2010 ENVIRONMENTAL REPORT OF PRINTING COMPANY ECOPRINT





ecoprint

CONTENTS

- 4 Introduction of Ecoprint AS
- 7 Structure and production process
- 9 Environmental labels and certificates
- **10** Environmental recognition
- **11** Description of the environmental management system
- 12 Environmental and quality policy
- **13** Environmental aspects and impact
- **14** Environmental goals
- 16 Compliance of activities with legal requirements
- 17 Methodology for assessment of the efficiency of environmental activities
- **19 Fields**
- 25 Main indicators of environmental activities
- 26 Ecological footprint results
- **27** CO₂ footprint results
- 28 Summary
- **29 References**

Report by: Age Poom / Design and layout by: Maris Kaskmann / $\ensuremath{\mathbb C}$ Ecoprint

DEAR READER,

This document contains the 2010 Environmental Report of AS Ecoprint, which gives an overview of our environmental activities in the previous year and our achievements in this field.

We assess the ecological footprint and carbon footprint of our activities and analyse our resource-efficiency usage and waste generation indicators in this report, just like we did in the reports for previous years. In order to understand the activities of the company better, we have also explained our core values, policy fields, structure and processes.

2010 was a very successful year for Ecoprint. Years of dedicated environmental activities earned us exceptional recognition – the Finnish Standards Association SFS deemed us worthy of the reputable Nordic Ecolabel (The Swan Label) and AS Metrosert found that our environmental management system complies with Regulation (EC) No 1221/2009 of the European Parliament and of the Council on the voluntary participation by organisations in a Community ecomanagement and audit scheme (EMAS).

A more formal achievement by the company was obtaining the chain of custody certificate of the Programme for the Endorsement of Forest Certification. Harmonising the PEFC requirements with our environmental management systems was rather easy, as we already had the sustainable forest management (FSC) chain of custody certificate with similar requirements. Winning the main prize for resource-efficiency in the category of small companies at the competition for companies with EMAS certificates organised by the European Commission deserves special mention.

We are very proud of this recognition and it motivates us to continue our environmental activities in the future. I would like to thank everyone who has helped us achieve our goals and prepare this report. I wish you all the best and hope you enjoy reading the report

Erika Ilisson CEO, AS Ecoprint

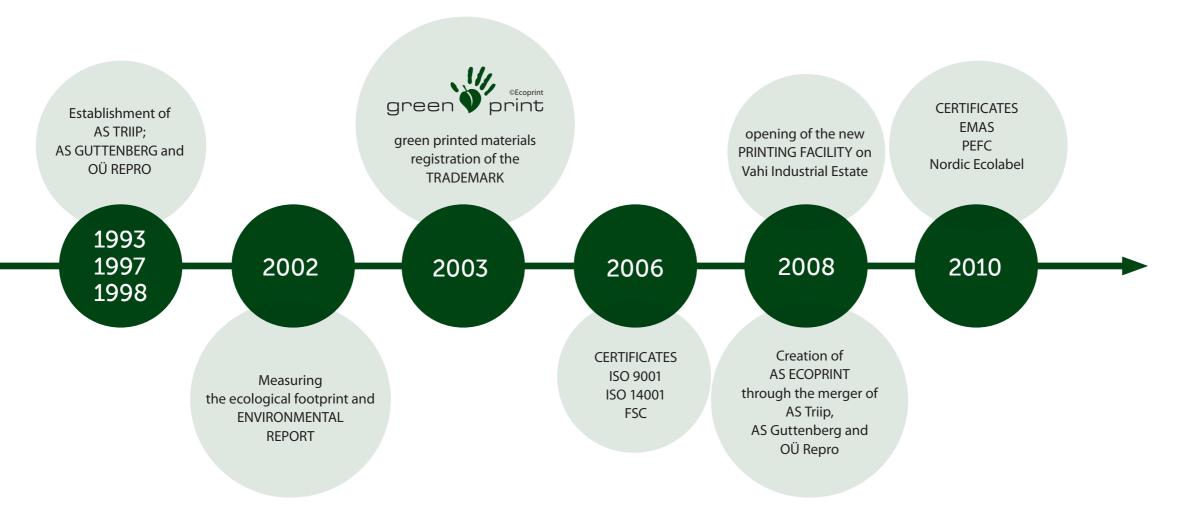
May 2011

3



INTRODUCTION OF ECOPRINT AS

AS Ecoprint is an environmentally friendly printing company established in 2007. The company is located on the Vahi Industrial Estate near Tartu. The merger of Ecoprint with three well-known Estonian printing companies AS Triip, AS Guttenberg and OÜ Repro took place in 2008. The new organisation continued offering all of the services of the three companies. They include sales of printing services, prepress (incl. design) and offset printing.



The company produces printed materials of different shapes and formats: printed materials for companies, packaging and labels, pamphlets and brochures, books and periodicals. Ecoprint's market is mainly in Estonia, but the company has strongly expanded its activities on its export markets in Scandinavia in the last two years.

The company and the Estonian Fund for Nature developed a printing service that is unique in Estonia and represented by the patented trademark Green Print. When a customer orders a Green Print from Ecoprint, they may be certain that the harmful environmental impact of the printing service is smaller, because:

- rthe ink used for Green Prints is based on natural oils and resins instead of petrochemicals;
- environmentally certified or recycled raw materials are used for Green Prints;
- the production of Green Prints is supported by environmentally sustainable technology;
- all of the waste generated in the production of Green Prints is recycled.

This Environmental Report is the ninth consecutive public document for Ecoprint and its predecessor AS Triip, which describes the environmental activities and impact of the company. Data of the company's resource-efficiency and waste generation are presented in the report to characterise the environmental impact and evaluate the efficiency of the company's environmental activities, and they are analysed using the methods for measuring the ecological footprint and CO_2 emissions. The MISSION OF ECOPRINT is to offer business clients optimal printing solutions that improve their competitiveness and reputation, and to develop the first environmentally friendly Green Print service on the Estonian market.

> The COMPANY'S VISION is to be the most environmentally friendly printing partner in Estonia and on neighbouring markets. The reliability and client loyalty of Ecoprint are based on quality, contemporary values and environmental protection.

