Environmental protection

Report of T-HT Group 2004.

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Introduction

Lately the issue of environmental protection has gained importance in the world and nowadays it is a significant factor of economic success. Governments, consumers and civil society groups expect more and more from corporate performance with respect to environmental protection, whilst international financial markets also start taking ecological risks more seriously. There are strong proofs that the companies with a higher level of performance in the area of environmental protection are, in a long run, also more successful in terms of finance and that the investors start preferring such companies. It is a generally known fact that telecommunications are means of development, in the first place with respect to sustainable development. If we consider the issue of environmental protection in the light of the definition of sustainable development, which, in simple terms, says that the present growth must not endanger the chances for the growth of the future generations, it is easy, taking into consideration the existing telecommunications technologies, information transmitted by them in all forms and the scope in which they can provide solutions for the problems related to environmental protection, to prove almost an organic connection between these two seemingly different areas. Although it is beyond dispute that telecommunications are an environmental friendly business, there is no human or business activity that does not influence the conditions of the natural environment. Thus, T-HT, as a telecommunications operator that runs its everyday regular activities and provides services to its customers, is no exception to this rule. This impact has both, positive and negative effects on the environment. The negative effects are mostly manifested as the consumption of natural resources and the production of different types of emissions and waste through our regular business activities. The positive ones are related to an increase in the use of information and communications technologies (ICT) and applications which reduce the need for traveling and, consequently, for the use of fossil fuels, and dematerialization of business operations resulting from the replacement of written communications, in which paper is used as a medium, by e-communications. T-HT understands the importance of environmental protection and its role in it and, therefore, it has set environmental protection among its highest priorities, integrating it into its key business processes and organizational structure. In that way, apart from reducing the actual impact of its activities on the environment, T-HT has provided an opportunity to achieve significant benefits manifested as the reduction of operating costs, increase of reputation and improvement of competitive edge, because nowadays, in order to be successful in the market it is, as already said, extremely important to have a reputation of an ecologically sensitive and responsible company. Although our Company does not belong to the group of those the activities of which significantly pollute the environment, during the previous years T-HT has been taking care of the environment and has implemented a number of different protection activities. The previous Business Unit Mobile (today T-Mobile Hrvatska) has done most with respect to environmental protection. So far, it is the only unit that has managed to unify its efforts related to environmental protection into an integrated environmental management system in compliance with the international ISO 14001 standard and to receive a certificate for it. But the performance and achievements realized in that field in entire T-HT have not been systematically measured or presented to the public, except occasionally. This report is the first attempt to change the situation and to present data on our approach to environmental protection to our employees and a wider public and we have selected the indicators that describe the areas in which we can exercise the greatest influence on the environment in our regular business operations as a telecommunications operator. The indicators are in compliance with the indicators used by other European operators. Thus we can define our position in relation to other operators with respect to our environmental performance at the international level. The monitoring, comparison and publishing of these indicators will enable us to constantly work on the improvement of our performance, because if we cannot measure it, we cannot improve it, as well. The 2nd chapter is an outline of environmental protection policies and goals of the T-HT Group. The 3rd chapter is a summary of the T-HT Group profile in which its business lines, organization and responsibilities related to environmental protection are described, as well as basic data on human resources, networks and financial operations in 2004. The 4th chapter describes legal framework for environmental protection, whilst the 5th chapter offers an outline of environmental management in the T-HT Group. Environmental impact indicators are presented collectively and classified as per groups of eco-efficiency in the 6th chapter.

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At its 25th session held on August 17, 2005 the Management Board of T-HT passed a decision on adoption of the Report on environmental protection for T-HT Group for 2004.

Policy and strategy

Environmental Protection Policy and goals

The Environmental Protection Policy is a statement of the organization on its intentions and principles in relation to its total performance, which provides a frame for work and definition of goals and tasks with respect to environmental protection. The Policy is defined by the highest management body (Management Board of the Company) and it is a declaration of the Management Board about its commitment to the environmental protection goals. The policy defined in such a manner shall be made public within and outside the organization. The Environmental Protection Policy shall be related to all existing business operations, products and services of the organization and shall commit the organization to the process of constant improvement. Moreover, it shall contain an obligation of pollution prevention and compliance with all the applicable laws. There must be a clear relation between the Environmental Protection Policy and goals and tasks. If the organization is a part of a wider group (as in this case T-HT is a part of the DT Group), and this Group has its own Environmental Protection Policy, the relation to the Group Policy shall be clearly defined. By the end of 2004 the T-HT Group had no unified Environmental Protection Policy applied to the whole Group. The HT d.d. MB adopted the Environmental Management Policy in 2002, but it was applied only to the Business Unit Mobile. The Policy served as a basis for the introduction and certification of the Environmental Management System according to the ISO 14001:1996 standard. After the spin off of the mobile communications into a separate company HT Mobile Communication LLC (today T-Mobile Croatia LLC), 100% owned by HT d.d., the MB of HT Mobile Communications LLC adopted the Environmental Management Policy in July 2003. In October 2004 T-Mobile Croatia also adopted the Environmental Management Policy, which read as follows: “T-Mobile Croatia LLC assumes the obligation of responsible management of the environmental protection within its business operation.
Introduction of the Environmental Management System in accordance with the ISO 14001 standard demands permanent planning, implementation, control, improvement and the assessment of the impact on the environment, harmonization with the laws and subordinate legislation and other demands applicable in the area of mobile communications.

Environmental Management Policy includes
- Definition of significant aspects and impact on the environment in the area of the mobile communications;
- Constant analysis of the environmental aspects,
- Permanent harmonization with the current acts and subordinate legislation,
- Undertaking of measures to reduce possible harmful impacts on the environment
- Constant improvement and prevention of harmful impacts on the environment.

To achieve these goals, T-Mobile Croatia LCC shall:
- Train the management and the workers permanently with the purpose of development of their skills and environmental protection consciousness,
- Implement the new ecologically acceptable technologies and processes,
- Undertake preventive measures in order to improve environmental protection results,
- Keep the highest degree of control over the aspect in project designing and construction,
- Permanently improve and develop the Environmental Management System,
- Conduct evaluation procedures, adjustments and repair activities,
- Reduce waste production and monitor the achievement of goals
- Harmonize its operation with the guidelines of sustainable development in use of resources, direction of technical development for the purpose of their joint alignment and to meet the needs and expectations of the current and future service users

All employees in the T-Mobile Croatia LCC participate in the implementation of the Environmental Management System and keep improving it.
Policy is available to the public"
Although there is no Environmental Protection Policy at the T-HT Group level, the environmental protection activities in other parts of the Group are conducted with the aim to meet statutory conditions related to waste management, different emissions into the air, prevention of detrimental effects on the environment and preparations for actions to be undertaken in emergencies, etc.
T-HT has been a member of ETNO, European Telecommunications Network Operator's Association, since 1993 and a signatory of the ETNO Environmental Charter from 1996 (more data about ETNO Association, ETNO Charter and Environmental Protection Report can be found on www.etno.be). As the member of ETNO, in December 2004 T-HT participated in the First European Conference on Sustainability and Telecommunications in Budapest, where ETNO promoted a new Sustainability Charter that replaced and supplemented the Environmental Charter. Furthermore, the representative of T-HT was invited to join the ETNO Sustainability Working Group, which he accepted with pleasure.
T-HT is a member of the DT Group and, as such, is obliged to implement the Group policies and strategies referring to all its members and, thus, also the Group Sustainability Strategy which is based on the vision of a "better future" and reified through the principles of T-SPIRIT. In order to learn more about the components and importance of the strategy, in August 2004 a workshop was held in Zagreb, at which the most responsible representatives from the DT Headquarters in charge of sustainable development and corporate citizenship presented to the representatives of T-HT the most important features and goals and what was expected from them with regard to the implementation and realization of the said goals.

Communication

The Environmental Protection Annual Report is the main form of reporting to internal interested parties in the Company or wider community. The Company uses the Report to communicate its achievements in the field of environmental protection during a period of one year. So far, there was no such reporting in T-HT, whilst the reports on environmental protection activities, which in most of the cases were directed towards external interested parties through donations and sponsorships, were a part of the annual Business Report.
During the year, information about environmental protection activities was transferred through internal web pages of T-Com and T-Mobile Croatia and through official T-HT web pages. The internal portal of T-Mobile Croatia also contains a special column dedicated to the Environmental Management System according to ISO 14001 standard, available to internal interested parties in T-Mobile. Interesting information about environmental protection was also transferred through internal T-HT magazines, whilst the participation in different donor and sponsorship activities through external written and electronic media.

