10° bar and multi-layer insulation to solve this problem.

This project constitutes a small, yet important step for MAGNA STEYR towards eco-friendly, future-oriented

engineering – and a giant leap on the way to passing the acid test of the future: responsible care of the environment and natural resources without having to restrict personal mobility.

The MAGNA STEYR cryo team, the project group that has developed a liquid hydrogen tank system for use in production vehicles, has also been honored: the Styrian Business Promotion Service's Fast Forward Innovation Prize 2002 in the large enterprises category worth € 10,000 went to MAGNA STEYR. The award is a tribute to the cryo team's achievements to date, further proof of the company's innovative strength, and confirmation that MAGNA STEYR's dedication to advanced technologies is indeed the right approach.

#### 1.5

#### New Members of the Environmental Team

It is only really possible to reach and maintain a high environmental standard with good, proactive organization. To meet our environmental targets, we have therefore put together a strong environmental team that is constantly adapted to the changing needs of our site. The current team is shown below.



MAGNA STEYR environmental team (from left): K. Dillinger, E. Eisner, M. Hofer, F. Schinnerl, H. Rabitsch, G. Jaritz, S. Wippel, J. Auer, A. Kresitschnig, M. Schwarz, Johann Puch, M. Klade, A. Koncar, D. Schwarz, P. Barmüller, K. Postl and R. Pöltner.

Not in photo: W. Muhri, G. Koch, D. Käfer, I. El Sayed, R. Römer, R. Dunkel, K. Schablas and T. Kipper.



"Nature doesn't have to make an effort to be important. It already is."

# managementsystem (ems)

We at MAGNA STEYR are committed to complying with the applicable environmental legislation and regulations, and continuously improving environmental protection within the company. The Board therefore checks that the environmental goals are being met at regular intervals. Furthermore, we undertake to assess and monitor the environmental impact of our operations. Not only does this include wastewater, noise and airborne emissions, but also the levels and types of energy sources, chemicals and supplies used, and waste disposal.

Every new activity, new process and new product is thus examined for its environmental impact and evaluated in light of our corporate environmental goals.

We take all the necessary steps to reduce any unavoidable burden on the environment to an absolute minimum by using the economically viable industrial resources that are available.

In addition, we draw up plans and procedures to prevent environmentally hazardous accidents as far as possible and in the event of a mishap to keep the impact under control. In this area we work in close cooperation with the authorities.

To ensure that our conservation efforts in the company are successful, we perform regular environmental audits. This enables us to check the effectiveness of our environmental policy and pollution control measures, and ascertain whether all the steps taken comply with our environmental policy. Should any discrepancies emerge, corrective action is taken according to set procedures.

We are dedicated to training all our people at every level by running courses in the areas of environmental protection, waste management and recycling. As a result, they can meet both the legal and customer-related demands, and become more involved in implementing the system.

In our research & development work we endeavor to make all products recyclable and take this requirement into account during the product development process.

Our clients, the general public and relevant authorities are informed annually of the impact that our company has on the environment and of our environmentrelated services.

We involve our suppliers and service providers in our effort to improve environmental protection, and ensure that the contractors working on the premises comply with the same environment standards as we do.

Our company executives are fully aware of their responsibilities and do not simply demand all employees to be eco-conscious in everything they do, but undertake to set a good example themselves in the area of environmental protection.



"If we reduce Nature to what we understand, we will not be capable of survival."