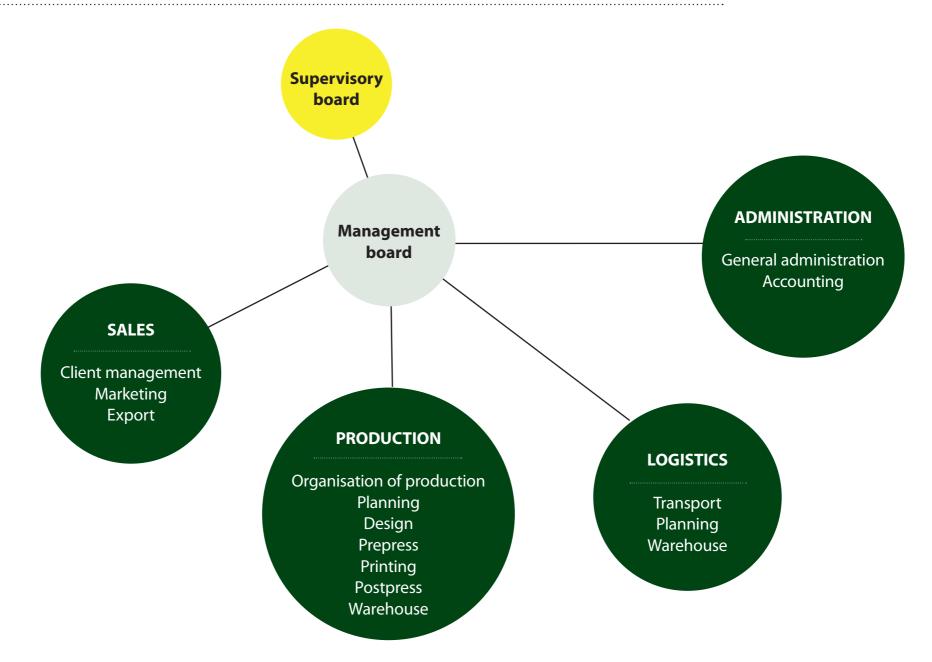


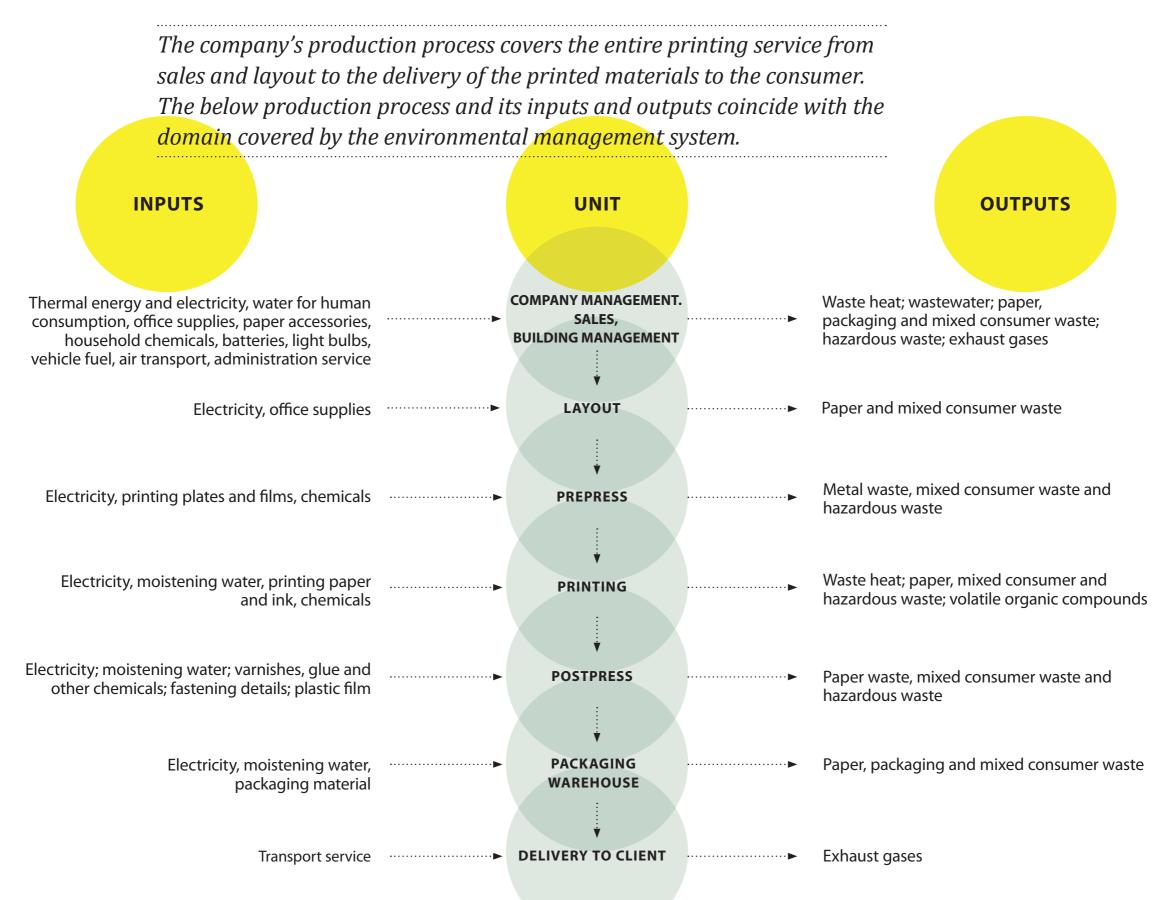
Company name AS Ecoprint Established on 03.08.2007 Address Savimäe 13, 60534 Vahi küla Website www.ecoprint.ee E-mail ecoprint@ecoprint.ee Telephone number +372 733 1400 Mobile number +372 5 272 642 Fax +372 733 1401 printing industry Area of activity 1812 NACE/EMTAK code Turnover in 2010 €2.264 million Number of employees in 2010 33 Territory of activities **1,400** m² Area under buildings 4,280 m²



STRUCTURE AND PRODUCTION PROCESS

Ecoprint operates in one location, which is the Vahi Industrial Estate. The company has four units: management and administration, production and logistics. The company employed 33 people in 2010.





ENVIRONMENTAL LABELS AND CERTIFICATES



The mark of reeponeible forestry

FSC certificate

Ecoprint has held this sustainable forest management chain of custody certificate since 2006. The label on the product indicates that the timber used to make the product was procured without causing damage to the ecosystem of forests and in accordance with the principles of sustainable forest management. Further information is available at *www.fsc.org*



PEFC certificate

Ecoprint has held this sustainable forest management chain of custody certificate since 2010. It is similar to the FSC certificate, but helps avoid the monopolisation of the market by one certifier. The PEFC certificate is better known on the Scandinavian markets. Further information is available at *www.pefc.org*



The Nordic Ecolabel guarantees that the product life cycle is environmentally friendly. Ecoprint has held a type I ecolabel since 2010. Further information is available at

http://www.nordic-ecolabel.org



Green Print

Type II ecolabel, which Ecoprint developed in association with the Estonian Fund for Nature in 2003. The label includes self-declarable environmental information and a third party does not give the certificate to the company, but the company that developed the label and uses it must be able to prove that its information is correct and it applies the principles of the ecolabel.

ISO and ISO 14001



EMAS

Verified environmental

management

REG.NO. EE-000003

 \bigstar

Ecoprint has held the voluntary quality and environmental management system certificates since 2006. Further information is available at

www.iso.org

Eco-Management and Audit Scheme (EMAS)

Ecoprint has held the registration of an environmental management system since 2010. EMAS is a voluntary environmental management and audit scheme through which organisations manage, assess and improve the environmental impact of their products.



since 2 Furthe

ENVIRONMENTAL RECOGNITION



Estonian Environmental Award Ecoprint has won the Estonian

Ecoprint has won the Estonian Environmental Award given by the Ministry of the Environment in 2007, 2008 and 2009 in the fields of environmental management, environmental management systems and environmentally friendly product, and environmentally friendly production processes.



Eco-Management and Audit Scheme (EMAS) 2010

The European Commission gave this environmental aware to Ecoprint in 2010 for being the most resourceefficient company in the category of small organisations. Further information is available at *ec.europa.eu/environment/emas/ emasawards/index.htm*



European Business Awards for the Environment (EBEA)

In 2008 Ecoprint won a position among the final three at the EBEA competition organised by the European Commission for its efficient environmental and quality management system. Further information is available at *ec.europa.eu/environment/awards/ index.html*



Responsible Business 2010

In 2010 Ecoprint scored 79.4 points out of 100 on the basis of the Estonian Corporate Responsibility Index prepared by the Responsible Business Forum, which put it in seventh place and confirmed the integration of economic, environmental and social dimensions in the company's management and activities.