T-HT Group profile

Basic data

HT-Hrvatske telekomunikacije d.d. is the leading provider of telecommunications service in Croatia, the only one that provides the entire scope of services: fixed telephony, mobile telephony, data transmission, Internet and international communications.
The core business of the company HT-Hrvatske telekomunikacije d.d. and its affiliated company T-Mobile Croatia LLC, i.e. the T-HT Group consists of the provisioning of telecommunications services and designing and construction of communications networks in the territory of the Republic of Croatia.
Apart from providing fixed network services (access and traffic over fixed telephone lines and additional fixed network services), the Group also provides Internet services, data transmission services (leased lines, ATM, X25 and Frame Relay) and operates with GSM and UMTS mobile telephone networks.
HT-Hrvatske telekomunikacije d.d. is a joint stock company in the majority ownership of Deutsche Telekom AG. It was founded on 28 December 1998 in the Republic of Croatia in line with the provisions of the Law on Separation of Hrvatska pošta i telekomunikacije to Hrvatska pošta and Hrvatske telekomunikacije. In that way, the business operations of the previous company Hrvatska pošta i telekomunikacije ("HPT s p.o.") were separated and transferred to two new joint stock companies: Hrvatske telekomunikacije d.d. and Hrvatska pošta d.d., which started their business on 01 January 1999.
During 2002 HT Mobile Communications LLC was founded as a separate company and an affiliated company fully owned by Hrvatske telekomunikacije d.d. Its main line of business is the provisioning of mobile communications services.
During 2004 the T-HT Group implemented a rebranding process and introduced a new corporate identity as of 01 October 2004, which had made the T-HT Group a part of the global "T" family of Deutsche Telekom. The change of the corporate identity was followed by the forming of trademarks of two separate Group segments, T-Com and T-Mobile.
In 2000 the strategic and partnership connection between the T-HT Group and Deutsche Telekom resulted in a stronger development of T-HT. T-HT became a modern telecommunications group that wanted to use

all the advantages of the global trademarks in order to further improve its business and strengthen its competitive edge.
The strategy of T-HT is still based on service quality, customer satisfaction and further development of broadband access and value-added services related to the broadband access.
Low indebtness rate, developed technological infrastructure that enables further development of services, and own human and expert potential are the guarantee of further growth and increase of potentials in T-HT.
Today T-HT is with right considered one of the strongest economic entities in the state and, as such, it is one of the key drivers of economic growth in Croatia.

Business operations

The T-HT Group in Croatia provides all telecommunications services - fixed telephony, mobile telephony, data transmission, Internet and international communications.

Service segments

Fixed telephony
Since the core business of T-HT is to take care of fixed telephony services, the Company, apart from core telephone services such as installation of lines and call routing, also enables customers to use different services with added value, like televoting, carrier services and free of charge universal access number. Fixed network is still the largest source of telecommunications revenue. In the area of technologically more advanced services, HT started introducing the ISDN technology in April 2000.
One of the main elements of the T-Com strategy is the development of broadband Internet access. The implementation of the T-Com ADLS introduction strategy at a national level started at the beginning of 2004 with the ADSL service launch.

Mobile networks
T-HT introduced the first GSM digital network in the Croatian market in 1996.
Today mobile networks of T-Mobile cover over 98% of the territory of the Republic of Croatia, whilst international roaming with more than 200 GSM operators in the world enables our customers to be available also outside the borders of their parent network. T-Mobile has strengthened its leading position in the Croatian mobile communications market by reaching the market share of 53.7%. By the end of 2004 T-Mobile was granted a UMTS network concession.

Internet
T-HT as Internet service provider is a backbone of continuous growth and development of the Croatian Internet market. The introduction of MAXadsl broadband Internet access has had the strongest positive impact on T-Com to keep its leading market position. A special attention is paid to the production of contents in the Croatian language on T-Portal, which has become the most visited Croatian portal with 150,000 visits a day, as well as to the support to e-commerce.

Data transmission
Business customers have been offered various data transmission services since 1987, through managed X.25 networks, Croline, ATM, unmanaged leased lines, telex and telegraph which are still used by certain customers.

Organization

Business operations of the T-HT Group are divided into three business segments, which are organized in two business units (fixed network and Internet) and branded as T-Com, and a separate legal person, T-Mobile, and supported by four corporate units (CEO Corporate Unit, Financial Corporate Unit, Human Resources Corporate Unit, Group Services Corporate Unit).

Environmental protection organization and responsibilities

In this report period the environmental protection tasks were not organized at the T-HT Group level. The Regulations on Organization regulate only that the waste management tasks shall be performed by the Warehouse and Transportation Department (later on by the Procurement and Logistics Department), where a special group for waste management was formed for that purpose.

Some tasks related to environmental protection were also performed in the Work Safety Section, Personnel Administration Department. Only by the end of the previous year an initiative for amendments to the Regulations on Organization of HT d.d. was started. Pursuant to these amendments, the tasks related to coordination and organization of environmental protection in T-HT should be assigned to the Network Strategy Department, Service Corporate Unit. The same amendments to the said Regulations provide that the Group Chief Services Officer shall be responsible for environmental protection, whilst Regional Network Directors shall be responsible for operational tasks in that field.

T-Mobile

Within the introduced Environmental Management System T-Mobile defined the structure of and responsibilities for environmental protection activities in its business. The responsibility starts from the Management Board of T-Mobile, whereby the Management Board appointed one of its Members to the position of the Management Board representative for environmental protection. The environmental manager shall be responsible to report to the Management Board on the operation of the Environmental Management System, so that the Management Board could appraise and improve the System pursuant to the mentioned report. The Management Board shall ensure the resources necessary for the implementation and follow-up of the Environmental Management System, which shall include the employees, the technologies and the financial sources. The Management Board shall also establish the general objectives of environmental protection.

The directors of departments shall be responsible for the implementation and maintenance of the Environmental Management System, for implementation of the general and individual objectives, for implementation of work control, for supervision of processes related to significant environmental aspects, for employees training process, for cost monitoring regarding environmental protection and for a whole range of additional procedures which shall be described in more detail in the Manual and associated procedures.

The Management Board appointed the working group for construction, maintenance, documentation and improvement of the Environmental Management System. The Management Board also appointed an environmental manager. The environmental manager shall also be the working group leader and shall coordinate the activities of the working group members. The environmental manager shall also be in charge of reporting to the Member of the Management Board for environmental protection on the status of the System.

Human Resources

The process of organizational development and improvement of business efficiency of T-HT had an impact on the development of human resources function at the corporate level. T-HT is aware of its responsibility towards customers, but also towards shareholders, wider community and, especially, towards its employees. The responsibility towards employees, the most valuable asset of our Company, is designed and promoted through sustainable development of human resources. T-HT is aware that the employees are an inevitable part of its success and that it cannot face numerous future challenges without committed and motivated workers who are going to implement the necessary changes. On 31 December 2004 the HT Group had 8,862 employees. That number included 577 workers whose employment contracts were terminated as of 01 January 2005. Aware that our Company must be customer-oriented, because soon it will compete on an entirely liberalized market, during 2004 T-HT focused on the improvement and education of the employees who worked in direct contact with customers. 450 workers who communicated directly with the end customers on daily basis (Sales, Customer Care) went through an improvement program, which also encompassed the majority of field workers who, as a part of their working tasks, were in direct contact with customers. These efforts will certainly result in a higher level of customer satisfaction. In order to achieve and maintain a high level of ecological awareness among its employees, T-Mobile constantly conducts internal trainings. New employees are trained on how to implement environmental protection, whilst all other employees participate in periodical additional trainings. Aware of its responsibility for the maintenance and improvement of its position in the market for a longer period of time, T-HT, in line with the values it promotes and supports, provided support to its employees regarding the acquisition of practical technical knowledge at a global level.

Donations

By combining telecommunications and environmental protection, two inseparable components of its business, T-HT enabled the high school students on the island of Korčula to participate in the UN videoconference on the World Environmental Protection Day on 05 June 2004. T-HT was the main partner to the non-profit organization "Dupinov san" in the implementation of the project "Green 2004", the goal of which was to actively promote social awareness about preservation of natural values of the Adriatic coast. That action raised funds for the planting of 10,000 olive seedlings and 15,000 pine and cypress seedlings along the Croatian coast. With a desire to participate in the protection of the environment and the living world around us in a more engaged and efficient manner, T-Mobile has supported a number of ecological projects by providing considerable funds and conducting activities.

