



**Ecoprint** Printing Company  
Environmental Statement  
2009



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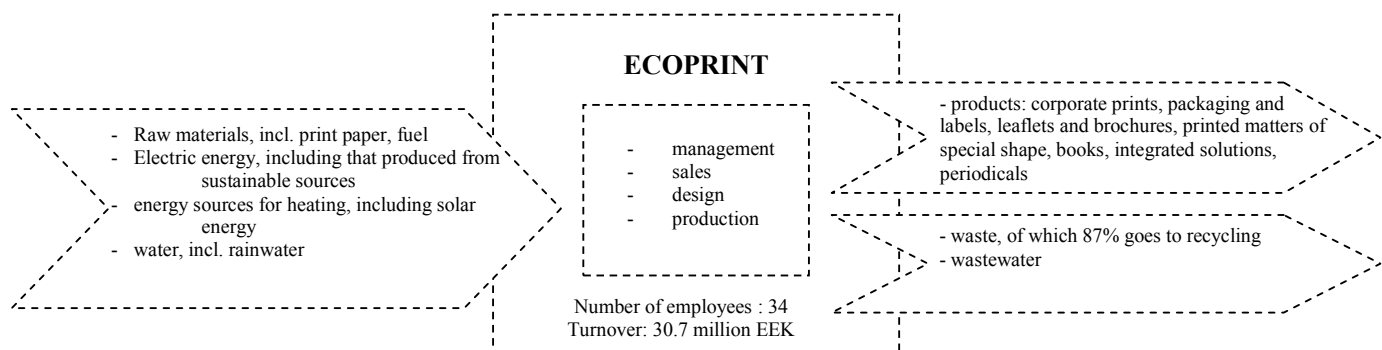
## Overview of AS Ecoprint

Ecoprint is an environmentally-friendly company, which was established in 2007 in Tartu merging AS Triip (printing agency, established in 1993), AS Guttenberg (print shop, established in 1997) and Repro OÜ (printing preparation, established in 1998). It produces printed materials of different shapes and sizes: corporate prints, packages and labels, leaflets and brochures, printed materials of special shapes, books, whole solutions and periodicals.

This document is the third environmental statement of Ecoprint and has been assembled with the intention of giving an overview of the impact of company's activities and resource usage on the surrounding environment. The ecological footprint and CO<sub>2</sub> emission methods are used in preparing the environmental statement of Ecoprint. For measured components a longer description and specification is given.

In 2006 the company achieved ISO 9001 quality certification and ISO 14001 environmental management and FSC supply chain certification. The environmental management system (KKJS) includes all of Ecoprint's activities.

Ecoprint's structure consists of 4 units: management, sales, design and production. Environmental matters are dealt with in all units of the company. The executive director, Juhan Peedimaa, is responsible for all environmental activities.



Ecoprint's biggest direct environmental impact is the use of raw materials (365 tonnes of printing paper purchased in 2009) and the waste paper and carton (116 tonnes) generated in the trimming and cutting of the print materials. Other significant environmental aspects are the use of power, heating and water, and the indirect environmental impact caused by the transport of materials and finished products (the use of non-renewable resources; generation of waste water and waste).

In order to reduce the environmental impact caused by its activities, Ecoprint uses print paper made of recycled paper, produces electric energy from wind turbines located on the roof of the print shop, and purchases wind and hydro energy using a Renewable Electricity Certificate. In addition to this they heat their common water using solar panels on the roof of the print house and also collect rainwater from the roof for use in the production process.



## Environmental policy

Ecoprint's vision is to be the most environmentally-friendly and the most preferable printing partner in Estonia. Its environmental policy corresponds to the standard EVS-EN ISO 14001:2005 requirements and forms the basis for the company's environmental activities.

Ecoprint:

- fulfils the legislation of the Republic of Estonia and its legal provision;
- reduces the environmental impact derived from its activities;
- prevents and reduces environmental contamination and prevents its hazard;
- ensures the performance and continuous development of its environmental management system;
- provides sufficient resources for effective environmental management;
- chooses economically reasonable and environmentally-friendly solutions in new technologies, equipment or; applies cleaner production measures;
- applies environmentally friendly production development measures;
- transmits the company's environmental data to services providers, local inhabitants, other interest groups and promotes environmental awareness amongst interested parties outside the company;
- increases the environmental awareness of its personnel.

Complying with the company's environmental policy is compulsory for all employees. It is evaluated periodically during internal audits and management inspections. During management inspections, the company's environmental policy, targets and tasks are revised and amended if required.

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## Environmental targets

Ecoprint's most important environmental targets are:

- to reduce general waste per employee by 10%;
- to purchase annually the Green Energy Certificate;
- to plant every year at least 1000 new trees, involving employees and customers;
- to organise an annual customer event, directed to raise customers social and ecological awareness;
- to increase the proportion of prints which are produced from recycled paper and FSC paper to 50% of total turnover (10% yearly);
- to reduce its reliance on traditional energy sources for heating by occupying an energy efficient production building and by recycling residual heat.



## Environmental activities in 2009

The most important environmental activities in 2009 are improvements in waste and heat economy.

In waste handling, the general waste was reduced by 29%, which enabled the company to cover the hazardous waste handling costs with profits from the sales of paper and carton waste as well as printing plates as secondary raw material. Because of this in 2009, 0 kroons was used for waste handling.