Further information is available at *http://www.csr.ee*

DESCRIPTION OF THE ENVIRONMENTAL MANAGEMENT SYSTEM

The environmental management system (EMS) covers all of the activities and units of Ecoprint.

CEO Erika Ilisson is responsible for the company's environmental activities. The EMS corresponds to the requirements of the **ISO 14001 standard** and **EMASi Regulation.**

The system covers the stages of planning, execution, control and perfection, and the preparation of a public environmental report. The EMS is harmonised with the company's quality management system.

Ecoprint evaluates adherence to its environmental policy and the efficiency of its management system in the course of regular internal audits and management reviews, and the company's environmental goals and duties or the management system as a whole are updated whenever necessary. Indicators of environmental activities are collected all the time and the efficiency of activities is evaluated once a year, which results in the preparation of the annual environmental report. Ecoprint's environmental policy, management system handbook and environmental report are public and available to everyone.



ENVIRONMENTAL AND QUALITY POLICY

Ecoprint's quality and environmental policy is based on the conviction that quality production and an environmentally friendly way of thinking guarantee the company's durable and long-term success.

We have set ourselves the following goals:

- our clients are satisfied:
- the quality of our products is high:
- the ecological footprint created by our activities is as small as possible;
- our employees are highly motivated;
- we are a reliable partner and good employer.

We do the following to achieve our goals:

- we always proceed from the requests and needs of our clients;
- we appreciate the feedback we receive from our clients and take it on board;
- we critically assess the quality of our products and the functionality of our processes;
- we train our employees and involve them in the development of the company;
- we invest in a better working environment;
- we invest in technology that is energy-efficient and harms the environment as little as possible;
- we prefer suppliers who stand out with their environmentally friendly activities;
- we constantly observe and improve our quality and environmental management systems and guarantee the resources they need to function efficiently;
- we adhere to the legislation and legal provisions of the Republic of Estonia that regulate the company's activities.

ENVIRONMENTAL ASPECTS AND IMPACT

The company considers the size, extent and probability of the environmental impact and the compliance of its activities with legal requirements when it assesses the significance of environmental aspects. The company's ecological and carbon footprints, which represent impact on the world's ecosystem, are assessed separately where possible.

Ecoprint's important environmental aspects with a **positive impact** are the Green Print as an environmentally friendly printing service (avoidance of petrochemicals in printing ink, use of environmentally friendly technology and renewable energy, use of certified or recycled raw materials), ownership of environmental certificates and labels and use of these on the company's products, preferring partners who care about the environment, recycling all waste and general environmentally friendly conduct of the company, which considerably reduces the environmental damage caused by printing services in comparison to usual practices. The Ecoprint team takes part in forest planting every year and supports the activities of environmental organisations. The most important environmental aspects with a **negative impact** are use of raw material; generation of paper, metal and hazardous waste, use of electricity and thermal energy, use of water, generation of wastewater and logistics. The negative environmental impact of the company is apparent during the entire life cycle of the printing service:

- decrease in non-renewable natural resources;
- air, water and soil pollution;
- impact on climate change;
- decrease in the benefits of the ecosystem (food, water, timber, air cleaning, soil creation and pollination) in regions that are in human use and in areas influenced by them

ENVIRONMENTAL GOALS

The most important environmental goals of Ecoprint in 2010 were making its production processes comply with the requirements of the Nordic Ecolabel, obtaining the EMAS registration and reducing its energy consumption. We achieved all these goals!

When we analysed the efficiency of our environmental activities in 2010, we found that the use of resources, especially consumption of electricity and waste generation, are still the biggest causes of negative environmental impact. The share of transport in causing negative environmental impact has grown as a result of the increase in export quantities. All of these fields are closely observed in 2011 and our general goal is to reduce our ecological footprint and emissions by 5% per turnover unit.

Based on the indicators for 2010 and the action plans for 2011, we have set ourselves the following goals that relate to significant environmental aspects:

1. resource-efficiency:

- reduce consumption of electricity by 10% per turnover unit;
- reduce consumption of gas by 10% per turnover unit;
- reduce consumption of water by 5% per turnover unit;
- increasing the share of recycled raw materials with verified chains of custody by 5%;
- 10% of our contractual partners are persons whose environmental activities are proven to be efficient;

2. waste generation:

- reducing paper waste to 25% of purchased paper (this includes the paper waste generated in the office);
- sending packaging waste to recycling as raw material, not for energy production;

3. improving the working environment:

• reducing the quantity of volatile talc on production premises, installation of a talc collection device;

4. promotion of environmental activities:

- supporting the activities of environmental organisations;
- events for staff, family members and partners;
- tours of the company's production facility, presentations at seminars and conferences, media publications.



ENVIRONMENTAL GOALS IN 2010	Status [*]	ACHIEVEMENT/RESULT			
Making the environmental management system comply with the requirements of the EMAS Regulation	+	EMAS registration in October 2010: http://www.ecoprint.ee/?id=2018&articleId=633&list_period=ALL#selArticle			
Making production processes comply with the criteria of the Nordic Ecolabel	+	The right to use the Nordic Ecolabel as of April 2010: http://www.ecoprint.ee/?id=2018&articleId=627&list_period=ALL#selArticle			
Acquiring the PEFC chain of custody certificate	+	Nember of the PEFC chain of custody since May 2010			
Reducing the ecological footprint	+	The footprint has increased 0.3% in total, but it has decreased 13% per turnover unit. New categories were added to the calculation in 2010			
Increasing the share of FSC orders	+	Use of FSC and PEFC certified paper has increased 7%			
Proven efficiency of the environmental activities of suppliers	V	Two major suppliers are FSC certified			
Reducing electricity consumption	+	Consumption decreased 7% in total and 20% per turnover unit			
Reducing thermal energy consumption	+	Consumption decreased 13% in total and 25% per turnover unit			
Reducing water consumption	-	Water consumption increased during the year, as the water circulation system of the photographic processing machine			
Smaller number of test sheets per printed item	√	The estimated optimal number of test sheets was achieved and reducing this may deteriorate the quality of the material we print			
Reducing the quantity of the mixed consumer waste sent to landfills	+	All mixed consumer waste is recycled; the generated quantities cannot be compared due to the changes in the practice of collecting mixed consumer waste			
Events for staff and families	+	Forest Planting Day: http://www.ecoprint.ee/?id=2018&articleId=630&list_period=ALL#selArticle			
Events for clients	-	None			
Joint projects with environmental organisations	V	Participation in the Green Programme organised by MTÜ Ökomeedia: http://www.ecoprint.ee/?id=2018&articleId=626&list_period=ALL#selArticle			
Tour of the company's production facility	+	 Two tours: representatives of these environmentally friendly companies and organisations visited on 31 March 2010: Swedbank, State Forest Management Centre, Hotel Radisson Blu, Port of Tallinn, Theatre NO99, Nordic Council of Ministers, Restor, Keila Municipality, Studio Reet Aus, Reuse Centre and Volunteering Development Centre environmental management students of the University of Tartu visited on 21 October 2010			
Media publications	+	 Six publications: Villak, H. Clients Appreciate Ecolabels, www.e24.ee, 08.06.2010 <u>http://www.e24.ee/273371</u> website of the Ministry of environment. Ecoprint – Environmentally friendly Company Recognised by the European Union, 01.10.2010, <u>http://www.envir.ee/1141235</u> Oja, A. Redgate Capital Bought Tartu's Printing Industry, Äripäev, 05.10.2010, <u>http://www.ap3.ee/</u><u>?PublicationId=f13ca72d-346a-42e8-b3fc-0167c572f87d</u> European Commission Recognised Ecoprint's Environmental Friendliness, www.bioneer.ee, 30.10.2010, <u>http://www.bioneer.ee/eluviis/roheline_kontor/aid-9548/Euroopa-Komisjon-tunnustas-Ecoprindi-keskkonnas%C3%B5bralikkust</u> Ecoprint Obtained New Ecolabels, www.bioneer.ee, 09.01.2010, <u>http://www.bioneer.ee/bioneer/kohalik/aid-8188/</u><u>Ecoprint-sai-uued-ökotähised</u> Siller, M. A Small Company Can Also Behave Responsibly, www.sekretar.ee, 22.11.2010, <u>http://www.sekretar.ee/default.aspx?publicationid=be2303eb-d100-41f9-b146-5fabaafb7f29</u> 			
Presentations at training courses, conferences, seminars	V	 Two presentations: Seminar about the Nordic Ecolabel, organised by the Nordic Council of Ministers and held in Lithuania, <u>http://norden.lt/index.php?show_content_id=45&news_id=1435</u> Seminar of Responsible Companies (EBS and Äripäev), <u>http://www.csr.ee/9923</u> 			