Main network indicators

The main indicators of the status of the fixed telecommunications network capacity owned by T-HT at the end of 2004 as well as of the traffic realized in the said network in the same year are shown in the following table:

Total number of lines in the fixed network (in 000)	1.676,5
POTS (including FGSM)	1.549,2
ISDN	127,3
ADSL	24,3
Number of channels (including FGSM)	1.887,6
Network digitalization (%)	100
Fixed line penetration (%)	37,8
Total traffic (in 000 minutes)	5.912.363
National calls	4.854.452
Calls to national mobile networks	730.556
Calls to value added services	62.837
Calls to international fixed networks	185.662
Calls to international mobile networks	41.773
Other traffic	37.083

The table below shows the capacities of and the realized traffic in the T-HT Internet network in 2004:

Dial-up users (in 000)	562,8
Fixed line Internet access subscribers (in 000)	0,6
VPN points (in 000)	0,1
ADSL users (in 000)	24,3
Dial-up Internet access penetration (%)	25,9
Total number of on-line minutes for dial-up users (in 000 minutes)	2.642.664

The table below shows the capacities of and the realized traffic in the T-HT Internet network in 2004:

Total number of mobile subscribers (in 000)	1.533,8
Number of prepaid customers, T-Mobile	1.233,6
Number of postpaid customers, T-Mobile	293,4
Number of NMT customers, T-Mobile	6,9
Market share, T-Mobile (%)	53,7*
Mobile network penetration (%)	64,4*
MOU (minutes of use per average subscriber)	1.864
ARPU (average revenue per user) in HRK	157,5

* Vip results estimated for October - December

Main financial indicators

Revenue per business segments (in mil. HRK) in 2004	
Fixed network revenue	4.148
Carrier operations revenue	514
Data services revenue	247
Internet services revenue	300
Mobile network revenue	2.909
Total revenue	8.118
Other revenue	231
Total core-business revenue	8.349
Total core-business expenditures	6.238
Staff expenditures	1.595
EBITDA	3.522
Added value (EBITDA + staff expenditures)	5.117
Core-business profit (EBIT) (in mil. HRK)	2.111
Profit from regular activities before taxation	2.406
Profit of the financial year (in mil. HRK)	1.924

Comment: Financial data from the T-HT Annual Report 2004

As to 31 December inclusive, the total consolidated revenue from core business of the T-HT Group in 2004 amounts to HRK 8,349 million. Consolidated profit from core business was HRK 2,111 million and the profit of the financial year 2004 reached HRK 1,924 million.

Consolidated revenue in 2004 reached HRK 8,118 million, which was an increase of 3.5% in relation to 2003. Revenues increased only in those parts of market where, apart of T-HT, also competition was active. Group revenue increased mostly thanks to the segment of mobile communications and, to a lesser degree, thanks to data and Internet services. Those business segments covered 42.6% of the total Company revenue. The increase of revenue in the said segments compensated for the decrease of revenue in the fixed network (-0.7%) and carrier operations (-27.3%)

Legislative framework

The awareness about the need for environmental protection in Croatia slowly turns into a clear, comprehensive and long-term concept, especially due to the processes related to the joining of EU, where environmental protection is one of the key topics. The current environmental protection system in Croatia is based on the Constitution of the Republic of Croatia, which guarantees environmental protection (Article 3).
Declaration on Environmental Protection in the Republic of Croatia contains guidelines for strong commitment to the development of a legal system in line with the international agreements and standards of the European and world community, which will fully ensure permanent, systematic and efficient environmental protection. The Declaration served as the basis for passing the Environmental Protection Act that establishes the basic principles of the Croatian legal system for environmental protection and systematically and fully regulates environmental protection. Environmental Protection Act provides the regulation of certain issues through the implementing provisions, e.g.: Regulations on Environmental Impact Assessment, Regulation on Environmental Emission Inventory, Environmental Protection Emergency Plan, etc.
The Republic of Croatia has adopted integral acts on the protection of environment, air, waste and water management:

- Nature Protection Act regulates individual protected parts of nature, the manner of management, protection and control,
- Air Protection Act regulates the measures, organization and implementation of air protection and air quality improvement in a coherent and comprehensive manner,
- Waste Act regulates the rights and obligations of physical and legal persons with respect to waste management
- Water Act regulates the legal status of water and water resources, the manner and conditions of water management.

Pursuant to the stated acts, a number of implementing regulations have been passed which incriminate a whole range of offences and provide larger fines for offences committed in the field of environmental protection. Furthermore, the new Environmental Protection Act is being drafted with for the purpose of further harmonization with acquis communautaire (Stabilization and Association Agreement).

Acts and regulations of the Republic of Croatia important for T-HT

In the implementation of environmental protection activities T-HT is obliged to comply with all the relevant acts of the Republic of Croatia as well as other regulations related to that area. In this respect, the following acts and regulations passed at the state level are of special significance for T-HT:

- Environmental Protection Act,
- Regulations on Environmental Impact Assessment,
- Ordinance on Environmental Impact Assessment,
- Regulation on Environmental Emission Inventory,
- Air Protection Act,
- Regulation on Recommended and Limit Air Quality Values,
- Regulation on Limit Values of Pollutant Emissions from Stationary Sources into the Air,
- Regulation on Substances Depleting the Ozone Layer,
- Regulation on Unit Charges, Corrective Coefficients and Detailed Criteria and Benchmarks for Determination of the Charge for Emission into the Environment,
- Accounting Level for Substances Depleting the Ozone Layer,
- Water Act,
- Waste Act,
- Ordinance on Requirements for Handling Waste
- Regulation on Requirements for Handling Hazardous Waste,
- Ordinance on Packaging Waste Handling,
- Act on the Environmental Protection and Energy Efficiency Fund,
- Environmental Protection Emergency Plan,
- Act on Non-Ionizing Radiation Protection,
- Regulation on Maximum Permissible Radiation of Radio Stations in Cities and City-like Places, and
- Regulation on Protection from Electromagnetic Fields.

Apart from the above stated, there is a whole set of ancillary provisions (regulations and ordinances) which in more detail define the implementation of statutory acts and different regulations adopted at a county or city/municipality level, which will soon gain on importance.

Environmental Protection and Energy Efficiency Fund - ecological fees

The Environmental Protection and Energy Efficiency Fund was founded with the purpose to finance preparation, implementation and development of programs, projects and similar activities in the field of preservation, sustainable use, protection and improvement of the environment, as well as in the field of energy efficiency and use of renewable energy sources.
The Fund is established as an off-budget Fund and is a legal person with public authorities determined by law (Environmental Protection and Energy Efficiency Fund Act, Official Gazette 107/03). Its public authorities concern passing of administrative acts related to the payment of fees and special fees, keeping the register of parties subject to payment of charge, regulating conditions which have to be fulfilled by the Fund beneficiaries as well as conditions for the allocation of funds.
The Environmental Protection and Energy Efficiency Fund Act regulates the following:

- Environmental polluter fee,
- Environmental user fee,
- Fee for burdening the environment with waste, and
- Special environmental fee for motor vehicles.

The stated fees and the special fee shall be paid for the calendar year and under conditions and in the manner as provided by the Environmental Protection and Energy Efficiency Fund Act and regulations and ordinances passed pursuant to it.

Environmental polluter fee

Environmental polluter fees include fees for emission into the environment of:
1. Carbon dioxide (hereinafter: CO_2 emissions),
2. Sulfur oxides in the form of sulfur dioxide (hereinafter: SO_2 emissions) and
3. Nitric oxides in the form of nitric dioxide (hereinafter: NO_2 emissions).

Parties subject to the payment of the fee for emission into the environment are legal and physical persons which, within their business, own or use individual sources of CO_2, SO_2 and NO_2 emissions.
Fees for CO_2, SO_2 and NO_2 emissions are calculated and payable in accordance with the quantity of emission in tons.

Environmental user fee

Environmental user fee is a fee for buildings and constructions, the environmental impact assessment of which must be conducted pursuant to law. Parties subject to the payment of the environmental user fee are legal and physical persons, which own or have the right to use buildings or constructions. The environmental user fee is calculated and paid depending on the building or construction, as well as on space, technical and technological features of the building or construction (area, length, capacity, etc.) expressed in appropriate units of measure.