In heat economy, solar collectors were implemented, which is used for pre-heating the cold common water. The implementation of solar panels meant the gas boiler plant was not used during the summer months. Because of this in 2009, 30% less traditional energy sources for heating was used.

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## Environmental legislation

The environmental legislation regulating Ecoprint's operation includes the Waste Act and the Packaging Act, as well as local waste management regulations. The minimisation of waste generation and the promotion of separate collection of waste have been Ecoprint's environmental priorities for years (See "Waste"). Therefore, Ecoprint complies with all relevant waste handling regulations.

Ecoprint has not been issued any environmental permits, because power, heating and water supply, the transport of goods, and waste handling are sourced from external service providers. As a result, the printing agency does not need to obtain environmental permits for its operation.

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## Methods of evaluating the environmental impact

The calculation of resource utilisation is based on the principle of measuring only those components of which Ecoprint is the final consumer (i.e. energy used for heating the premises). The scope of measurements is parallel with the scope of financial interests and all source data is originated from bookkeeping.

The resource utilisation data of Ecoprint in 2009 can be compared with that of 2007 and 2008 because during the compilation of the previous environmental statements, it was already known the merger with Triip, Guttenberg and Repro would take place. Therefore in 2007, in addition to the bookkeeping data of Triip, the corresponding data from Guttenberg and Repro was also added. For previous years (2002-2006), only the resource usage of Triip was taken into consideration, the data from the previous years is not comparable with data from 2007-2009.

During the compilation of the environmental statement, 14 components were measured (electricity, heat, water, waste, transport of people and goods, using office paper, etc.). The source data was processed using several methods used throughout the world, with the intention to facilitate the comprehension of the data. The main method used was the Ecological Footprint method, as well as measuring CO<sub>2</sub> and its equivalent emissions. It is based on the protocols of Montreal (1987), Kyoto (1997), the aims of Agenda 21 and the general principles of sustainable development.

By measuring the resource utilisation, the ecological balance is not achieved where the positive and negative environmental impact would be balanced, but the natural resource used for implementing the activities, i.e. the negative environmental impact is taken into consideration. At the moment there is no method which would evaluate in numbers both "good" and "bad" on an equal footing.

**Therefore the natural resource used in everyday activities is given in Ecoprint's environmental statement.**



## Ecological footprint<sup>1</sup>

The basis of calculating the ecological footprint is a **land usage as a restricted resource**, which is used by the people for fulfilling their needs. The land usage is divided into categories:

- energy land (land necessary for producing energy and for distribution systems);
- built-up land (buildings, roads, etc.);
- land under cultivation (garden, field, pasture and forest lands);
- bio-productive sea (main fishing territory);
- land of biological diversity (untouched nature);
- other land (rocks, deserts, etc.).

The ecological footprint is a gauge with which the necessary natural resource for activities is measured. **The ecological footprint evaluates the land usage accompanied with its product or service life cycle. This is measured in hectares per year (ha/year).** The ecological footprint index shows how much fertile land and water is occupied for the production, usage and absorption of consumable materials.

The organisation's ecological footprint calculations are based on two simple facts. It is possible to observe and identify most of the company's consumed resources and many of the residual products created.

It is possible to recycle the majority of the resource and waste flows into biologically productive areas which are required for producing these resources as well as eliminating and neutralising the waste<sup>2</sup>.

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## Environmental impact measured by the ecological footprint method

In calculating the ecological footprint, 10 different components<sup>3</sup> have been taken into consideration. These correspond to the goods and services used in Ecoprint's activities or created by it. These components are further divided into six subsections (people transport, electric energy, traditional energy sources for heating, water, waste and goods transport). For better comparability, a separate ecological footprint per person has been produced. It should be stressed that comparing the ecological footprint per person in different companies is fair only when these companies offer similar goods or services (i.e. the car industry can only be compared to other car factories, not a bicycle factory, even if they appear similar in that they both produce means of transport).

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<sup>1</sup> In the Estonian Nature Foundation's (ELF) estimation, this method of ecological footprint is currently one of the best and most widely used worldwide, enabling integrated evaluation of the impact of an organisations or states activities to the environment. We recommend to read Chambers et al Sharing Nature's Interest, 2000 (available at ELF's library).

<sup>2</sup> States' load to the ecosystem (from "Ecological Footprint of Nations"). Ministry of the Environment and Estonian Green Cross, 1997. p. 32.

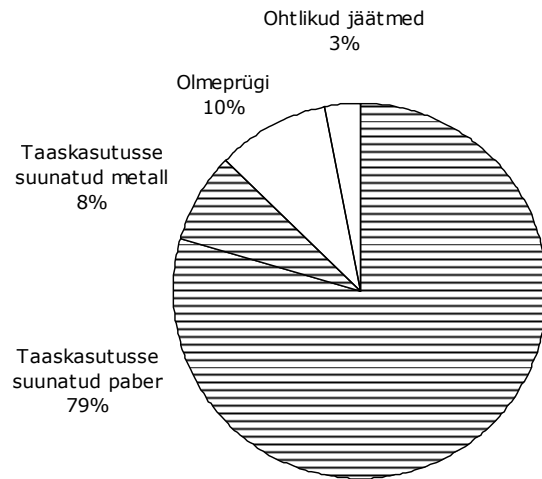
<sup>3</sup> The quantities of used office paper and hazardous waste are not amongst the components of the ecological footprint, because the corresponding ecological footprint factors are missing.