* Symbols: + achieved; – not achieved; $\sqrt{}$ partly achieved

COMPLIANCE OF ACTIVITIES WITH LEGAL REQUIREMENTS

The environmental legislation that regulates the activities of the printing company are the Waste Act, the Packaging Act, the Ambient Air Protection Act and, at the local level, the Waste Management Rules.

Reducing waste generation, promoting the collection of generated waste separately and recycling waste have been the environmental priorities of the printing company for years. Ecoprint performs the requirements stipulated in waste handling legislation. The main volatile organic compound emitted in the printing process is isopropanol, but the quantity of the used chemicals and emissions of volatile organics are considerably below the limits set forth in the Ambient Air Protection Act, which means that the company does not have to perform any additional obligations.

Ecoprint does not need any environmental permits in its operations, as electricity, thermal energy and drinking water supply, wastewater treatment, transport of goods and waste handling are outsourced, and the activities and work volume of the printing facility do not require the company to apply for environmental permits.



METHODOLOGY FOR ASSESSMENT OF THE EFFICIENCY OF ENVIRONMENTAL ACTIVITIES

Comparative presentation of absolute figures and ratios (per $\in 1,000$ turnover) by years and measuring the company's ecological and carbon footprints are used to evaluate the efficiency of Ecoprint's environmental activities.

Evaluation of activities is based on the field covered by the environmental management system. Ecoprint's inputs, outputs and the respective ecological and carbon footprints are first described by fields. Tables and graphs are then presented in the end of the report.

In comparison to previous reports, the bases for evaluation of activities have been updated in this report: new surveillance categories have been added (e.g. use of air transport), the calculation or measuring methods in certain fields have become more details (e.g. the quantity of metal waste) and the ecological and carbon footprint coefficients used now are more specific. The indicators for 2008 and 2009 have been recalculated accordingly.



ECOLOGICAL FOOTPRINT METHODOLOGY

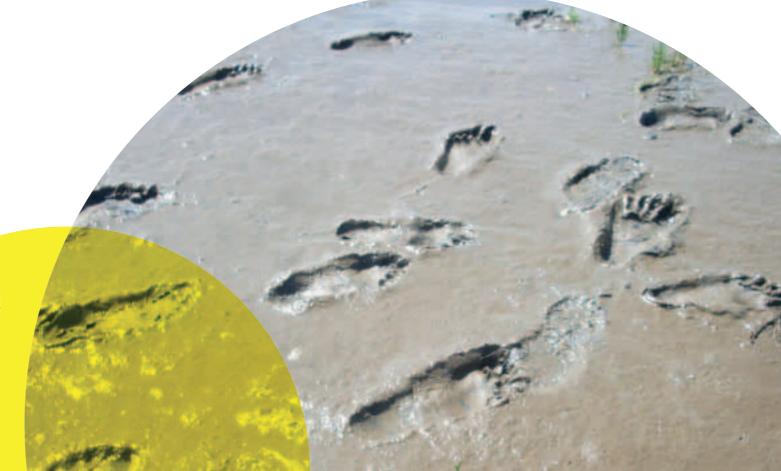
The **amount of land and sea area** the human population needs to consume the various benefits of the ecosystem are evaluated to find the ecological footprint. These benefits are, for example, production of food and renewable raw materials, land under buildings and structures, but also the ability of natural biotic communities to remove the carbon dioxide that people emit in the course of energy consumption from ambient air.

The ecological load of the company's inputs and outputs of one year are evaluated to calculate the **company's ecological footprint**. The principle of shared responsibility must also be considered, as various companies and their clients use the same resources in the course of material circulation. The inputs and outputs the company needs in order to function, but which do not directly cover the use of material in the product that reaches the client, are included in the calculation of Ecoprint's ecological footprint. This means that the calculation of the footprint includes energy consumption, water usage, waste generation, transport and direct land use in the amounts for which we have the necessary ecological footprint coefficients.

In this environmental report, the ecological footprint is measured with more components than before: air transport, offices supplies, toilet paper, household chemicals, cleaning services, food packaging waste generated by catering services, plastic waste generated in production and direct land use have been added. According to the improved Estonian terminology, the conditional measurement unit of the ecological footprint was called **globaalhektar (global hectare, gha)** in the 2010 Environmental Report. The ecological footprint coefficients we have always used were also specified, e.g. the oil shale electricity coefficient now used is based on Eesti Energia's source data about CO₂ emissions (given verbally in the Baltic Power Plant on 29 January 2011), and the component of land used for roads is added to transport coefficients. The list of sources used to find the coefficient is given in the end of the report.

CARBON FOOTPRINT METHODOLOGY

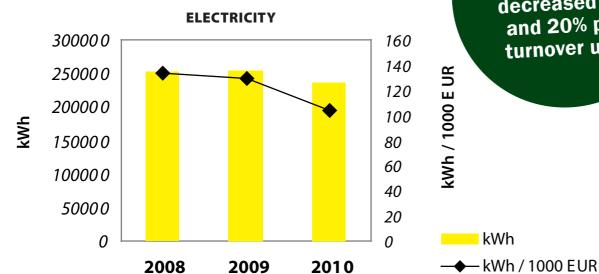
The **carbon footprint** indicates the **amount of CO**₂ **and its equivalents emitted into air** in association with the company's operations in tonnes per year (tCO_2 -eq). The use of electricity, thermal energy and transport is represented in the calculation of Ecoprint's carbon footprint. The life cycle-based indicators of all of the products and services consumed by Ecoprint cannot be presented due to the lack of the necessary coefficients. The carbon footprint coefficients were adjusted in this environmental report because of better source data and the use of air transport was added as a new category. A higher oil shale electricity coefficient and a lower carriage of goods coefficient have thus been used. The list of sources used to find the coefficient is given in the end of the report.