Fee for burdening the environment with waste

Fees for burdening the environment with waste include:

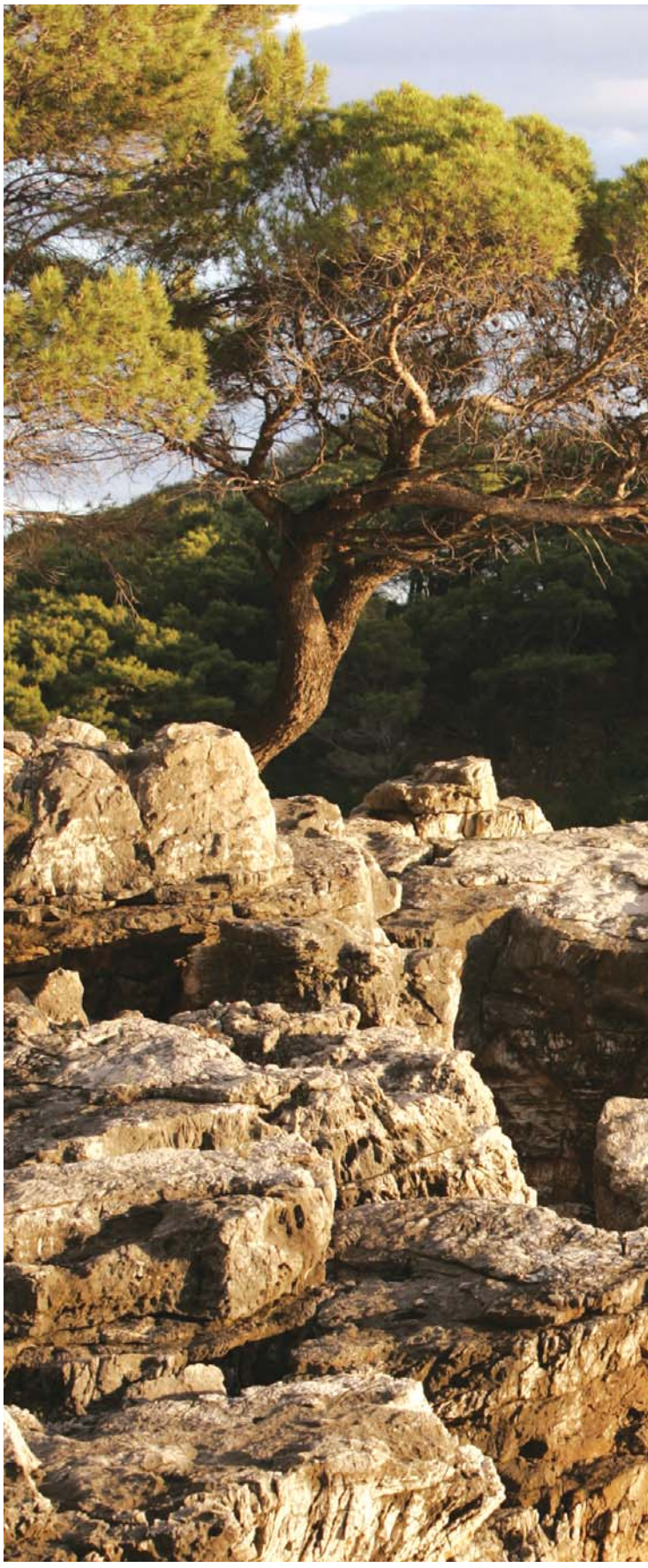
- Fee for municipal waste and/or non-hazardous technical (industrial) waste,
- Fee for hazardous waste.

Parties subject to the payment of the fee for municipal waste and/or non-hazardous technical (industrial) waste are legal and physical persons, which dispose of municipal waste and/or non-hazardous technical (industrial) waste at the waste dump. The fee for municipal waste and/or non-hazardous technical (industrial) waste is calculated and paid in accordance with the quantity of dumped waste. The fee for hazardous waste is calculated and paid in accordance with the quantity of produced and unprocessed or non-exported hazardous waste and in accordance with its characteristics.

Special environmental fee for motor vehicles

Special environmental fee for motor vehicles (hereinafter: special fee) includes a fee paid by legal and physical persons which own or have the right to use motor vehicles. The special fee is paid when registering a vehicle or when verifying that vehicle is technically roadworthy. The special fee is determined and paid as per type of vehicle, engine or propellant, operating volume or engine power and age of vehicle. Unit fee and corrective coefficients and methods of calculation and payment are regulated by:

- Regulation on Unit Charges, Corrective Coefficients and Detailed Criteria and Benchmarks for Determination of the Special Environmental Charge for Motor Vehicles and
- Ordinance on the Method and Terms for Calculation and Payment of the Special Environmental Charge for Motor Vehicles.



Environmental management

Environmental Management System (EMS) according to ISO 14001

A set of ISO 14000 standards, the first of which were published in September and October 1996, offers different views of environmental management. The standards ISO 14004 and ISO 14001 refer to Environmental Management Systems, realization of those goals and proofs that they have been reached. The standards do not determine the level of environmental features and, therefore, can be applied to many different organizations. However, they contain a request for the compliance with the adopted environmental acts and a constant improvement of environmental protection, the backbone of which is ensured by an Environmental Protection System. ISO 14004:2004 provides instructions on elements of the Environmental Management System, its application and main issues. ISO 14001:2004 specifies requirements for the Environmental Management System, which provide a frame for environmental impact control of organizational activities, production and services and for a continuous reduction of environmental impact. The set of ISO 14000ff standards includes approximately 15 standards intended for organizations to establish and apply an Environmental Management System and determines criteria for its certification. The Environmental Management System defined by the international standard is based on an attempt of the Management Board to:

- comply with regulations,
- constantly improve,
- prevent pollution.

ISO 14001 enables organizations to develop freely towards a number of goals related to improvements, which are also in the function of the existing economic and technical possibilities of the organization.
Its application provides for a systematic identification of environmental issues in the organization, as well as their management and supervision and constant alignment with applicable statutory requirements related to environmental protection. The standard stimulates the organization to gradually improve its relation to the environment.
The standard also determines 17 groups of requirements which the organization needs to implement in order to prove that it has been established in an environmental-friendly manner:

1. Environmental management policy,
2. Environmental aspects,
3. Statutory and other requirements,
4. General and individual objectives,
5. Environmental management program,
6. Structure and responsibilities,
7. Training, awareness and competence,
8. Communication,
9. Environmental management system documentation,
10. Document management,
11. Processes and activities management,
12. Emergency preparedness and response,
13. Monitoring and measurement,
14. Non-compliance, corrective and preventive actions,
15. Records,
16. Environmental management system audit,
17. Management Board review.

Compliance with the stated requirements asks for an objective proof used to assess whether the Environmental Management System functions properly and in line with the standard. The ISO 14001 standard can serve for internal purposes to ensure to the organization and its management certain security (verification of compliance with statutory provisions), savings (reduced consumption), or for external purposes as support to a publicly declared policy regarding work on environmental protection and improvement of the Company's image. ISO 14001 is a standard, based on which the organization can require an audit of its Environmental Management System by an independent certification body, which can then guarantee compliance of the system with the requirements of the standard by issuing an "ISO 14001 certificate". Certification is not required by the standard, but many organizations opted for it since an independent verification brings higher credibility. Daniel Gagnier, President of ISO/TC 207, said: “Business entities directed towards the future must be committed to sustainability as a strategic goal. It means to apply a good environmental management practice, without polluting and destroying the environment, to reduce waste and efficiently use resources, by observing the concerns of buyers, shareholders, employees, local community, legislator and the society as a whole in relation to the environment. ISO 14001:2004 and ISO 14004:2004 provide a map for reaching that strategic goal.”

Environmental Management System in T-Mobile

In September 2002 T-Mobile Croatia introduced, in line with the HRN EN ISO 14001:1996 standard, an Environmental Management System that identified and defined goals related to environmental protection to be achieved and the manner in which to achieve them. In the same year the system was certified by Cro Cert, authorized certification company. The ISO 14001 certificate shows that T-Mobile Croatia is actively involved in environmental protection, but it is also a proof that T-Mobile is systemically and dedicatedly committed to ecological issues. T-Mobile continuously adjusts every part of its business to the latest European and world ecological standards.