## Waste

According to the method of ecological footprint, Ecoprint's biggest environmental impact is the continual production of waste – 83% or 347.0 ha/years.

Since 2002, paper and carton waste has been collected separately from general waste. In 2009, the amount of recycled paper and carton was 79%, i.e. ca. 4/5 of overall waste production. This is a notably good result over 7 years.



### Reusable waste

**87%**  
of overall waste

**waste paper & carton** 115,740 kg;  
**metal waste** 11,460 kg.

### Landfill waste

**13%**  
of overall waste

**general waste** 13,860 kg created per annum;  
**hazardous waste** 4,620 kg created per annum (special handling by licenced waste handler).

The investments made in technology, which creates as little waste and uses as little energy as possible, are proving beneficial. Financially, it has led to a situation where the costs of general and hazardous waste disposal are covered by the profit made by recycling paper waste and selling print plates!

In both economical growth and recession conditions, such economical sustainability in waste processing is positive and will encourage further steps to achieve similar ecological sustainability and to enable all future waste to be recycled!

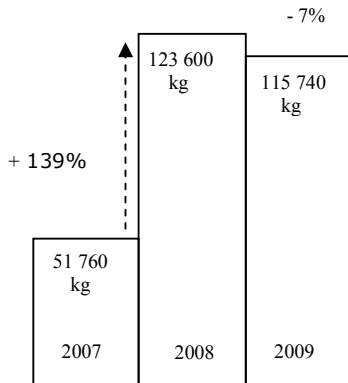
Below are the different categories of waste production, in absolute values, for the last three years:

| Waste (kg)                  | 2007   | 2008    | 2009    |
|-----------------------------|--------|---------|---------|
| Recycled paper              | 51 760 | 123 600 | 115 740 |
| General waste (to landfill) | 49 500 | 17 820  | 13 860  |
| Recycled metal              | 10 040 | 8 900   | 11 460  |
| Hazardous waste             | 1 880  | 3 310   | 4 620   |





Waste paper and carton



In the waste category, in 2009 paper and carton produced the most waste: 115,740 kg or in units of the ecological footprint 283.6 ha/years (68% of overall footprint).

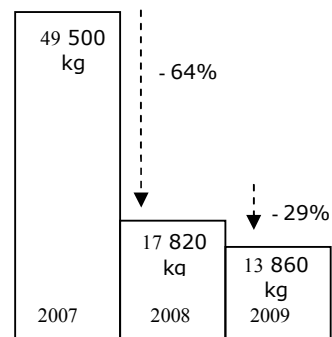
In 2008, the growth in paper and carton waste was caused mainly by better collection of waste. In the same year the amount of general waste was considerably reduced, a more detailed view of which is given below.

In 2009, 13,860 kg of general waste, or an ecological footprint of 56.0 ha/years, was created.

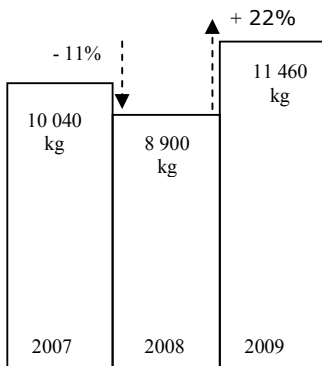
In 2009, the 29% reduction in general waste with the same annual turnover is an extremely important and praiseworthy achievement and reflects the employee contribution and care towards the company's sustainability!

Waste management is every organisation's litmus paper. Reducing the general waste year by year is one of Ecoprint's finest achievements, chiefly due to the human touch of selecting a waste container and also the technical solutions introduced.

General waste



Metal waste



In 2009, 11,460 kg of metal waste was created, giving an ecological footprint of 7.4 ha/years. Although the metal waste was of the same magnitude as the general waste, metal waste is recyclable and therefore its ecological footprint is more than 7 times smaller than landfill general waste.

The amount of metal waste depends on the nature of the prints, e.g. printing large amounts of adverts requires less print plates than printing a book where every page needs a special print-plate (for black and white prints).

In 2009, 4,620 kg of hazardous waste was created, which is 28% more than 2008.

In 2008, 2,700 kg of printing inks were used, which is 20% more than the year before. Although the printing inks used by Ecoprint are made of natural oils and resins instead of traditional petroleum (rapeseed and soy oil with pine resin as the binding agent), the ink remains and packaging are disposed of as hazardous waste. In addition to being eco-friendly, the inks used are odourless, which is extremely important to the print shop employees' health and well-being.

Hazardous waste and printing inks are excluded from the calculation of ecological footprint and CO<sub>2</sub> because, unfortunately, the appropriate factors are missing.



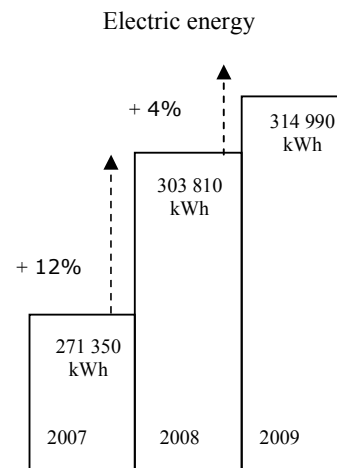
## Electric energy

The new production building of Ecoprint produces electric energy from three wind generators for urban use which are installed on the roof of the print shop. The paddles of the Airdolphin wind generator are inspired by the wing of an owl to minimise noise. In 2009, the wind turbines produced 5,730 kWh for the print shop's own use. In 2008, 320 kWh was produced.