FIELDS

ELECTRICITY

Ecoprint uses the **oil shale electricity** produced by Eesti Energia in its operations (235,620 kWh in 2010). Since the completion of the new production facility, the company has also got electricity from the three **Airdolphin wind turbines** on its roof, which are meant for use in cities. The design of the blades of Airdolphin wind turbines was inspired by the wings of owls, which means they are as silent as possible. The wind turbines produced 380 kWh of energy in 2010. The amount of electricity produced by the wind turbines in 2009 was corrected in this report, as the figure given was too large due to a calculation error. Ecoprint held the Green Energy Certificate of Eesti Energia until July 2010, but the place where Green Energy is consumed is not associated with the company's operations since it moved to the new production facility in 2008.





In 2010 electricity consumption decreased 7% and 20% per turnover unit

Meter

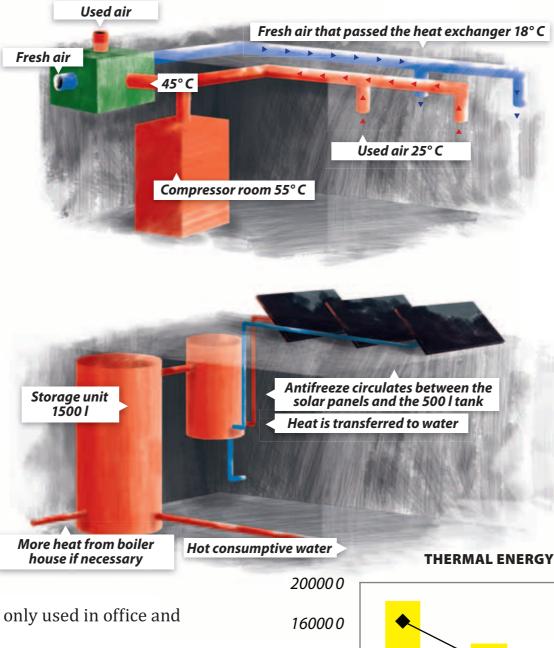
interface (web-box)

In total, Ecoprint consumed 236,000 kWh of electricity in 2010, which is 7% less than in 2010. Electricity consumption has decreased as much as 20% when calculated per turnover unit. Electricity consumption created an ecological footprint of 80.2 gha and a carbon footprint of 303 tCO₂-eq. **Renewable energy** comprised 0.2% of total electricity consumption in 2010. Whilst the amount of electricity used by Ecoprint included the producer's own consumption and transmission line losses in earlier reports, the company now only includes the amount of energy used by the company itself in the calculations and the rate of transmission line losses in added to the ecological footprint coefficient.

EE meter

THERMAL ENERGY

Natural gas, which is received from the boiler house of Vahi Industrial Estate and the **waste heat** created in the course of the printing process and in the server room are used to heat the production facility of Ecoprint. The production and office premises of the printing company has separate ventilation systems, which are equipped with heat exchangers – the incoming fresh air is pre-heated with the waste heat of outgoing air. The separation of ventilation systems makes it possible to consider the different needs of production and office premises better - work in the printing facility is often done in two shifts and the working regime of the ventilation system is set according to the work schedule whilst in office premises, ventilation is automatically switched over to the saving regime outside working hours. The waste heat of printing machines alone was sufficient to heat the production

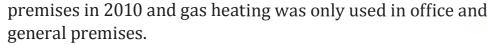


has also decreased as much as 25% when calculated per turnover unit. The calorific value of gas is calculated on the basis of the data of Eesti Gaas, which indicate that 9.3-9.4 kWh of thermal energy is created by burning 1 m³ of natural gas (the value 9.35 kWh is used in the calculations).

Thermal energy consumption created an ecological footprint of 7.3 gha and a carbon footprint of 28 tCO₂-eq.

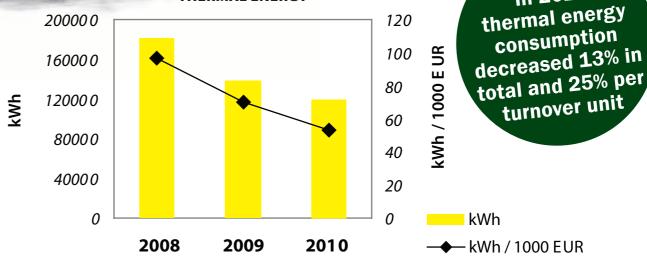
The amount of energy produced by the sun collectors is not measured, which means it is not possible to calculate the exact share of renewable energy in the total energy consumption (electricity, heat) used in Ecoprint. The share of renewable energy in the total energy consumption in 2010 according to the measured electricity and gas consumption was 0.1%.

In 2010



In 2009 Ecoprint started using a 7.7 m² sun collector to heat consumptive water. Cold water first runs through a water tank connected to the collector, which pre-heats it, and it then runs into the 1500-litre boiler. In summer, solar energy covers almost all of the company's water heating needs.

In 2010 Ecoprint consumed 12,790 m³ of gas in 2010, which is 13% less than in 2010. Thermal energy consumption

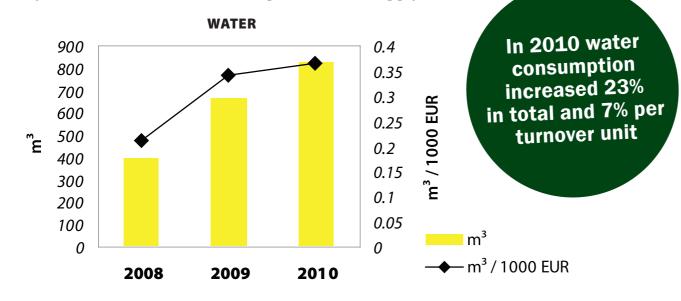


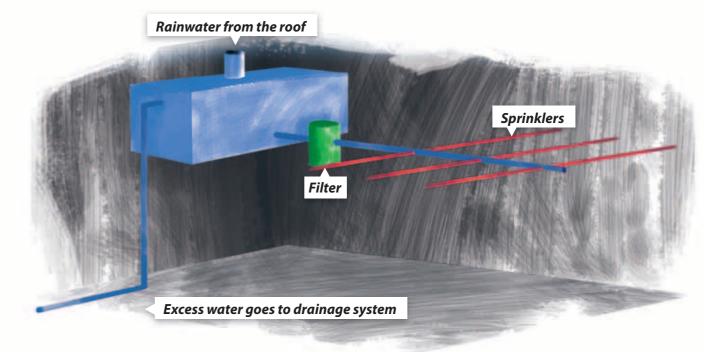
120

WATER

Ecoprint uses **water from the public water supply** of Tartu City as well as the rainwater collected from the roof of the production facility in its operations. The water consumption of the production facility is divided with the other companies that rent premises in the production facility, which is why the amount of water used by Ecoprint depends somewhat on the other companies in the building. The generated wastewater is directed into the city's sewerage system and its quantity is not separately measured.

The level of air humidity in the printing facility must be 60% to guarantee that printing paper is as moist as required. **Rainwater** is collected from the 850 m² roof of the production facility and directed into a 5 m³ tank. The automatic humidification system constantly measures the level of air humidity and starts or stops the injectors in the ceiling of the production premises. According to calculations, one tank of rainwater covers the water requirement of 12 days when working at full capacity. In periods of draught, the humidification system switches itself over from the rainwater system to water from the public water supply. In rainy periods, excess rainwater is directed into the drainage system. Use of water from the public water supply therefore





depends on the amount of rainfall and the season. Ecoprint's forecast indicates that the use of rainwater reduces the consumption of water from the public water supply by 60% on average.