The Environmental Management System introduced in T-Mobile Croatia is based on the Environmental Management Policy, including defining of significant aspects and impact on the environment in the area of the mobile communications, constant analysis of the environmental aspects, permanent harmonization with the valid acts and subordinate legislation, undertaking of measures to reduce possible harmful impact on the environment, and constant improvement and prevention of harmful impacts on the environment.

To achieve these goals T-Mobile trains the management and the workers permanently with the purpose of their skills and environmental protection consciousness, implements the new ecologically acceptable technologies

and processes, undertakes preventive measures in order to improve environmental protection results, keeps the highest degree of control over the aspects in project-designing and construction, permanently improves and develops the Environmental Management System, conducts evaluation procedures, adjustments and repair activities, reduces waste production and monitors the achievement of goals, as well as harmonizes its operations with the guidelines on sustainability in the use of resources, direction of investments and technical development for the purpose of their mutual alignment and to meet the needs and expectations of the current and future service users.

T-Mobile also made and last year updated the Environmental Management Manual that unified and described all the elements of the introduced Environmental Management System and listed applicable laws and other regulations on environmental protection as well as the corresponding procedures that were, in line with the ISO 14001 standard, developed for that purpose in T-Mobile.

Environmental Impact Indicators

Environmental impact indicators, as a supplement to traditional financial indicators, are becoming more and more important for modern management, regardless of the field of activities. These instruments are used for planning, control, comparison and reporting on environmental protection activities, focusing on natural resources, their efficient procurement and use, as well as their proper use and disposal. These indicators contain information that can be applied usefully in various tasks, such as setting of goals and monitoring of their realization. They may be used for checking the efficiency of use of natural resources, comparison of processes and their outcome within and across business departments, provision of evidence of compliance with legal requirements of state authorities, and, finally for supplying information to employees, external interested parties such as banks and insurance companies, investors, non-governmental organizations and the general public. Indicators are an efficient form of monitoring changes and realization of goals of department policies or strategies. They help to better understand the complex environmental issues and provide a quantitative information in a simple and clear way. Indicators should be: representative, essential, convincing, clear and correct. There are several criteria for the selection of indicators, but the most important are: how important is the problem from the pint of view of detrimental effect on the environment, how is politics handling the problem, and is indicator collection and measurement possible.

On the other hand, indicators are directly linked to environmental aspects of a specific organization, and they quantify the scope of a specific aspect's impact on the environment. According to the international ISO 14001 standard, “environmental aspect” stands for elements of the organization's activities, products and services that may have an impact on the environment. Following the cause-effect relation between environmental aspects and their impact on the environment, “impact” is understood to be every change in the environment, either detrimental or beneficial, which is fully or partially caused by the organization's activities, products and services.

Taking into account the activities of T-HT as a telecommunications operator, the experience of other European telecommunications operators associated in the ETNO, as well as the experience of DT AG as our majority shareholder and strategic partner, the environmental aspects of T-HT may be divided in the following way:

- Use and pollution of ground (including facilities),
- Use of raw material (paper, cable, telephone masts),
- Use of electricity,
- Use of energy for the heating and air-conditioning of premises,
- Use of fossil fuels for transport,
- Consumption of water,
- Emissions into the air,
- Production of waste,
- Production of noise,
- Use of the landscape,
- Generation of electromagnetic radiation.

For all listed environmental aspect groups, indicators are given below which describe their impact on the environment as a result of the daily regular activities performed at T-HT. For some of the aspects, the impact is presented in form of a description, as there are no exact numerical indicators for their quantification.

Cumulative indicators on environmental impacts within the T-HT Group

The table below provides a cumulative presentation of all indicators of environmental impacts within the T-HT Group for the year 2004, divided into the previously stated environmental aspects. The data were collected within the T-HT Group by the following business units: T-Mobile Croatia, Procurement and Logistics Department, Real Estate Management and Internal Services Department as well as the respective regional sections from all four Regions (North, West, South and East).

Indicator	Units	2004	2003
Water			
Water Consumption	m^3	241.000	-
Energy			
Total consumption (w/o vehicles)	TJ	458,7	448,6
Energy, electric power			
Electric power consumption	TJ	332,4	336,3
Energy, heating			
Heating energy consumption	TJ	126,3	112,3
Paper			
Paper total	t	437,2	352,2
Vehicles			
Number of vehicles		1.689	1.704
Fuel consumption	l	2.556.429	3.131.329
Mileage	millions km	34,4	30,3
Fuel consumption per 100 km	l/100 km	7,4	10,3
Quantity of waste (excluding household waste)			
Total quantity of waste	t	3.753,1	-

Consumption of Resources

T-HT is not a production company, but a telecommunications service provider, therefore, in its business processes, it does not use raw material in the traditional sense, but it does use paper, water, facilities, electronics, cables etc. in its business activities (maintenance and extension of the fixed and mobile telecommunications network and provision of services). The use of the ground for facilities, parking lots and warehouses produces various impacts on the environment which also need to be carefully monitored.

Energy

The largest impact on the environment produced by the Company is the consumption of energy required for its business processes. The types of energy used are: electricity, heating or air-conditioning energy and fuel for vehicles and power generators etc. The energy distribution (excluding fuel for vehicles) shows that the T-HT Group is consuming mainly electric power (over 70% of the total energy consumption which is amounting to 460 TJ), while other types of energy are evenly distributed.
The energy consumption structure depends on the extension of telecommunications capacities, introduction of new networks/services (e.g. UMTS in the mobile, ADSL in the fixed network), on climatic conditions (duration of the winter / summer period) and on the type and efficiency of energy consumption, so that the increase in consumption by itself does not mean inefficient consumption. The extension of the telecommunications network and services and the increase of the customer base leads us to expect that the total energy consumption will be rising, but it is possible to use the energy in a more efficient way. The variety and individual features of the national area in terms of energy shows different usages of energy types by regions, from which follow specific activities for the improvement of energy efficiency. Therefore, it is necessary to define various projects for a more efficient use of energy, as well as revitalize/continue current projects and encourage the observance of general instructions on energy saving. More efficient use of energy also leads to the decrease of the rate of compensation for emission of various waste gases into the environment (carbon dioxide, sulfur oxide and nitric oxide). By moving the Company Headquarters to a new office building, the HoTo Business Tower (Spring 2004), the Company got

modern and functional office premises, in the design and construction of which special attention was paid to energy savings in the use of the facility. A central surveillance and management system was installed for the complete thermal and technical equipment and installation: surveillance of heating and ventilation, air-conditioning, heating stations, fault and status detection for all pumps, pressure, sprinklers, elevator status, fire alarm, access control, video-surveillance of the entire building, lighting management, status control of the electricity cabinets, etc.

Electric power

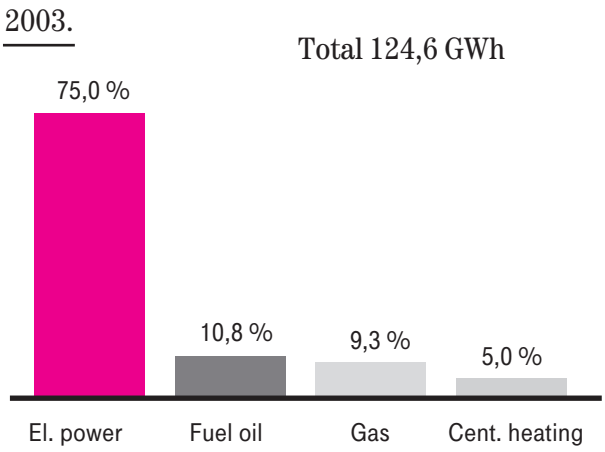
The production capacities from which the Croatian consumers (including the T-HT Group) are supplied with electric power consist of hydroelectric power plants (43% of produced power), thermo-electric power plants (50 %) and nuclear power plants (7%). Each of these forms of production of electric power has its own specific way of impacting the environment, particularly the nuclear power plant, although it is located in the territory of the Republic of Slovenia, because it produced nuclear waste which poses a huge problem with regard to its disposal. For the T-HT Group, consumption of electric power as the major source of energy is of particular interest. In the course of the year 2004, a total of 92,3 GWh were consumed for the operation of the telecommunications equipment, air-conditioning, heating and lighting. A part of the data for the year 2003 were taken over from the Report by Deutsche Telekom: The 2004 Human Resources and Sustainability Report. In some of the business areas of the Company, savings are possible provided that projects of energy efficiency of electric power supply are studied and implemented, however, the total consumption of electric power is expected to grow, if capacities are extended, i.e. new networks of telecommunications services are built. Electric power is mainly used for the operation of the fixed network and for air-conditioning/ ventilation systems. During the year 2004, the switching network optimization project was completed, in the course of which a specific number of switching nodes (exchanges) of the telephone network were put out of operation, which resulted in a certain saving in the consumption of electric power needed for their power supply. Within the T-HT Group, currently only T-Mobile Croatia is using some form of energy from renewable sources: solar energy is used for the power supply of base stations on islands.