In addition to this, since 2002 Ecoprint been in receipt of a Green Energy Category III Certificate by consuming 6,000 kWh of wind and hydro energy annually.

In calculating the footprint, 19% of line loss, which occurs in transmitting the energy from producer to consumer, has been added to the wind and hydro energy as well as to the electric energy produced from oil shale. Line loss has not been added to the energy produced directly by Ecoprint's own wind generators.

In 2009, 5,730 kWh of wind energy was produced and consumed. As well as 7,140 kWh of Green Energy being consumed, 302,120 kWh oil shale energy (with line losses) was also consumed. Although the proportion of renewable energy was circa 4% of annual electricity usage, the footprint of self-produced wind energy, bought wind and hydro energy was 0.3 ha/years as opposed to 48.6 ha/years for oil shale energy (a difference of more than 150 times).



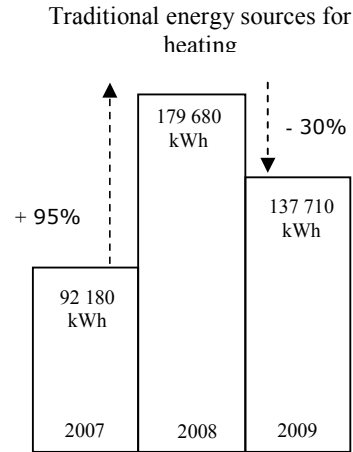
Compared to 2008, the overall consumption of electric energy has increased by 4%.



## Energy sources for heating

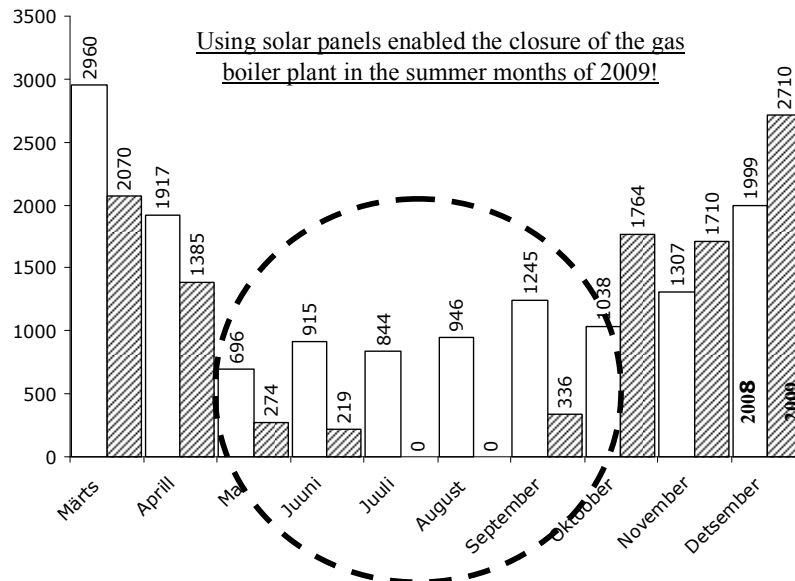
The new production building uses a gas boiler for heating, which in 2009 consumed 14,730 m<sup>3</sup> of gas. The calculation for the calorific value of gas is based on the following data from Estonian Gas. In burning 1m<sup>3</sup> of natural gas 9.3 to 9.4 kWh thermal energy is produced (in calculations 9.35 kWh is used).

In 2009, Ecoprint used 137,710 kWh gas energy for heating, its total ecological footprint being 13.0 ha/years. The 95% rise in consuming gas for heating in 2008 was partly due to Ecoprint moving into new and bigger production premises in March-April and during these months both old and new production premises heating costs were paid.



In 2009, a 30% reduction in the cost of gas for heating was achieved by using 7.7 m<sup>2</sup> of solar panels. Cold water flows first through the heating container connected to the solar panel and after being preheated it flows into the building's 1,500 litre boiler.

In comparing the last two years of gas consumption by months (March-December, because in January and February 2008 the new production premises were not in use) one can clearly see that the use of solar panels enabled the closure of the gas boiler plant in the summer months.



In the new print shop, there are different production and office premises ventilation systems utilising a heat exchanger. The heat which disengages from the print shop machinery is used to warm the incoming fresh air.

The existence of two ventilation systems enables the production and office spaces to be kept separate, which is expedient where the production unit work in multiple shifts. In the office premises, the ventilation system automatically switches to saving mode in out-of-office time (workdays from 5 pm until 2 hours before the next workday starts), thereby saving electric energy. The ventilation system of the print house is reset according to the work schedules.



## Transport

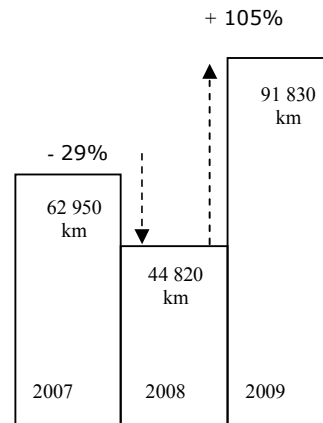
According to both the ecological footprint and CO<sub>2</sub> emission calculation methods, transport has been divided into two parts: people and goods. People transport means employees work-related journeys by car, bus, train, ship or plane and goods transport means the transport of products using heavy goods vehicles.