In 2010 Ecoprint used 820 m³ of water from the public water supply of Tartu City, which is 23% more than the quantity used in 2009. Water consumption increased 7% during the year when calculated per turnover unit. The ecological footprint of water usage was 0.07 ha. It contains drinking water from the public water supply, but does not include wastewater treatment, as there is no suitable ecological footprint coefficient for it yet. The increase in water usage was mainly caused by the changes made in the water usage system of the photographic processing machine – the earlier circulation of rinsing water was terminated due to water pollution. The water used to wash printing plates is directed into the sewerage system through a filter and the photographic developer is separately collected.

MATERIAL CONSUMPTION AND WASTE GENERATION

The main inputs of printing activities are **printing paper**, printing ink, various chemicals and printing plates. Ecoprint uses printing ink that contain natural oils and resins instead of petrochemical products. In supporting activities (office, administration) the company uses office paper and supplies, paper towels and toilet paper, light bulbs, batteries and household chemicals.

Raw material

Printing paper 460 t Printing plates 17,680 m² Metal waste 12,620 kg Plastic waste 1,070 kg Ink 3,620 kg Dispersion varnish 3,910 kg Chemicals 7,720 kg

Waste Waste paper and cardboard 135 t Mixed consumer waste 780 kg Hazardous waste 7,050 kg

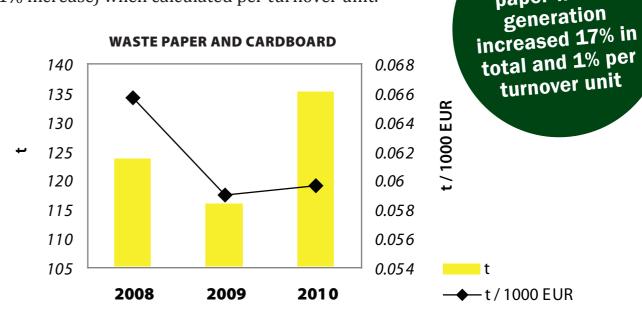
The company used more inputs in 2010 than in the previous year as a result of the increase in orders and turnover. The company used 460 t of printing paper (26%) more than in 2009, an increase of 9% when calculated per turnover unit); the total area of printing plates was 17,680 m2 (25% more than in 2009, an increase of 8% when calculated per turnover unit); and the quantity of various ink and chemicals increased 34-52% in comparison to 2009 (16-31%) when calculated per turnover unit). The company does not use print film in its own operations, but it does mediate the product to its clients - 671 units of print film were purchased in 2010, which is 10% more than in the previous year. However, the amount of printing film decreased by 5% when calculated per turnover unit. Ecoprint has mainly used FSC certified office paper since July 2009. The company used 31 packs of paper in 2010, which is two times less than a year ago.

Calculation of the ecological footprint of material consumption for both the principal and supporting activities is based on the amount of waste generated, except office supplies, toilet paper and household chemicals whose

footprint is measure on the basis of the amount of inputs. Use of the material inputs of supporting activities created an ecological footprint of 0.7 gha and the footprint of cleaning services in 2010 was 1.1 gha.

Since 2010 Ecoprint has recycled all of the waste associated with the principal and supporting activities of the printing facility (only paper, metal and hazardous waste was recycled before). The paper waste collected in the printing facility and the office are collected separately and taken to the recycling company. Used printing plates are sold to buyers who take put them in metal circulation. The waste handler used the packaging, mixed consumer and hazardous waste generated in the production facility to produce fuel for the purpose of obtaining thermal energy. The total ecological footprint of waste generation in 2010 was 345 gha, which is almost the same as in 2009.

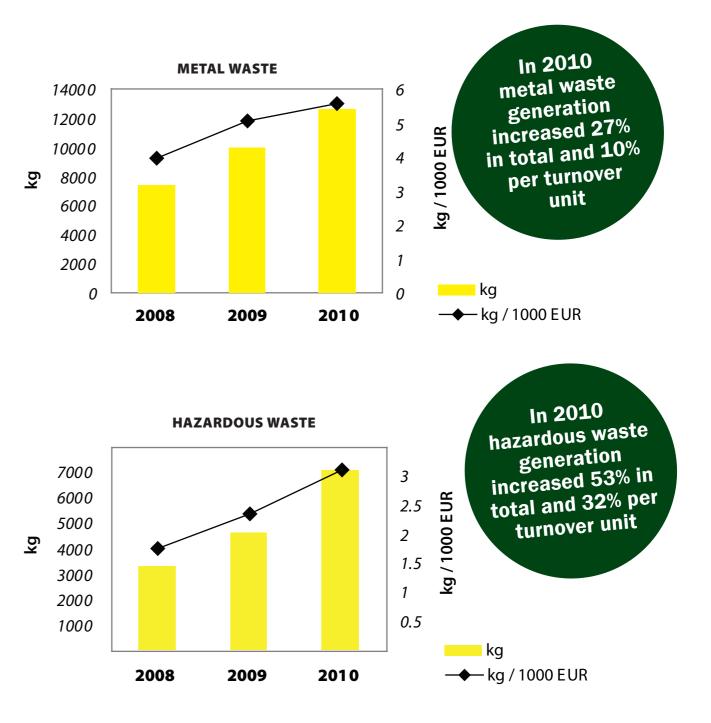
Paper consumption and format cutting generated the biggest amounts of waste. Waste paper and cardboard have the strongest environmental impact in Ecoprint - the amount generated in 2010 was 135 tons with an ecological footprint of 331 gha. This is 17% more than in 2009 – an increase that is lower than the increase in printing paper consumption, which indicates that paper consumption has become more economical. Generation of paper waste has In 2010 remained at almost the same level as in the previous year paper waste (1% increase) when calculated per turnover unit.



The amount of **metal waste** in 2010 was 12.6 tonnes, which caused an ecological footprint of 8.2 ha. The amount of waste exceeds the quantity generated in the previous year by 27% (the reason for this is the proportionate increase in the area of printing plates). The quantity of metal waste when calculated per turnover unit has increased 10%. The quantity of metal waste was earlier assessed using the common weight coefficient of the printing plates, but the printing plates of each format are now weighed and the generation of metal waste can therefore be accurately calculated. The data for the two previous years have been adjusted in the report accordingly. The amount of metal waste depends mainly on the type of printed materials: e.g. less printing plates are required for advertising materials than for books, where every page needs a separate plate.

The manner of handling **mixed consumer waste** was changed in 2010 – the waste given to the waste handler is now weighed (the quantity was earlier assessed on the basis of the number of emptied containers) and all mixed consumer waste is recycled for fuel production. 780 kg of mixed consumer waste with an ecological footprint of 3.1 gha was generated in 2010. This is 94% less than the quantity calculated on the basis of the number of emptied containers in 2009, but the indicators for these years cannot be directly compared. 1,070 kg of **plastic packaging waste** was collected separately in 2010 and its ecological footprint was 2.3 gha; the amount of this waste was not separately calculated in previous years.