Hans-Peter Dürr

### facts & figures

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#### 2002 Input/Output Balance

#### **INPUT**

#### Raw materials:

Metals: 38,114 t

Finished material: 167,787,077 units

Fabrics, leather and other

trim materials: 58,622 m<sup>2</sup>

#### **Manufacturing supplies:**

Epoxy resin paint: 1,159 t Engine and other oils: 460 t 2,305 t Fuel: 557 t Other coating materials: Phosphatizing agents and bonderizer: 20 t Cleaning agents: 96 t Adhesives, SHR laminates: 93 t Wax, sealing materials: 2 590 t 8 t 39 044 Nm<sup>3</sup> Inert gas: 56,001 Nm<sup>3</sup> Oxygen: Acetylene gas: 66 Nm<sup>3</sup>

#### Media consumption:

 Electricity:
 66,904 MWh

 Natural gas:
 6,095,363 Nm³

 Compressed air:
 35,041,003 m³

 Water:
 294,947 m³

 Heat:
 83,677 MWh

#### **M** MAGNA STEYR

MAGNA STEYR Fahrzeugtechnik AG & Co KG

#### OUTPUT

#### **Products:**

Jeep Grand Cherokee: 30,376 units Chrysler Voyager 14,729 units Mercedes-Benz G-Class: 9,072 units Mercedes-Benz E-Class: 25,813 units Mercedes-Benz M-Class: 12,279 units

#### **Airborne emissions:**

**Emissions** 

**Products** 

 Solvent emissions:
 153,897 kg LM

 Odor emissions:
 767,967 MGE

 CO2;
 11,928,625 kg

 CO:
 14,478 kg

 NO2;
 9,428 kg

 Dust:
 7,479 kg

 VOC:
 132,208 kg

#### Water output:

Wastewater

Waste

 Discharge to sewer:
 233,441 m³

 Burst pipes, leakage:
 5,000 m³

 Evaporation:
 37,783 m³

 Watering:
 1,600 m³

 Test track:
 17,003 m³

 WC water disposal:
 120 m³

11,935,042 kg

702,160 kg

#### Waste disposal:

Paper:

Scrap: 2,281,470 kg Domestic-like industrial

Domestic-like industrial waste:

Hazardous waste: 1,352,035 kg
Wood: 2,132,220 kg
Organic waste: 156,061 kg
Plastic: 473,888 kg
Glass: 55,370 kg
Building rubble: 131,020 kg
Miscellaneous: 251,507 kg

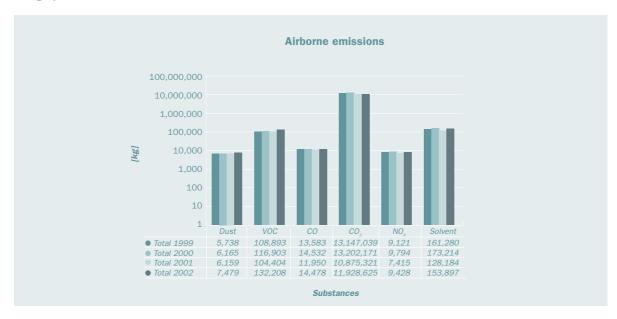
#### Airborne Emissions

The airborne emissions have not been affected by alterations to the facilities, except as a result of the changes in the numbers of vehicles produced. As in 2000, the figures for the year 2001 have been calculated because extensive measurements are

only carried out at three-yearly intervals. Some of the figures for 2002 are measured, but others extrapolated since the comprehensive measurement program was not completed by the end of 2002.

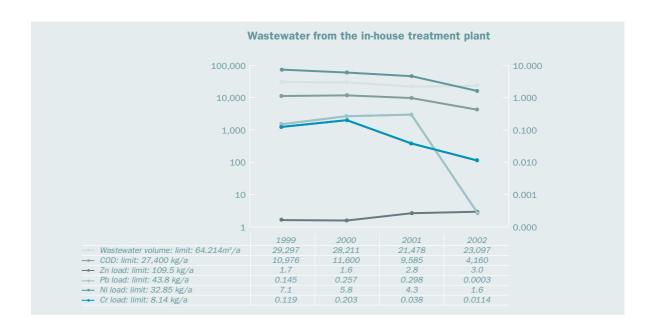
Solvent emissions					
	nt/year]	Odor [MGE/year]			
	2001	2002	2001	2002	
Total solvent emissions	128,184	153,897	639,656	767,967	
Permit as per ruling for 160,000 cars without small parts manufacturing	272,100	272,100	1,256,000	1,256,000	