In 2009, 91,830 km of car transport was driven creating an ecological footprint of 8.7 ha/years, which is 2% of the overall ecological footprint.

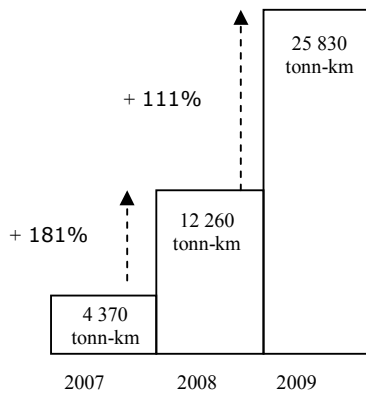
In March 2008, Ecoprint stopped using its small delivery van (automobile), giving a 29% decrease in car transport compared to 2007.

In 2009 the growth of car transport was connected with employee compensation when using private cars.

Car transport



Goods transport



For the transportation of goods, a notional value of 25 830 t/km<sup>4</sup> was used. This added 1.8 ha/years to the ecological footprint.

The printed goods are delivered to customers through the medium of delivery services in Estonia as well as abroad. The increase in goods transport is caused by ceasing Ecoprint's own goods transport service, export to Norway and general enlargement of the customer market in Estonia.

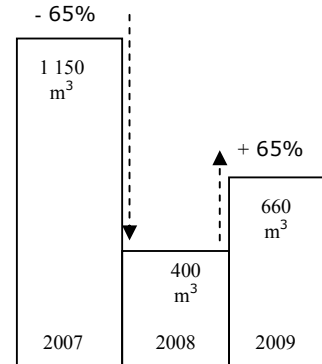
<sup>4</sup> Measure unit 1 t/km is equivalent to transportation of 1 tonne of goods a distance of 1 km or 0.5 tonnes of goods a distance of 2 km.



## Water

The air humidity level in the print shop should be 60% to ensure the appropriate humidity of the print paper and thereby reduce the defective production. From the 850 m<sup>2</sup> roof area of the print shop, rain water will be collected and directed into a 5 m<sup>3</sup> container. The automatic irrigation system constantly measures the humidity level and accordingly triggers or stops the injectors in the ceiling. According to Ecoprint's calculations, while working at full capacity, one container of rainwater covers a 12-day water requirement where there is no rain. In drought periods, the irrigation system will switch from rainwater to tap water, in rainy periods any excess water is fed into the drainage system.

Water consumption



According to Ecoprint's prognosis, the use of rainwater reduces the use of tap water by 60%. In 2007, 1,150 m<sup>3</sup> tap water was used and in 2009, 660 m<sup>3</sup> tap water was used. The usage of tap water has decreased by 43%. By using tap water (660 m<sup>3</sup>) a footprint of 0.05 ha/year was created.



## Summary table of ecological footprint

Using the method of the ecological footprint, an environmental impact of ten different components was measured (an ecological footprint factor is missing for transforming the indicators of office paper used and hazardous waste; therefore, these are left out of calculation).

| Components which form the basis of measuring the ecological footprint | Consumption (rounded) | ecological footprint per employee (ha/year per employee) | ecological footprint per turnover of 100,000 EUR | ecological footprint (ha/year) |
|---|-----------------------|--|--|--------------------------------|
| <b>Transport for people (km)</b>                                      |                       |  |  |                                |
| 1. Car, incl. taxi  | 91 830                | 0,257  | 0,445  | 8,723                          |
| <b>Electricity (kWh)</b>  |                       |  |  |                                |
| 2. Electricity from oil shale   | 302 120               | 1,431  | 2,479  | 48,641                         |
| 3. Green Energy   | 7 140                 | 0,005  | 0,009  | 0,173                          |
| 4. Electricity from Ecoprint's turbines                               | 5 730                 | 0,004  | 0,007  | 0,139                          |
| <b>Heat (kWh)</b>   |                       |  |  |                                |
| 5. Heat produced from natural gas                                     | 137 710               | 0,381  | 0,660  | 12,945                         |
| <b>Water (m<sup>3</sup>)</b>  |                       |  |  |                                |
| 6. Water consumed   | 660                   | 0,002  | 0,003  | 0,053                          |
| <b>Waste (kg)</b>   |                       |  |  |                                |
| 7. Recycled paper   | 115 740               | 8,340  | 14,454   | 283,563                        |
| 8. Recycled metal   | 11 460                | 0,219  | 0,380  | 7,448                          |
| 9. General waste (to landfill)  | 13 860                | 1,646  | 2,852  | 55,960                         |
| <b>Goods transport (t/km)</b>   |                       |  |  |                                |
| 10. Road transport  | 25 830                | 0,053  | 0,092  | 1,808                          |
| <b>TOTAL:</b>   |                       | 12,337   | 21,381   | 419,454                        |

The biggest environmental impact of Ecoprint manifests itself in waste generation (83%). Next is electric energy (12%), energy for heating (3%) and people transport (2%). The least impact on the ecological footprint is in goods transport (less than 1%) and water and sewage (less than 1%).