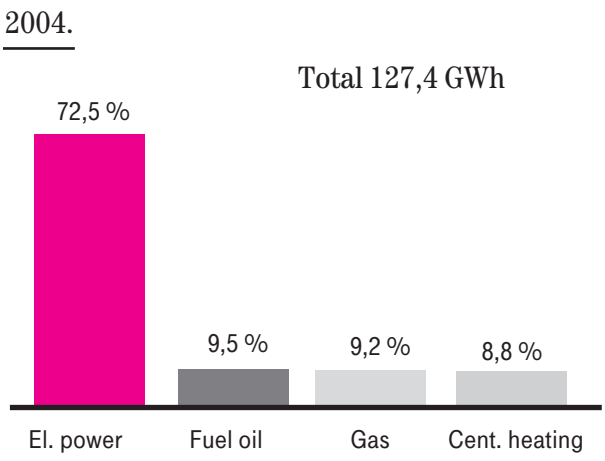
Heating fuels

The combustion of heating fuels, especially fuel oil, results in gases that contribute to the greenhouse effect, and there is also a substantial risk in transport and storage, considering the possibility of oil spillage resulting in pollution of the ground and watercourses. The heating fuels used by the T-HT Group are: highly combustible fuel oil and gas, or central heating for the district is used. The T-HT Group does not use coal for heating, as this is the heaviest polluter of all energy sources. From the aspect of CO_2, SO_2 and NO_2 emission, fuel oil is contributing most to pollution.

Energy source/heating type in 2004	MWh
Fuel oil	11.756
Gas	12.060
Central heating	11.262
Total	35.078

Note: conversion ratio 1GWh = 3,6 TJ





The energy distribution of equivalent energy indicates a roughly equal energy consumption by energy source/ heating type, and each region has a different fuel consumption distribution structure, depending on the characteristics of the area and the heating type options.

Vehicle fuels
Using its motor vehicles from its car fleet, T-HT is contributing to the greenhouse effect, to the emission of air polluting waste gas and to the overall risk for the environment related to transport activities and the use of fuel and lubricating oils.

		Units	2004.
Total fuel consumption		l	2.701.154
	Gasoline	l	525.154
	Diesel - vehicles	l	2.031.278
	Diesel - power generators	l	144.725
Number of vehicles		pcs.	1.689
	Gasoline engine	pcs.	412
	Diesel engine	pcs.	1.277
Passenger cars		pcs.	949
Freight vehicles		pcs.	740
Total company car mileage		km	34.449.567
	Gasoline engine	km	7.434.777
	Diesel engine	km	27.014.790
Fuel consumption per 100 km		l/100 km	7,4

T-HT has partially renewed its car fleet, which resulted in a marked decrease of fuel consumption and a more efficient average fuel consumption per km passed (10,3 l/100 km in 2003, and 7,4 l/100 km in 2004). Furthermore, 144 thousand liters of diesel fuel was consumed for power generators, of which 12,8% was Euro Diesel fuel.

Paper
The production of paper, especially high-quality white paper, requires high quantities of energy, water and wood, which has a major impact on the environment. Old paper recycling generates savings in production, and the woodland, which is very important for the preservation of the Earth's atmosphere, is also spared.

Paper	Units	2004.	2003.
A4 (print/photocopy)	millions sheets	43,1	63,0
A4 (print/photocopy)	t	218,1	319,1
Telephone Directories	t	219,1	33,1
Paper total	t	437,2	352,2
A4 (print/photocopy)	thousand sheets per employee	4,8	5,9
A4 (print/photocopy)	kg per employee	24,1	30,0

The improvement of business processes, e.g. the application of an electronic document flow system and mass usage of e-mail in internal and external communication, has markedly reduced paper consumption. This is also reflected by the consumption per employee, expressed in a decreasing number of sheets of print/photocopy paper per employee. Telephone Directories, taking up huge quantities of paper, are printed every two years (business and residential). Accordingly, and depending on the Regions where they are printed, the quantity of paper required for their printing varies from year to year. The publication of the Telephone Directories on the Internet, and the release on CD-ROM, are a useful alternative in resource saving.

Water
Water represents one of the most important natural resources of the Republic of Croatia. By quantity of available healthy drinking water, Croatia is one of the richest countries in the world. Therefore, water pollution, especially by waste water, is a huge environmental issue.
The T-HT Group is using water mainly for sanitary purposes, and as drinking water, and none of its business processes is a threat of water pollution. Waste waters from our facilities are drained off into the local sewage systems, and in places where there is a risk of oil spillage into the sewage, separators are installed to prevent this (e.g. HoTo Business Tower).
The T-HT Group water consumption in 2004 amounted to a total of approx. 241 thousand m^3 of water.

6.2.4. Landscape and ground, real estate
Impact on the environment: the appearance of the landscape, special conditions and occupation of the ground by real estate with impact on the ecosystem (bio variety) and natural balance of watercourses.

Local communities are particularly sensitive to disruptions of the landscape appearance by the erection of mobile networks base stations. With regard to the impact on the appearance of the landscape, T-Mobile is taking into account the existing values of the surroundings. For instance, when erecting base stations and antennas on Adriatic islands, all interventions are harmonized with the natural and architectural features of the region, and some of the erected antennas and base stations use solar energy only. Furthermore, it has been made a practice before that in particularly valuable landscapes, e.g. in national parks and nature parks, the antenna masts of the base stations are used jointly with the other operator, in order to keep the disruption of the landscape appearance to a minimum. In the fixed telephone network, overhead access networks

also deteriorate the appearance of the local landscape. By removing the overhead networks that are obsolete and were devastated during the war, and by construction of underground access networks, T-HT is exerting a positive impact on the improvement of the appearance of the local landscape. In its regular operation, T-HT is using facilities, the number and total space of which has changed in time. The Company is using its own facilities, leased facilities, but also facilities that do not fall in either of these categories. Roughly, we are speaking about an area of 380 thousand m^2 of net developed space used for offices, sales points, accommodation of equipment, warehouses, garages and the like. Of this, 180 thousand m^2 of space is Company-owned. The Company is also using open spaces for warehouses and parking lots of approx. 240 thousand m^2.

Emissions and waste

Waste gas emission

Waste gas as a result of T-HT operations, which are emitted into the air are: carbon dioxide (CO_2) which contributes to the generation of the greenhouse effect, sulfur dioxide (SO_2) which contributes to the generation of winter smog and acid rain, and nitric oxides (NO and NO_2) which contribute to the generation of summer smog and acid rains. The main sources of waste gas in T-HT are the car pool and the boiler rooms (stationary sources) used for heating of working premises. A part of the air emissions of the T-HT car pool, related to CO_2 emission, has been calculated on the basis of fuel consumption and factors for the individual fuel types (1 l Diesel = 2,62 kg CO_2, 1 l Gasoline = 2,32 kg CO_2 - Source: The 2004 Human Resources and Sustainability Report).

Emission	Units	2004.	2003.
CO_2	t	6.540	8.029
CO_2 per km	g / km	190	265

A significant reduction of CO_2 emission can be noted, which is the result of the renewal of the car pool and of the reduction of the total fuel consumption in spite of the increase of mileage. On occasion of registration of its cars, T-HT is paying a special environmental fee for motor-driven vehicles which is, as prescribed by law, payable to the Environmental Protection and Energy Efficiency Fund. Pursuant to legal regulations,

the emission of pollutants into the air from stationary sources is being measured in regular time intervals at each outlet of the stationary emission source. Measurements are performed by authorized organizations, and reports are regularly sent to the County Offices for Environmental Protection that are keeping the environmental emission inventory prescribed by law. The inventory data are the basis for payment of fees for emissions into the air by stationary sources. For the time being, the Environmental Protection and Energy Efficiency Fund is charging fees for SO_2 and NO_2 emissions.