#### The graph below shows the overall situation at the location.



#### Wastewater

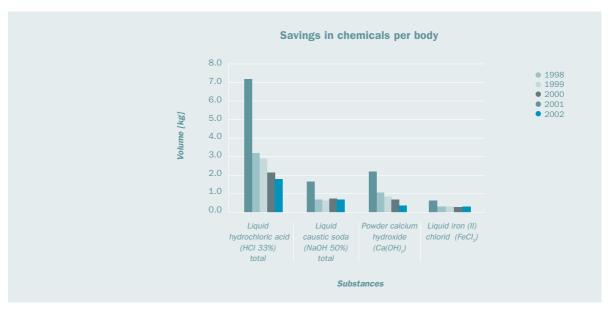
Having completely relocated the former Components Division, a major cause of wastewater at the plant has been eliminated. The monitoring procedures introduced have however been retained. In addition to the data from external tests, daily samples and analyses ensure that the limits are observed. The most important parameters are to be found in the diagram below.



#### **Chemical consumption:**

Chemical use continued to be reduced by constantly optimizing wastewater treatment. The plant

management is committed to maintaining this level over the next few years.



#### 3.4

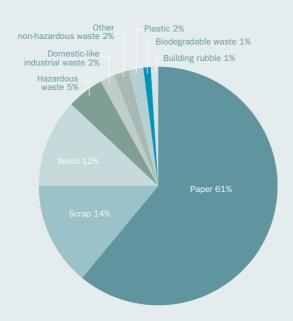
#### Recycling and Waste Disposal

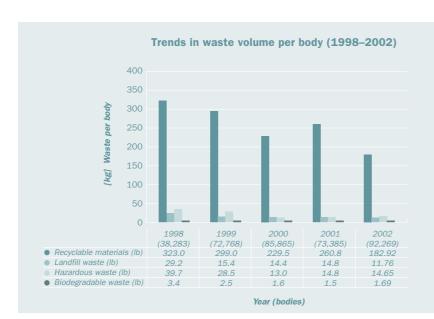
#### 3.4.1

#### **Waste Volumes**

Waste category	Waste type	Volume in kg (2002)
	Cardboard/paper	11,935,042
	Metal	2,281,470
Dogwolahla mataviala	Wood	2,132,220
Recyclable materials	Plastic	473,888
	Glass	55,370
	TOTAL	16,877,990
	Domestic-like industrial waste	702,160
Landfill waste	Other non-hazardous waste	251,507
	Building rubble	131,020
	TOTAL	1,084,687
Hazardous waste		1,352,035
Biodegradable waste		156,061
Total waste		19,470,773

#### Waste output in % (2002)





The amount of cardboard has been substantially reduced since assembly of the Mercedes-Benz M-Class has been discontinued and the numbers of Jeep Grand Cherokees cut, as the parts were shipped here from abroad in cardboard boxes.

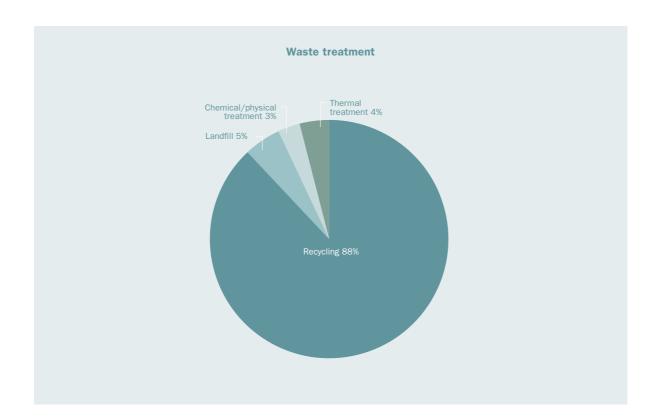
#### Table of hazardous waste with codes:

Code	Description	Volume in kg	Code	Description	Volume in kg	
17213	Wood contaminated with oil		54701	Sand trap contents containing oil/		
	and bitumen	6,140.00		cold cleaner	7,420.00	
31316	Ash and slag from pyrolitic equipment	9,130.00	54702	Oil separator contents	45,430.00	
31637	Phosphatizing sludge	33,423.00	54703	Sludge from oil separator	88,880.00	
35201a	Underground cables contaminated		54707	Erosion sludge	208.00	
	with oil	800.00	54710	Grinding sludge containing oil	1,358.00	
35203	Car wreck with hazardous		54930	Solid supplies soiled with grease/oil	49,220.00	
	materials (wet)	29,170.00	55326	Petroleum benzine	1,073.00	
35205	Refrigerators without vouchers	492.00	55357	Cold cleaners	67.00	
35321	Other dust containing non-		55370	Solvent mixtures, halogen-free	4,603.00	
	ferrous metals	748.00	55374	Solvent/water mixtures, halogen-free	179,468.00	
35322	Lead storage batteries	33,025.00	55402	Sludge containing solvent, halogen-free	1,303.00	
35326	Mercury residue	154.00	55404	Rags/polishing cloths		
35335	Zinc-carbon batteries	613.00		containing solvent	153,725.00	
35338	Batteries, not sorted	344.00	55502	Old paint, not solidified	39,433.00	
35339	Fluorescent tubes	2,088.00	55503	Paint sludge containing solvents	279,855.00	
39905	Fire extinguisher powder residue	789.00	55903	Resin residue, not solidified	282.00	
51310	Other metal hydroxides	98,500.00	55905	Glue and adhesive waste,		
52103	Acidic mixtures	53,532.00		not solidified	3,632.00	
52404	Alkaline mixtures	21,081.00	55907	Cement and filling compounds,		
52723	Developer baths	1,307.00		not solidified	27,261.00	
54102	Used oil	20,296.00	57127	Plastic packaging with		
54104	Petrol	2,996.00		hazardous residue	532.00	
54108	Diesel and heating oil	791.00	57305	PVC waste, pasty	32,173.00	
54120	Brake fluid	1,299.00	59305	Laboratory waste and chemical residue	454.00	
54202	Oil-based grease	110.00	59405 Cleaning agent and detergent			
54402	Drilling and grinding emulsion	82,790.00		waste, hazardous	12,023.00	
54408 Oil-water mixtures 21,182.00 59803 Aerosol cans, pressurized contain		Aerosol cans, pressurized containers	2,940.00			
Total hazardous waste 1,352,035.00						

#### **Waste Treatment**

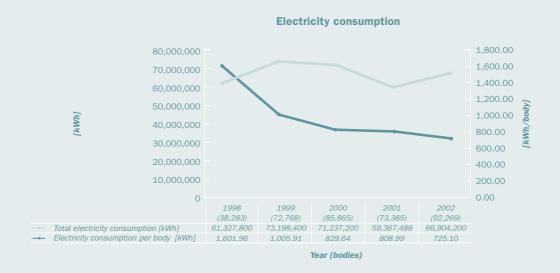
The following forms of waste treatment are used at MAGNA STEYR Fahrzeugtechnik:

- 1. Recycling: used materials are recycled.
- 2. Thermal treatment: waste fractions are incinerated and the residue then disposed of in a landfill (slag).
- **3. Chemical/physical treatment:** waste fractions are turned into new products using physical and/or chemical processes.
- 4. Landfill: waste fractions go straight to the landfill.