All **hazardous waste**, which also includes waste generated by natural printing ink, and packaging and cleaning rags polluted with hazardous waste are sent to a licensed waste handler, who uses them for thermal energy production. The metal packaging left after burning is given to a metal waste handler. 7,050 kg of hazardous waste was created in 2010, which shows an increase of 53% in comparison to 2009 and an increase of 32% when calculated per turnover unit. The ecological footprint of hazardous waste cannot be calculated, as there is no coefficient.



TRANSPORT

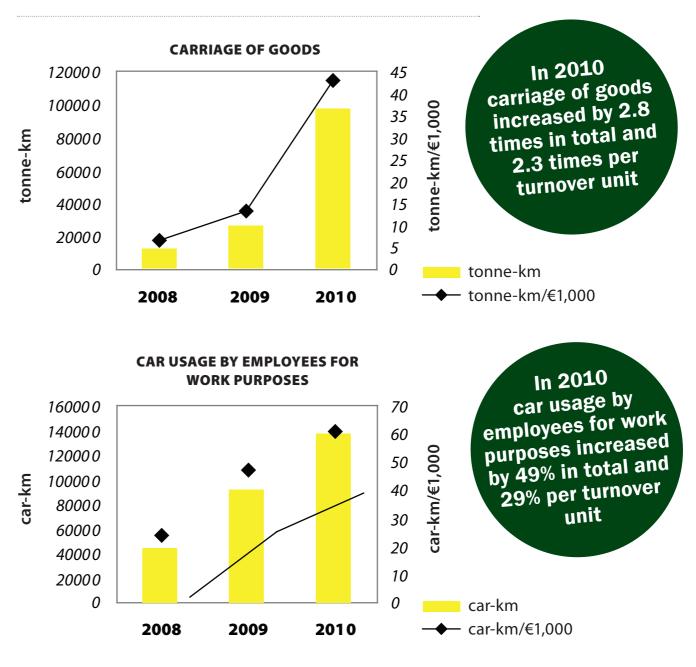
Ecoprint's use of transport divides in two: carriage of goods and use of cars for work purposes. All carriage of goods is ordered from partners and the company's vehicles are only used for the benefit of employees. Ecoprint keeps account of the amount of goods transported and the kilometres travelled. Only land transport has been used so far. 96,970 tonne-kilometres were travelled in 2010 to take Ecoprint's products to clients, which exceeds last year's indicator by 2.8 times; the increase per turnover unit is 2.3 times. Such a large increase is the result of the expansion of the company's operating region, i.e. the increase in the importance of the Scandinavian market. Carriage of goods created an ecological footprint of 6.8 gha and a carbon footprint of 12.6 tCO_2 -eq. The carbon footprint coefficient has been adjusted in this report on the basis of better source data, which make it possible to calculate the ratio of kilometres and tonnes, and the carbon dioxide emissions generated by the carriage of goods more accurately. The adjusted indicators for two previous years are also given in the carbon footprint table.

The activity of **car usage** also increased in 2010: 137,040 car kilometres were travelled, which is 49% more than in 2009; the increase per turnover unit is 29%. The company started using a gas car, which consumes fuel more economically than the former petrol and diesel cars. Car usage created an ecological footprint of 12.7 gha and a carbon footprint of 27.6 tCO₂-eq.

Ecoprint has also kept account of business trips abroad for the environmental report since 2010. We initially have data about the air transport used – air travel totalled 10 hours in 2010. This caused a 0.6 gha ecological footprint and the carbon footprint was 1.1 tCO_2 -eq.

LAND USE

Ecoprint rents premises at Vahi Industrial Estate and shares the production building with other companies. According to the division of premises, the **area of the site** used by Ecoprint, which is 4,280 m², is also considered from this environmental report onwards. Direct land use causes an ecological footprint of 1.1 gha.



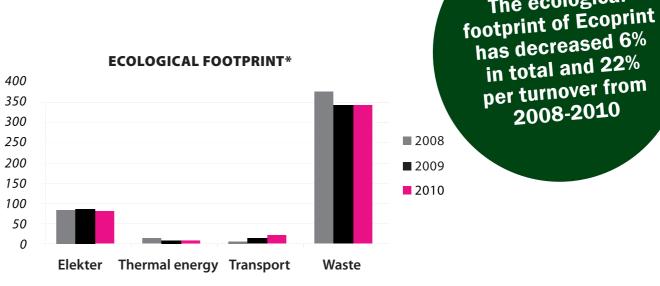
MAIN INDICATORS OF ENVIRONMENTAL ACTIVITIES

INPUTS AND OUTPUTS			AMOUNT CONSUMED			AMOUNT CONSUMED PER €1,000 OF TURNOVER		
Category		unit	2008	2009	2010	2008	2009	2010
ELECTRICITY	Total	kWh	251 360	254 260	236 000	133,6	129,6	104,2
	Electricity produced from oil shale	kWh	249 040	253 880	235 620	132,4	129,4	104,1
	Eesti Energia's Green Energy	kWh	2 000	0	0	1,06	0,00	0,00
	Energy produced with Ecoprint's wind turbines	kWh	320	380	380	0,17	0,19	0,17
THERMAL ENERGY	Total	kWh	181 400	137 710	119 570	96,44	70,19	52,81
	Energy produced from natural gas	kWh	148 800	137 710	119 570	79,11	70,19	52,81
	Energy produced from biomass	kWh	32 600	0	0	17,33	0,00	0,00
	Solar energy	kWh	0	no d	calculation			
SHARE OF RENEWAB	BLE ENERGY ON THE BASIS OF MENT DATA		8,1%	0,1%	0,1%			
WATER	Water from public water supply	m ³	400	660	820	0,21	0,34	0,36
	Rainwater collected from roof	m ³		no calculatio	on			
TRANSPORT	Carriage of goods	tonne-km	12 260	25 830	96 970	6,52	13,17	42,83
	Car use for work-related purposes	car-km	44 820	91 830	137 040	23,83	46,80	60,53
	Air transport	h	no	calculation	10			0,00
RAW MATERIAL	Printing paper	t	376	365	460	0,20	0,19	0,20
	Office paper	pack	110	60	31	0,06	0,03	0,01
	Printing plates	m ²	10 990	14 150	17 680	5,84	7,21	7,81
	Print film	m	1 650	610	670	0,88	0,31	0,30
	Ink	kg	2 150	2 700	3 620	1,14	1,37	1,60
	Dispersion varnish	kg	1 500	2 580	3 910	0,80	1,31	1,73
C	Chemicals	I	5 510	5 420	7 720	2,93	2,76	3,41
WASTE	Metal waste	t	124	116	135	0,07	0,06	0,06
(ALL RECYCLED)	Packaging waste	kg	no calculation 1 070				0,47	
	Metal waste	kg	7 440	9 940	12 620	3,96	5,07	5,57
	Hazardous waste	kg	3 310	4 620	7 050	1,76	2,35	3,11
	Mixed consumer waste	kg	17 820	13 860	780	9,47	7,06	0,34
LAND USE	Size of site used by Ecoprint	m ²	4 280	4 280	4 280	2,28	2,18	1,89
TURNOVER		mEUR	1,881	1,962	2,264			

ECOLOGICAL FOOTPRINT RESULTS

The activities of Ecoprint in 2010 caused a total ecological footprint of 455 gha, which is as big as in the previous year. However, some components that were not measured in the previous year were added to the calculation in 2010. Ecoprint's ecological footprint per turnover decreased by 13%, which can be considered an excellent result.