Waste

In general, waste puts a significant pressure on the environment, impacting the quality of air, water and ground to an extent that depends on the method of disposal and/or recycling. The largest quantity of waste at T-HT is generated in processes of improvement, renewal and reconstruction of parts of the telecommunications network and its regular maintenance, also when individual network platforms or technological units are put out of operation, when the dismantling of equipment generates specific quantities of superfluous equipment or other material. A part of such equipment can be reused within T-HT (for original use or for spare parts) or sold, while part of the obsolete, unnecessary or destroyed telecommunications equipment and other material assets is declared waste (mainly electric or electronic waste) which needs to be handled in the appropriate way, for prevention of detrimental effects on the environment. Pursuant to the Waste Act (Official Gazette 178/04), this waste is classified in a group of separate waste categories, since some of its parts or components may contain substances which qualify it as toxic waste. Waste management from the point of view of environmental protection is a process which has a significant impact on the environment, therefore this topic is given special attention within the T-HT Group. The hierarchy of waste management is being observed, so that the primary target is to reduce generation of waste and reduction of its toxic properties. If this is impossible, part of the waste is being reused as raw material (recycling), so that only such waste that cannot reasonably be used will be disposed in a non-detrimental manner, in line with legal regulations, and delivered to companies that are registered for such waste disposal. The Procurement and Logistics Department has worked out a Waste Disposal Procedure within T-HT. During the year 2004, preparations were performed for the shutdown of the analog NMT network of the first generation mobile communications system. T-Mobile prepared a campaign of ecologically friendly disposal of old NMT handsets returned by the customers. In the Company, paper, glass, PET and cardboard containers are separated and collected, and then delivered for recycling or ecologically friendly disposal. At T-Mobile, quantities of collected paper are measured, while T-HT is measuring only the paper from old telephone directories which has been collected in one turn and delivered for recycling. T-Mobile also disposes in an ecologically friendly way all electronic waste generated in internal use - old mobile handsets, battery chargers and batteries of mobile handsets, IT equipment (old computers, monitors), as well as all used toners (taken over by an authorized company which exchanges them for office supplies).

Waste quantity (excluding household waste)	Unit	2004.
Collected paper	t	320,9
Copper cable	t	2.093,1
Tires	t	30,6
Industrial waste	t	1.108,2
Rechargeable batteries and batteries	t	85,1
Electronic parts	t	15,2
Motor oils	t	15,6
Oiled packaging	t	3,1
Other waste	t	81,3
Toners (printer, telefax machine, ..)	pcs.	279
Mobile handsets	pcs.	2.620
Total quantity of waste	t	3.753,1

Noise

Noise does not have a palpable effect on the environment, but due to its nature it does disturb living beings (humans and animals) that are exposed to it. Sources of noise in the regular operation of T-HT can be motor vehicles and pieces of machinery within the T-HT car pool, and air-conditioning systems. In the course of 2004 no complaints were registered from citizens regarding noise caused by T-HT activities. By the renewal of the car pool by procurement of vehicles that produce less noise, T-HT is reducing the overall level of emitted noise.

6.3.4. Non-ionizing electromagnetic radiation

Similar to noise, electromagnetic emissions are not palpable. According to present knowledge, non-ionizing electromagnetic radiation poses neither a hazard for humans nor does it represent an ecologic issue, although a certain level of concern is present in the public. The current legal restrictions are based on the heat effect and take the principle of precaution into account.
Within the T-HT Group, T-Mobile Croatia has a license for operation of a GSM system and provision of mobile communications services, and it was also granted a license for construction of a third generation network (UMTS) and provision of respective services.

In Croatia, the Regulation on Protection from Electromagnetic Fields, passed by the Ministry of Health, is in force (Official Gazette 204/2003). All telecommunications equipment is subject to the provisions of the Regulations on Maximum Permittable Electromagnetic Fields for Radio Equipment and Telecommunications Terminal Equipment (Official Gazette 183/2004). The international standard for limits of exposure to time-varying electric, magnetic and electromagnetic fields (up to 300 GHz) has been issued by the International Commission of Non-Ionizing Radiation Protection (ICNIRP). These safety limits have been accepted by the UN World Health Organization for the whole world, and as such they are applied by T-Mobile Croatia. However, compared to these standards, the Croatian Regulations are stricter by 2,5 times. The base stations of the T-Mobile GSM network have been developed, tested and put into operation in line with the international standards and requirements. T-Mobile gets certificates from its suppliers, proving that the bases stations comply to the ICNIRP safety requirements - and to a series of standards for product safety, electromagnetic compatibility and general technical regulations. Furthermore, all base stations are certified to be compatible with a series of European and worldwide standards (EN 60950, EN 60215, EN 50358, EN 301 489-1 V1.4.1, EN 301 489-08 V1.1.1 and V1.2.1, EN 301 502); the respective Certificates are issued by the Croatian Telecommunications Agency. All former studies on biomedical effects of electromagnetic radiation in mobile communications systems show that there are no health hazards for humans. T-Mobile, being a responsible telecommunications company, supports and encourages comprehensive and detailed scientific research and monitors the investigations of a whole series of organizations, independent groups, expert teams and scientists on the impact of electromagnetic radiation. Keeping updated on these results, T-Mobile is contributing to a better understanding of the electromagnetic radiation issue. In addition to independently performed measurements, T-Mobile also performs measurements in cooperation with companies authorized for measurement activities (authorizations issued by the Ministry of Health).

Products and services

Telecommunications services are based on electronic data transfer which, on one hand, has a favorable effect on the environment due to the quantitative reduction of data transferred in material form and the need for physical forms of transport, while on the other hand, it means the use of hardware in form of terminal equipment and infrastructure that consumes energy and in the end, produces waste.

How can telecommunications promote sustainable development of the society?

The strong expansion of telecommunications services and services based on Information Communication Technology (ICT) in the previous period, especially in the area of Internet applications, has induced hopes that their wide application will lead to reduced needs for natural resources (less transport - less consumption of fossil fuels, less consumption of paper and the like). In reality, however, it turned out differently. Their capacity to reduce pressure on the environment was almost imperceptible, while in some cases the impact was even reverse (the increase of orders per Internet caused in some cases an increase of physical transport of material goods, e.g. books). The telecommunications services by themselves neither promote sustainability nor are they well disposed to the environment. It all depends on how they are used. The study and investigation of the ecologic relevance of telecommunications services produces results that prove that they certainly can contribute to raising social efficiency in the use of natural resources. Below please find a couple of examples of IT and TC services indicating how and under what conditions they can have a favorable effect on the environment. The examples are results of studies conducted by DT in the year 1999 for some of their services.

Videoconference

Videoconference becomes ecologically rational for distances of 10 km between the participants, provided that the railway is used for travel to the location of the meeting. In the case of travel by car, this distance is halved. In such context, videoconference may consume up to 25 times less energy than a business trip, which depends on the distance between the participants and the means of transport used for travel.

e-commerce

In the case of purchase of books via e-commerce, it becomes evident that electronic ordering is ecologically superior to the conventional purchase in a bookstore. An important precondition is that the recipient is at home at the moment of delivery, so that the postman/delivery person does not have to repeat the delivery.

Teleworking

Teleworking can also produce a significant relief for the environment. An important prerequisite for a favorable effect on the environment is that there is no "double

equipping" with computers, printers and the like in the worker's office, tele-center or home. Moreover, the teleworker should live at a distance of approx. 20 km from the office, and he should use teleworking on at least three days a week.

Mobile telephony

In rural areas, mobile telephony may support the economic growth of the local population. There are many positive examples, e.g. from India or Bangladesh. These examples show possible contributions of the telecommunications industry to the de-materialization, and therefore to a better sustainability in the society. Nowadays, planners are more and more integrating telecommunications services into the planning of future cities. But, admittedly there are many obstacles to such a development scenario. One of the biggest challenges is to avoid the "digital gap", which means that the society may divided into two groups, one that has access to electronic media and is able to use them, and the other who has no access to the new media and, consequently, cannot use them. The integration of a large number of poor people into the society by electronic media will call for tremendous efforts. Even now there are more Internet users in every big city in Europe than in many developing countries. A reason for optimism is provided by the fact that, although these countries have only a small number of residential users with Internet access, public assess points are being installed in villages with a very low price for the access. In the future, the assessment of Internet availability in poor countries will no longer be based on the number of lines, but rather on the access availability to the population.The global expansion of telecommunications networks will also be linked to a huge consumption of natural resources, especially of energy. In this aspect, both the equipment manufacturers and the network operators are facing the challenge to use all their innovation capacities in order to make the production and operation of the respective technologies as environment-friendly as possible. Both the manufacturing industry and the telecommunications industry have made significant efforts to adjust their operation to the environment, bur these efforts must be even intensified in the future.