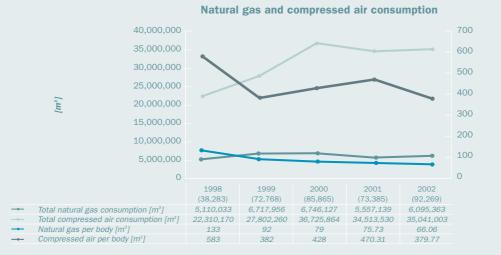


#### **Energy and Resource Consumption**

#### Electricity consumption trends:



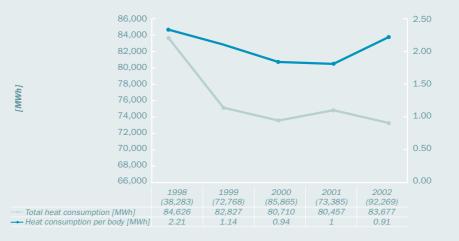
Natural gas and compressed air consumption trends:



Year (bodies)



#### **Heat consumption**



Year (bodies)

[MWh]

per body

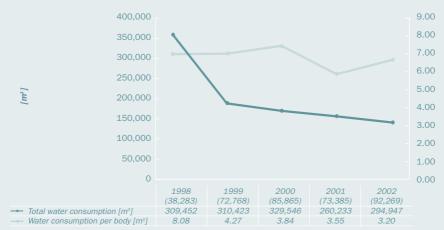
 $[m^3]$ 

per body

 $[m_3]$ 

#### Water consumption trends:

#### **Water consumption**



Year (bodies)

#### Consumption trends for other gases:

#### **Consumption of other gases**



>> 16 | Year (bodies)

# 3

#### Local Phenomena

#### 3.6.1

#### **Noise**

#### Noise situation:

The main sources of noise in the vicinity are road traffic from the A2 freeway, the eastern access road and Liebenauer Hauptstrasse. They and the noise from MAGNA STEYR Fahrzeugtechnik AG & Co KG consisting mainly of traffic, air conditioning and extraction systems do not exceed the 55 dB rating limit of the equivalent continuous sound level during the day (6-22h). Given the prevailing situation mentioned above, the rating limit is however exceeded at two

points during the night (22-6h). During this period the industrial noise from MAGNA STEYR Fahrzeugtechnik AG & Co KG does not play a role in the excessive level due to the current two-shift operation. The alterations made to the facilities regarding the extract air treatment plant in the area of Building 8 were evaluated in the noise report of March 26, 2002 and limits set by the authorities for certain points.

Measurement point	Location (residential building)	L <sub>A,eq</sub> dB/day	L <sub>A,eq</sub> dB/night
IP1	Liebenauer Hauptstr. 289a, 3rd floor	54	48
IP3	Liebenauer Hauptstr. 309, 3rd floor	52	45
IP4	Liebenauer Hauptstr. 309, 14th floor	55	49

L .... equivalent continuous sound pressure level

#### 3.6.2

#### **Traffic and Transport**

The transport situation with the J and E/G Class projects consisted of four different items when the individual divisions worked to capacity in production year 2002.

Item 1 is the area of rail transport for E/G Class Division deliveries. The total volume consisted of 180 whole trains with a total length of 75,000 meters and 85,000 gross tons per year, which arrive daily on production days.

Item 2 consists of the permanently called off containers from the Kalsdorf container yard. They are transported by truck from the yard to the plant daily for Division J. The delivery volume is approx. 55-60 trucks with containers per production day.

Item 3 are the shuttles and body-in-white shipments from the various external manufacturing part stores in the vicinity of the Graz plant. There are around 120 deliveries by truck per production day for both divisions.

Item 4 are the so-called milk runs and complete loads from all over Europe for both divisions. These shipments reach a daily level of approx. 55 deliveries per production day.

The traffic volume consists of both truck and rail transport, and automobile traffic caused by employees arriving and leaving the premises daily, weekly or monthly.