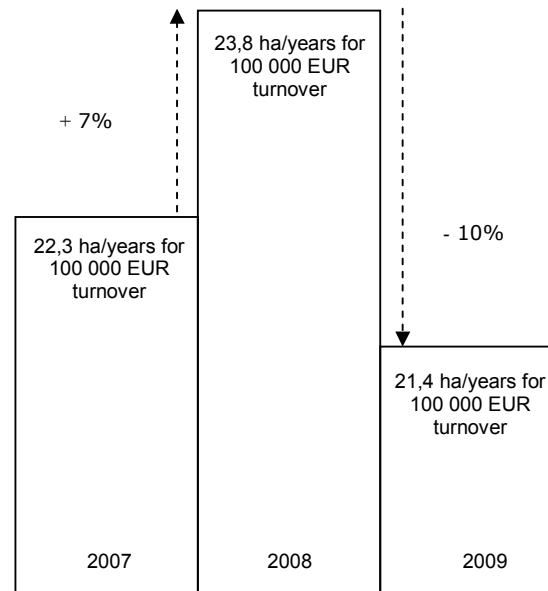
## Ecoprint's ecological footprint

### Footprint : turnover = aggregate indicator

In recent years the ecologic footprint's size per employee has been stressed, but the company's efficiency is far better reflected in the ratio of total ecological footprint to annual turnover, on the basis of which a new aggregate indicator has been calculated.

Ecoprint's ecological footprint in 2009 is 419.5 ha/years, which equates to 12.3 ha/years per employee. Ecoprint's turnover in 2009 was circa 30.7 million Estonian kroons.

By dividing the total footprint with annual turnover, we receive the footprint for turnover per 100,000 EUR.



**In 2009, for turnover per 100,000 EUR the ecological footprint was 21.4 ha/years, which is 10% smaller than in 2008.**

In the comparison of different states ecological footprints, issued in 1997, the available area for human usage is 1.7 ha per person<sup>5</sup>. This is the current average of ecological reality.

At the same time, in the World Nature Foundation's report of 2000, the economic boundary is considered to be 2.2 ha per person, counting 10% for maintaining the biological diversity.

The length an average working day is only 1/3 of the entire day and during this period circa three times more is used as there is an enabled biological resource for one person.

**Hence regardless of whatever economic value we start from, it is clear that resource utilisation is greater than the optimum, i.e. we are living beyond our means.**

<sup>5</sup> In 1993, according to the size of the world's population, there were 2.07 ha of biologically productive land per person. Taking as a basis the population of the World in 1997, and assuming optimistically that biologically productive land has not decreased, currently only 1.94 ha per person has remained. Subtracting from this 12% for maintaining biological diversity, we get  $((1-0,12) \times 1,94 = 1,71)$  1.71 ha per person for human utilisation.



## Printing paper, office paper , etc.

Paper used for prints is one of Ecoprint’s main environmental aspects. In 2009 Ecoprint purchased 365 tonnes of paper as a raw material for printing. Using printing paper as a resource has not been taken into consideration in calculating the ecological footprint as the ecological footprint takes into consideration only those resources in which Ecoprint is a final consumer (see also p. 5 “Methods for evaluating the environmental impact”). This part of the raw material (circa 1/3) which ends in the waste paper press container and will be directed into recycling has been added to the waste list. The remaining 2/3 of purchased raw material from which the printed matters are created will go, according to the methodology of the ecological footprint, into the account of the ecological footprint of Ecoprint’s customers, because they are the final customers of these products.

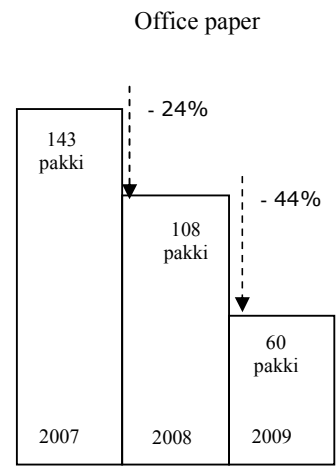
Ecoprint buys printing paper from Finnish and Danish paper factories. By increasing the environmental awareness of customers and also by clarifications and price policies done by Ecoprint, the printed matters in recycled paper are predisposed (for example in Cyclus-paper). Also using of printing paper with an FSC sign is predisposed. Ecoprint has an appropriate FSC supply chain certificate, which ensures that during the printing process different paper materials are not mixed and the customer is guaranteed to get prints on FSC-signed paper.

Compared to an ordinary print shop, Ecoprint uses printing paper as a resource more optimally due to contemporary printing technology solutions. Preparation machinery and new printing machinery are supplied with several accessories which contribute to reduce the amount of test sheets (waste/recycled paper). When buying the equipment, Ecoprint also sets criteria on waste created by the machinery and energy used by the machinery. Also, the rainwater irrigation system helps to reduce the amount of defective products by reducing the unwanted influence of static electricity, the fluctuation and elongation of paper and other uncontrollable parameters is smaller. Conscious selections in case of technologies used have led to considerable reductions in the amount of necessary test sheets and other defective products, compared to the same indicators in an ordinary print shop.

In addition to components mentioned previously, the use of office paper, hand-dryer paper and toilet paper has been measured (this has not been taken into consideration in calculations of ecological footprint or CO<sub>2</sub> as the appropriate data is missing).