Electricity and thermal energy indicators have decreased in the calculation of the ecological footprint whilst the share of transport has increased considerably. Ecoprint continues working on improving its resource-efficiency and reducing waste generation.



2009

gha

86,6

8,4

0,05

10,1

1,8

_

346

1,1

454

0,231

%

19,1

1,9

0,0

2,2

0,4

76,2

0,2

100

The ecological

2010

%

17,6

1,6

0,2 2,8

1,5

0,1

0,1

0,2

75,7

0,2

100

gha

80,2

7,3

0,07

12,7

6,8 0,6

0,7

1,1

345

1,1

455

0,201

* The categories whose ecological footprint is less than 2 gha are not included in the graph.

				200)8	
Electricity		ansport	CATEGORY	gha	%	
80		20	Electricity	84,9	17,6	
Waste		hermal energy	Thermal energy	11,9	2,5	
345		7	Water	0,03	0,0	
	/ Office	e supplies and services	Car use for work-related purposes	4,5	0,9	
		1,7	Carriage of goods	0,9	0,2	
		Land under buildings	Air transport	-		
		1	Office supplies	_		
Ecoprint's ecological footprint		Water	Services	-		
		0	Waste	380	78,6	
the global hectares.			Land under buildings	1,1	0,2	
Macto denerativi			Total	483	100	
still holds the biggest share.			Total/turnover (gha/€1,000)	0,257		

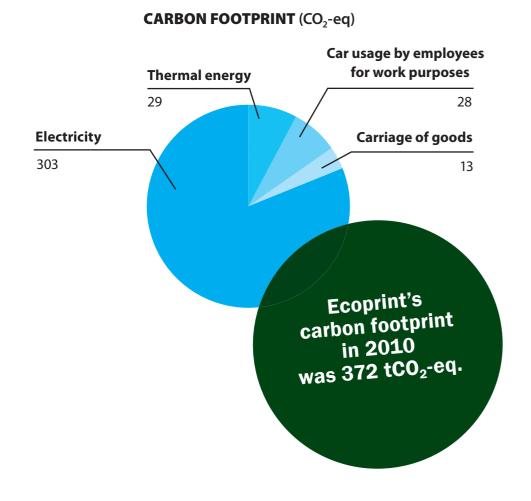
gha

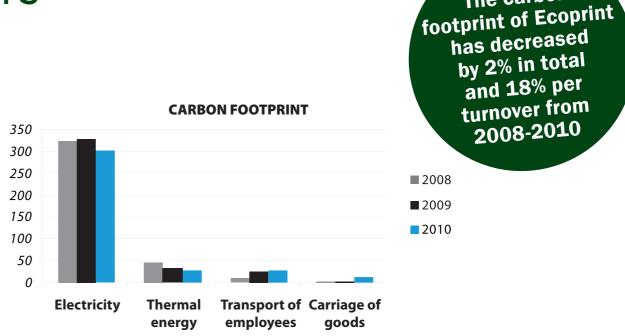
ECOLOGICAL FOOTPRINT (gha)

CARBON FOOTPRINT RESULTS

Ecoprint's operations in 2010 created a **carbon footprint of 372 tCO₂-eq**, which is 4% smaller than in 2009 and as much as 17% smaller when calculated per turnover. The decrease resulted from more economical consumption of electricity and thermal energy. However, the carbon footprint of transport increased considerably during the year. The carbon footprint created by transporting employees has increased somewhat and also includes the use of air transport in addition to car transport since 2010.

tCO₂-eq





The carbon

Ecoprint should plant 104 ha of forest to remove all of the carbon dioxide created in Ecoprint in 2010! On the Forest Planting Day on 13 May 2011 the Ecoprint team, their families and the company's partners planted 1 ha forest (2500 trees).

	2008		20	09	2010		
CATEGORY	tCO ₂ -eq	%	tCO ₂ -eq	%	tCO ₂ -eq	%	
Electricity	320	85	326	84	303	82	
Thermal energy	45	12	32	8	28	7	
Car use for work-related purposes	11	3	25	6	29	8	
Carriage of goods	2	0	3	2	13	3	
Total	377	100	386	100	372	100	
Total/turnover (tCO₂-eq/€1,000)	0,201		0,197		0,164		

SUMMARY

Ecoprint and its predecessor AS Triip prepare an environmental report for the ninth year on the run. The company has evaluated the ecological footprint of its operations since the preparation of the first report. Measuring the carbon footprint and presentation of resource-efficiency and waste generation indicators also for the company's turnover, which gives better information about the efficiency of environmental activities, have been added in recent years.

Ecoprint's operations expanded considerably in 2010 – the amount of printing services sold on foreign markets increased and turnover grew 15%. This means that in 2010, there was an increase in the quantities of raw materials used for printing activities, the volume of carriage of goods, and waste generation also increased somewhat (mainly on account of waste paper and cardboard). However, the company managed to reduce its electricity and thermal energy consumption.

The ecological and carbon footprint indicators of Ecoprint may be considered very good. The ecological footprint as an absolute figure remained at the same level as in the previous year, but decreased 13% when calculated per turnover. The carbon footprint as an absolute figure decreased 4% during the year, and 17% when calculated per turnover.

Making our production process comply with the Nordic Ecolabel and obtaining the EMAS environment management system registration must be considered important achievements.

Ecoprint will continue making every effort to increase its positive environmental impact on clients by increasing the environmental awareness of its partners and staff, and reduce the negative impact by increasing its resource-efficiency and reducing waste generation.

REFERENCES

The following sources were used for the calculation of the ecological and carbon footprints:

Allen J., Browne M. 2010. Road freight transport and sustainability in Britain 1984–2007. Transport Studies Department, University of Westminster, London, 108 p.

Chambers N., Simmons C., Wackernagel M. 2004. Sharing nature's interest: Ecological footprints as an indicator of sustainability. Earthscan, 199 p.

CORINE 2006. CORINE Land Cover. Eesti maakatte andmebaas.

EPA 2005. Emission Facts. Average carbon dioxide emissions resulting from gasoline and diesel fuel. United States Environmental Protection Agency, Office of Transportation and Air Quality, 3 p.

GEMIS 4.6. Global Emission Model for Integrated Systems. Institute for Applied Ecology (software, *www.oeko.de*).

GFN 2008. National Footprint Accounts 2008 edition: Estonia 2005. Global Footprint Network (*www.footprintnetwork.org*), MS Excel worksheet.

GFN 2010. Calculation Methodology for the National Footprint Accounts, 2010 Edition. Global Footprint Network, 17 p (*www.footprintnetwork.org*).

Road Administration 2010. Yearbook 2009. Road Administration, 70 p (www.mnt.ee).

Nilsson K. 2004. The carbon dioxide emission factor for combustion of Swedish peat. IVL Swedish Environmental Research Institute, 24 p.

Statistics Estonia 2010. Symmetric input-output table of national economy based on 2005 (*www.stat.ee*).

Statistics Estonia 2011. Statistical databases (www.stat.ee).

Road Register 2008. Statistical databases (http://teeregister.riik.ee).

Thomas C., Tennant T., Rolls J. 2000. The GHG Indicator: UNEP guidelines for calculating greenhouse gas emissions for businesses and non-commercial organisations. United Nations Environment Programme, 61 p.

Tallinn University of Technology 2010. Distance travelled by car fleet in Estonia in 2009. Interim Report. Tallinn University of Technology, Road Institute, 108 p (*www.mnt.ee*).