People in the industrial world are becoming more and more aware that natural resources cannot be exploited indefinitely. Even more important is the growing awareness that quality of life is not increasing with the quantity of consumed resources. It can also increase by a quality growth and sustainable management of resources, and this is the exact point where intelligent and environment-friendly use of ICT-based services can be of maximum use.

Eco-efficiency of the T-HT Group

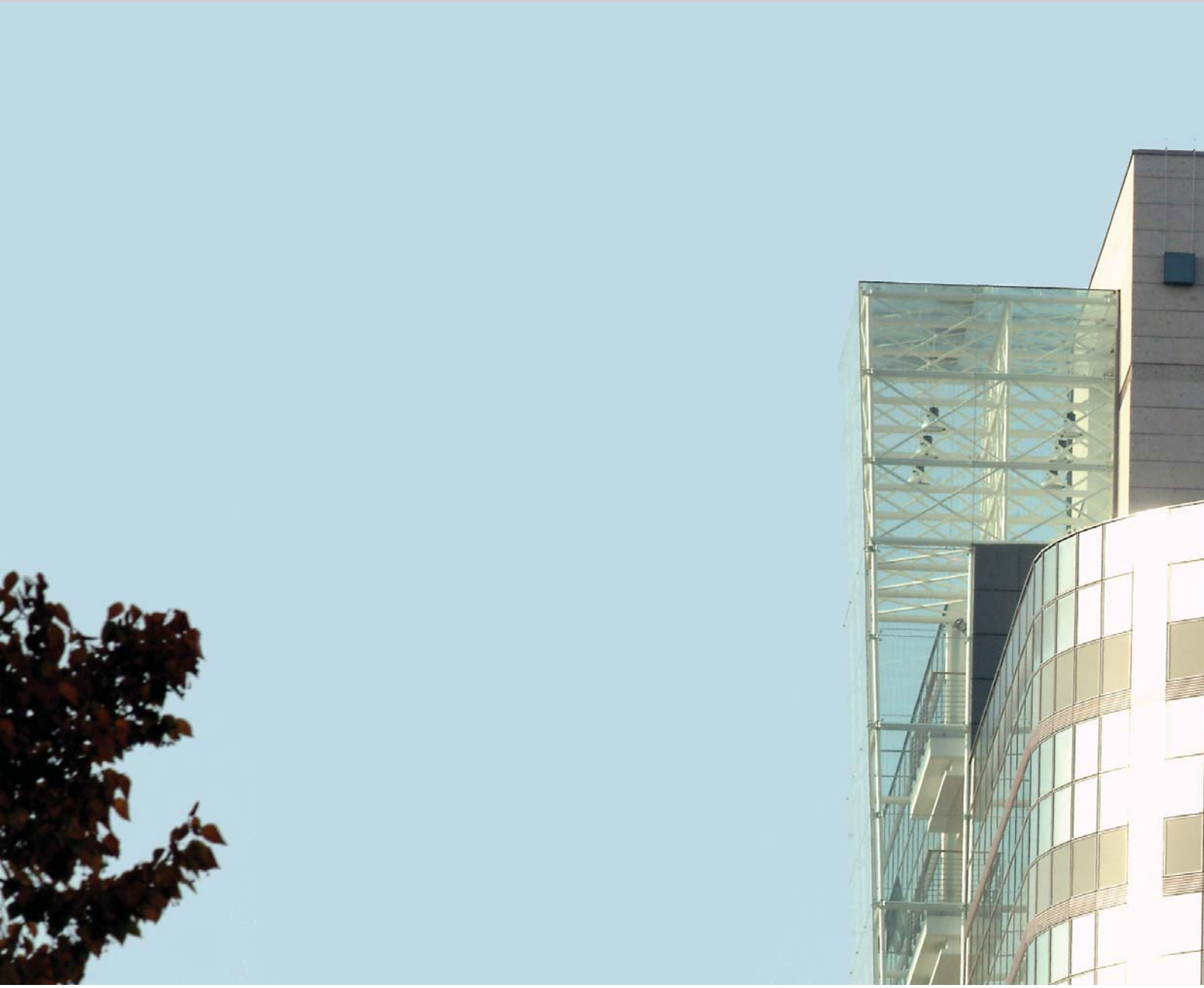
Simply monitoring environmental indicators in the context of ecological discussions focused on the topic of sustainable development will not be sufficient, as they provide only little information on the performance of a company in the area of environmental protection. The responsibility of the company lies in a sustainable development strategy which is focused on meeting the requirements of the current economic and technological development, and at the same time preserving and using natural resources to a minimum extent, while reducing and controlling pollution. Therefore, to get an impartial insight into the environmental behavior of a company, the environmental damage caused by the operations of the company must be put in relation to the added value it has produced in this process. Eco-efficiency is designed as a generic concept involving four different variants depending on how the issue is considered; if the focus is primarily on the highest possible production output, then the production value by environmental impact unit can be monitored, or the impact on the environment by production unit. If the primary goal is to improve environmental impact, then the costs by environmental improvement are monitored, or the cost-efficiency of environmental improvement. In principle, the definition of the company's eco-efficiency is a ratio between two elements: the detrimental environmental effect and the added value generated by the company. The eco-efficiency is higher to the extent to which the generated added value is proportionally higher than the damage inflicted on the environment, or to the extent to which the damage is

lower than the generated added value. A higher figure of this indicator indicates a better performance of the company, or, respectively, a more positive impact on the environment.
For the calculation of eco-efficiency indicators, the value of the telecom operator's production and its impact on the environment needs to be assessed. In the T-HT Group, and in a similar way in other telecommunications operators, the best indication of the production value would be by means of the billed and collected telecommunications traffic, while the impact on the environment can best be seen through total energy consumption.
Telecommunications traffic consists of all bits of information transferred through the net and charged to the customers (non-collected traffic receivables are not considered a part of the production value). Traffic is measured in time units [billed minutes] and multiplied with the frequency bandwidth or with the directly collected traffic volume [bit] receivables. Minutes billed to customers are converted into equivalent bits by application of conversion factors: 64 kbits/s for PSTN, or 13,6 kbits/s for GSM. ADSL traffic is billed by the realized traffic volume [Mbit/month]. Considering the various tariff models and the complexity of the bill, the average number of minutes per customer in the mobile network is used in the calculation.
For the measurement of environmental impact with telecommunications operators, the total consumed energy, expressed in Joule [J], is applied. The total consumed energy required for business operation of the telecommunications operator (telecommunications network, heating/air-conditioning, transport) is applied. Therefore, the telecommunications operator's eco-efficiency is calculated as financial added value (EBITDA + staff costs) per total energy consumption [HRK/MJ] or as the total number of bits (production value) per consumed energy [bit/J].
In the year 2004, the T-HT Group realized 11,2 HRK per MJ of consumed energy (total energy excluding vehicle energy), and the traffic volume was 83 bits per J of consumed energy. This means that the financial eco-efficiency has remained almost the same in comparison to the previous year, whereas the production eco-efficiency shows a slight increase. The cause of this increase is the increase of total traffic expressed in equivalent Gbits due to increasing volume of ADSL services. The T-HT Group will strive for further improvement of its eco-efficiency, by means of increased added value (transfer of higher traffic volume) and for a reduction or, at least, retention of the present energy consumption level.

	Units	2004.	2003.
Billed traffic minutes in mobile and fixed networks	mil. min	11.234	10.700
Total traffic	equiv. mil Gbit	38,1	35,1
Traffic eco-efficiency	bit / J	83,0	78,2
Added value	mil. HRK	5.117	4.864
Financial eco-efficiency	HRK / MJ	11,2	10,8

EBITDA: Earnings Before Interest, Taxes, Depreciation and Amortisation
Added value: EBITDA + staff costs

Note of the Corporate Reporting Department: EBITDA and staff costs do not necessarily have to match the reports sent to DT within the scope of regular reporting to DT (deviations of approx. ±2% allowed) due to the differences in reporting standards and structures.



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