During 2009, 60 packets or 150 kg of office paper was purchased, of which 50% was FSC signed<sup>6</sup> and 50% ordinary office paper. It equates to 4.4 kg or 1.8 packets of photocopy paper per employee per annum. This is 44% less paper compared to 2008.

In 2009, 216 packets of hand towels (circa 1 packet per working day) was consumed, which makes 19% less than 2008. In 2009, 446 rolls of toilet paper was consumed (circa 2 rolls per working day) or 20% less than 2008. Measuring the usage of hand towels is also connected to waste creation, because used hand towels form a significant volumetric part of the general waste bin.



<sup>6</sup> Paper bearing the sign of FSC (Forest Stewardship Council) has been produced from wood from sustainably managed forests.





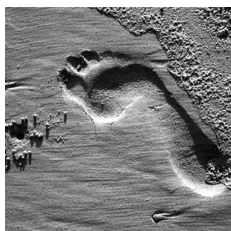
## CO<sub>2</sub> emissions

To achieve sustainable development, the situation has to be restored where human activity does not exceed the dynamic balance of the basic substance-circulation – CO<sub>2</sub> and water – or the buffering capacity of natural systems. To ensure sustainability, we must know how great the buffering capacity is and be able to evaluate quantitatively, the impact of human activities.

CO<sub>2</sub> emissions was measured for 4 components. In transforming the measurement results to CO<sub>2</sub> emissions, the handbook compiled by the United Nations Environment Program, for Calculating Greenhouse Gas Emissions<sup>7</sup> was used.

| Measured component                             | CO <sub>2</sub> emission, tonnes of CO <sub>2</sub> |
|--|---|
| <b>Electric energy</b>                         |   |
| 1. Electric energy produced from the oil shale | 225,7   |
| <b>Heating</b>                                 |   |
| 2. Heating produced from natural gas           | 27,8  |
| <b>People transport</b>                        |   |
| 3. Car   | 24,6  |
| <b>Goods transport</b>                         |   |
| 4. Road transport                              | 20,2  |
| <b>TOTAL</b>                                   | <b>298,3</b>  |

The Intergovernmental Panel on Climate Change (IPCC) has estimated the size of the environmental space at 1.7 tonnes CO<sub>2</sub> per person per year or 4.66 kg CO<sub>2</sub> per person per day<sup>8</sup>. The threshold quantity of CO<sub>2</sub> emitted during working time per person is taken as 70% of the amount offered by IPCC. Therefore the bearable environmental pace per person is 1.19 tonnes CO<sub>2</sub> per year or 3.3 kg CO<sub>2</sub> per day.



**Taking into consideration that Ecoprint produces 298.3 tonnes of CO<sub>2</sub>, and the environmental space enables only 40.5 tonnes of CO<sub>2</sub>, Ecoprint has to compensate for overproduction during 2009 which is 257.9 tonnes of CO<sub>2</sub> emission. As is well known, on average 1 km<sup>2</sup> of forest binds 97 tonnes of pure carbon or 356 tonnes of CO<sub>2</sub> in a year.**

**Therefore, for binding the overproduced 257.9 tonnes of CO<sub>2</sub> 0.72km<sup>2</sup> or 72 ha of forest is required.**

<sup>7</sup> The GHG Indicator: UNEP Guidelines for Calculating Greenhouse Gas Emissions for Businesses and Non-Commercial Organisations.

<sup>8</sup> Vilu, R. Randla, T. Kuidas mõõta keskkonna jätkusuutlikkust. Manuscript. Tallinn, 2002.



## Environmental performance indicators

In addition to the ecological footprint and CO<sub>2</sub> emissions methods, Ecoprint's environmental performance can also be assessed based on the key performance indicators (below) in the following areas: energy efficiency, material efficiency, water, waste and biodiversity (pursuant to the requirements of EMAS<sup>9</sup> III). Three required elements have been specified for each key indicator, as follows:

- Figure A, indicates the total annual input/impact in the specific environmental area (measured in real units, e.g. MWh, m<sup>3</sup>, tonne, km etc.);
- Figure B, indicates the organisation's total annual output (total annual turnover or number of employees);
- Figure R, indicates ratio A/B.