Traffic and transport volume	Estimate
Trucks (material transport)	11,898,000 km
Trains (material transport)	313,796 km
Car traffic (staff arriving and leaving)	35,737,736 km

"There is something wonderful about every one of Nature's creatures." Aristotle

environmental

# services provided in 2002

Environmental Services in 2002							
Goal	Measure	Completion Date	Respon- sible	Imple- mentation			
	Reduction in waste volume						
Reduction in residual waste by around 5% in Division J	Economizing on gloves and cleaning cloths by holding a workshop in the Jeep BIW Division	Jan. 02	JR	ОК			
	Economizing on abrasive disks by holding a workshop in the Jeep BIW Division and by evaluating suppliers	Feb. 02	JR	ОК			
Increase the service life of railroad ties	Renovating the railroad siding and systematically replacing the wooden ties with longer life and less polluting concrete ones ("Rail Investment 2002")	Jan. 02	AZ	ОК			
Prolong the life of forklift batteries by around 20% in Division G	Standardizing the batteries used in corporate vehicles; installing a battery charging station, providing information on handling and maintaining batteries from experts	Feb. 02	GPM	ОК			
Reduction in waste volumes from rejects by about 8%	Selling such parts to the DaimlerChrysler used parts center (for subsequent re-use)	Dec. 02	GPM	OK			
Reduction in cap consumption on electrode holders by about 50%	Roller burnishing instead of milling (no material abrasion). Trials are currently being carried out on a tester and a concept for implementation in BIW will then be developed	June 02	JRI	ОК			
Increase in the share of re-usable packaging (quantity not yet assessable)	Optimizing supply processes	Aug. 02	AZT	OK¹			
	Reduction in emissions (air)						
Reduction in hydrocarbon emissions from complete vehicle projects	Continuous process optimization	ongoing	QWL	ОК			
Reduction in emissions (soil)							
Prevention of oil leaks when transporting transmissions	Draining the transmission	Jan. 02	AZV	not possible <sup>2</sup>			
Preventive maintenance	Renovating the manholes & pump shafts in the tanks in Building 1	Aug. 02	JMI	still under way			

<sup>&</sup>lt;sup>1</sup> Constantly increased

<sup>&</sup>lt;sup>2</sup> Cannot be carried out because of some material and plant requirements

Environmental Services in 2002						
Goal	Measure	Completion Date	Respon- sible	Imple- mentation		
	Reduction in emissions (transport)					
Increase in rail shipments for new projects by about 100%	Cutting road transport	Jan. 02	AZ	partly implemented <sup>a</sup>		
More effective truck capacity utilization by about 15%	Giving greater consideration to container dimensions and increasing capacity utilization on truck routes	Jan. 02	AZT	OK		
Improved freight space utilization by reducing the space for empties by a third	Changing over from rigid to folding containers	2002 (ongoing changeover)	AZL	OK <sup>4</sup>		
Reduc	tion in resource consumption (compressed	l air)				
Energy savings of around 200 MWh/year in compressed air production	Changing the compressed air supply from high to low pressure (removing the high-pressure compressor; procuring a low-pressure compressor; converting the high-pressure machines)	Dec. 02	TAE	ОК		
Energy savings of around 114.4 MWh/year	Replacing compressed air with blower air in the washing station in Building 2	Dec. 02	TAE	ОК		
	Reduction in indirect waste volume					
Avoidance of banned substances	Involving employees in implementing the EU used vehicle directive taking banned substances into consideration by planning and using conforming materials and systems only	Feb. 02	E, B, J, Q	ОК		
	Improvement in working conditions					
Reduction in exposure to pollution for employees	Installing a recirculated air system for pedestal mounting	Jan. 02	JPM	OK		
	Improving working conditions for welding by installing a welding smoke extractor (Assembly Maintenance Building 1; not a permanent welding workstation)	May 02	JMI	ОК		
Risk minimization for accidents involving chemicals	Updating the contingency plan to improve procedures for accidents with chemicals	Jan. 02	QWL	OK		
Improvem	ent in environmental awareness among em	ployees				
Improvement in new employees' knowledge of the environmental management system	Extending basic training for new recruits in Division J (approx. 350 employees annually) to cover environmental issues	March 02	J	OK		
Sensitization of employees to waste management	Training courses, seminars and regular talks with the waste manager	ongoing	E	OK		
Comprehension for meeting future recycling requirements	In-house training and seminar program for product design taking recycling into consideration	ongoing	E	ОК		
Improvement in existing employees' knowledge of the environmental management system	Increasing awareness among employees by walking round the departments noting ideas and suggestions for improvements	ongoing	E	OK		
Increase in environmental awareness when handling hazardous substances and chemicals	Targeted personnel training in all divisions	ongoing	QWL	OK		
Compliance with the environmental and safety regulations at MAGNA STEYR Fahrzeugtechnik by outside companies and suppliers						
Improvement in the situation regarding outside companies	Drawing up an extended environmental target profile for outside companies and suppliers	Feb. 02	B, Q, TU	ОК		

Defined as an ongoing measure and will constantly be further developed
 Project-related implementation

"It is not the flowers and trees, but just the garden that belongs to us."

Chinese saying



### environmental impact

hen examining environmental impact, we differentiate between direct and indirect effects.

The direct ecological aspects are obviously easier to evaluate, and are assessed and compared at MAGNA STEYR Fahrzeugtechnik using the environmental scarcity method (environmental impact points model). It involves gauging the environmental impact of a product, process or company by calculating the eco-factors, which are a measure of the environmental relevance of one gram of a substance and are multiplied by the actual amount used. This method is easy to use and can be adapted and developed as required.

In addition, the environmental impact points for all the ecological aspects can be added and therefore compared.

The method also enables national, regional and local factors to be included in the assessment, and the environmental impact on the various media to be compared direct.

Indirect environmental impact may be directly related to the company's activities, but only becomes apparent after some time or at a distance. It cannot therefore be completely controlled, thus representing a much greater challenge. Only measures that extend beyond the premises themselves, such as external audits, environmental regulations or contract provisions enable the indirect environmental impact to be kept in check to any great extent.

The complete Section 5 is to be found in the MAGNA STEYR Environmental Report 2001



#### **Environmental Program for 2003** Completion Responsible for completion Savings (EUR) completion **Reduction in waste volume** Reduction in packaging material Checking the necessity to SOP 2,500 4,000/a March 03 LZV (DEKOSTRIP-SAAB) (approx. 100units/day = 200 Lfm) Reduction in electronic scrap Successively replacing old PCs, 500 March 03 printers and monitors with by 30% compared with 2002 leased ones Reduction in hazardous waste Replacing and separating rinsing 300.000 not March 03 OPA (paint sludge); paint shop H83 for fillers, primer and clear (in addition) assessable coats (to achieve a higher solid content) Reduction in emissions (air) Reduction in CO2 by increasingly Developing additional aluminum starting in ED using lightweight designs 2003 competence 5 Reduction in HC emissions in Giving HC emission greater Ε ongoing consideration when selecting the vehicle materials Reduction in emissions (soil) Preventing oil leaks in aggregate 2,000 7,000/a 6 Delivering in 1,000 Liter Tank May 03 GΑ pre-assembly at W 211 W 210 now: 4-5 I oil left in drum (handling + per drum change; remaining (14 drums a week) oil) Reduction in the repair intervals Purchasing oil-free pulse 30,000 7,000 July 03 GA and avoiding oil by replacing the screwdrivers: maintenance-free old impact screwdrivers in G and low-noise (c. 20)**Reduction in emissions (transport)** Avoiding additional pollutant 8 Modernizing the in-house 30.000 42,240/a March 03 17T emissions after increasing shuttles with new trucks and transport frequency jumbo trailers to compensate for rising transport volumes 9 Reduction in the truck milk runs 1.5m 170,000/a June 03 17T Using special reusable by changing over from truck to containers for rail transport, rail transport thus reducing truck transport and combating the rising road traffic volumes 10 Reduction in transport by Using more folding containers depending Task for the improving truck capacity eg replacing Euro skeleton boxes on project various logistics utilization for empties with DB 2032 skeleton pallets (constant changeover) planning divisions

	Environmental Program for 2003							
No.	Goal	Measure	Funds (EUR)	Savings (EUR)	Completion date	Responsible for completion		
	Reduction in resource consumption							
11	Development of modules for alternative drives	Developing and manufacturing a cryo tank for hydrogen engines	-	-	-	VE		
12	Saving of at least 360,000 kWh/a in lighting for Buildings 2 and 3 (area 30,000 m²)	Outside light-dependent control, use of low-energy lighting	470,000 investment	17,000	Dec. 03	TAE		
13	Reduction in compressed air leaks in Buildings 1, 11 and 12 totaling 5% of compressed air consumption at production stop (200 l/sec without production)	IH personnel to detect and repair the leaks when production stopped	1,500 in- house per- sonnel costs	5,000 (basis for calculation €25/m³)	Dec. 03	TRH		
14	Reduction in transformer oil changes by up to 90% corresponding to 39,000 kg (62 transformers each with 700 kg oil capacity) for the scheduled change cycle	By implementing status-oriented IH, i.e. the oils are analyzed to see if they can continue to be used	2,200	50,000 (€1.45/kg transformer oil)	Dec. 03	TRE		
15	Cut water consumption for every reduction in wastewater volume in H83	Installing a closed circuit water plant for low-wastewater pre-treatment & CDP shop operation and replacing the wastewater treatment plant	1,000,000	430,000	March 03	OPA		
		Improvement in working co	nditions					
16	Reduction in use of critical substances in ecological terms	Cr-free passivation in pre-treatment for lead-free CDP	440,000 (wastewater)	80,000	Feb. 03	0		
	Improvem	ent in environmental awarenes	ss among en	nployees				
17	Reduction in volumes in the oil stores	Disposing of resources no longer required	-	-	ongoing	EGE		
18	Products designed for recycling	Sensitizing the designers with regular training	-	-	ongoing	EGE		
19	Increase in environmental awareness when handling hazardous substances and chemicals - in all divisions	Staff training	in-house	-	ongoing	QWL		
20	Assistance in implementation of HC emission limits in complete vehicle projects	Ongoing process optimization	in-house	-	ongoing	QWL/ J		
21	Teaching apprentices about envi- ronmentally relevant subjects during their training in a simple and easily understandable form	Including the subject "The environment at MAGNA STEYR" in apprentice training	in-house	-	ongoing	TU		
		Not classifiable						
22	Minimizing the paper used when checking freight invoices	Changing over to electronic billing and archiving. Introduction of e-invoicing together with TMM	in-house	-	Aug. 03	LZF		
23	Division Q to support MAGNA STEYR Fahrzeugtechnik's environmental goals in introducing eco-friendly systems and with ongoing process optimization - and observing legal requirements on the part of QWL with its staff and tools.	Obtaining product approval from our partners (DaimlerChrysler and Saab)	-	-	ongoing	QWL		
24	Identification of the environmental protection status and its potential for improvement	Drawing up a plant-wide stan- dard evaluation checklist for regular section inspection	in-house measure	-	April 03	TU		



## 7+8

The complete Sections 7

and 8 are to be found

in the MAGNA STEYR

Environmental Report 2001

environmental auditors & certificate



abbreviations

This environmental report is updated annually. The next complete environmental report is scheduled for November 2004.

### contacts



Roman Pöltner Environmental Manager Phone: +43/316/404-5629 Fax: +43/316/404-2909

E-Mail: roman.poeltner@magnasteyr.com

If you have any questions, please contact:

MAGNA STEYR Fahrzeugtechnik AG & Co KG Environmental Management Department Liebenauer Hauptstrasse 317 8041 Graz Austria

Erich Eisner

Deputy Environmental Manager Phone: +43/316/404-8498 Fax: +43/316/404-2909

E-Mail: erich.eisner@magnasteyr.com











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#### MAGNA STEYR Fahrzeugtechnik AG & Co KG

Liebenauer Hauptstrasse 317, A-8041 Graz Phone: +43 (0)316 404-5629, Fax: +43 (0)316 404-2909

E-Mail: roman.poeltner@magnasteyr.com

www.magnasteyr.com