| Key indicators of environmental performance           |      | Consumption (approx) annual input (figure A) | Annual output of organisation (figure B) |                             | Ratio (A/B)  |                    |
|---|------|--|--|-----------------------------|--------------|--------------------|
|   |      |  | Number of employees                      | Total turnover, million EUR | per employee | per total turnover |
| <b>Transport for people (km)</b>                      |      |  |  |                             |              |                    |
| 1. Car transport (including taxi transfers)           | 2009 | 91 830                                       | 34                                       | 1,962                       | 2 700        | 46 800             |
|   | 2008 | 44 820                                       | 43                                       | 1,881                       | 1040         | 23 830             |
| <b>Electricity (kWh)</b>                              |      |  |  |                             |              |                    |
| 2. Electricity produced from oil share                | 2009 | 302 120                                      | 34                                       | 1,962                       | 8 890        | 153 990            |
|   | 2008 | 296 350                                      | 43                                       | 1,881                       | 6 890        | 157 550            |
| 3. Green Energy                                       | 2009 | 7 140  | 34                                       | 1,962                       | 210          | 3 640              |
|   | 2008 | 7 140  | 43                                       | 1,881                       | 170          | 3 800              |
| 4. Electricity produced with Ecoprint's wind turbines | 2009 | 5 730  | 34                                       | 1,962                       | 170          | 2 920              |
|   | 2008 | 320  | 43                                       | 1,881                       | 10           | 170                |
| <b>Heating energy (kWh)</b>                           |      |  |  |                             |              |                    |
| 5. Heating produced from biomass                      | 2009 | 0  | 34                                       | 1,962                       | 0            | 0                  |
|   | 2008 | 31 650                                       | 43                                       | 1,881                       | 740          | 16 830             |
| 6. Heating produced from natural gas                  | 2009 | 137 710                                      | 34                                       | 1,962                       | 4 050        | 70 190             |
|   | 2008 | 148 030                                      | 43                                       | 1,881                       | 3 440        | 78 700             |
| <b>Water (m<sup>3</sup>)</b>                          |      |  |  |                             |              |                    |
| 7. Consumed water                                     | 2009 | 660  | 34                                       | 1,962                       | 20           | 340                |
|   | 2008 | 400  | 43                                       | 1,881                       | 10           | 210                |
| <b>Waste(kg)</b>                                      |      |  |  |                             |              |                    |
| 8. Recycled paper                                     | 2009 | 115 740                                      | 34                                       | 1,962                       | 3 400        | 58 990             |
|   | 2008 | 123 600                                      | 43                                       | 1,881                       | 2 870        | 65 710             |
| 9. Recycled metal                                     | 2009 | 11 460                                       | 34                                       | 1,962                       | 340          | 5 840              |
|   | 2008 | 8 900  | 43                                       | 1,881                       | 210          | 4 730              |
| 10. General waste (to landfill)                       | 2009 | 13 860                                       | 34                                       | 1,962                       | 410          | 7 060              |
|   | 2008 | 17 820                                       | 43                                       | 1,881                       | 410          | 9 470              |
| <b>Goods transport (tonn-km)</b>                      |      |  |  |                             |              |                    |
| 11. Road transport                                    | 2009 | 25 830                                       | 34                                       | 1,962                       | 760          | 13 170             |
|   | 2008 | 12260  | 43                                       | 1,881                       | 290          | 6 520              |
| <b>Printing paper (kg)</b>                            |      |  |  |                             |              |                    |
| 12. Printing paper                                    | 2009 | 365 000                                      | 34                                       | 1,962                       | 10 740       | 186 030            |
|   | 2008 | 376 000                                      | 43                                       | 1,881                       | 8 740        | 199 890            |

<sup>9</sup> EMAS (Eco-Management and Auditing Scheme) – Eco-Management and Audit Scheme of European Union



| Key indicators of environmental performance |      | Consumption                            | Annual output of       |                                | Ratio (A/B)     |                       |
|---|------|--|------------------------|--------------------------------|-----------------|-----------------------|
|   |      | (approx)<br>annual input<br>(figure A) | Number of<br>employees | Total turnover,<br>million EUR | per<br>employee | per total<br>turnover |
| <b>Land use (m<sup>2</sup>)</b>             |      |  |                        |                                |                 |                       |
| 13. Land under buildings                    | 2009 | 1 400                                  | 34                     | 1,962                          | 40              | 710                   |
|   | 2008 | 1 400                                  | 43                     | 1,881                          | 30              | 740                   |

In 2009, power produced from renewable resources (Ecoprint's wind turbines + Green Energy) accounted for 4.3% of the total electric power consumption. In 2008, this percentage was 2.5%. The reason for the difference between 2008 and 2009 is that Ecoprint moved into new premises in mid-2008 and the wind turbines were also installed then. Therefore, the data for 2008 reflects only the wind-generated power that was produced in the second half of the year.

Emissions is the only key indicator stipulated in the EMAS III regulations that has not been discussed herein – because the printing agency itself does not cause emissions as a direct environmental impact. Compared to regular printing agencies, Ecoprint has the advantage of using inks based on natural oils and resins which, in contrast to ordinary petroleum-based inks, do not emit volatile organic compounds that are dangerous to human health and the environment.



## Summary

This statement is in point of fact Ecoprint's third environmental statement, however it is basically a continuation of the previous five environmental statements of AS Triip, which is the longest (altogether 8 years) amongst any Estonian company in compiling an environmental report using the methods of ecological footprint and CO<sub>2</sub> emission. Also, this statement has been prepared in accordance with the requirements for organisations applying for the EMAS certificate. Therefore, the statement includes several new ratios (ratio of ecological footprint to turnover; ratio of key indicator to number of employees/turnover). This reference data helps to highlight the performance across years.

The basis of Ecoprint's environmental statement is 14 measurable components (electricity, heat etc), which gives the basis for the calculations. The company's ecological footprint in 2009 is 419.5 ha/years, or 12.3 ha/years per employee. Unfortunately, this is more than the biological resources can support.

At the same time, in 2009 they were able to reduce the size of the ecological footprint per turnover of 1 million kroons by 10%, compared to 2008. Similarly to the ecological footprint, the CO<sub>2</sub> emissions was also measured. During the year, 298,3 tons of CO<sub>2</sub> was produced, which is 257.9 tons of CO<sub>2</sub> more than a balanced environment space can hold. For binding the overproduced CO<sub>2</sub> 72 ha forest is needed. For a number of years now, Ecoprint has planted and cared for forestry!

Ecoprint's environment-related activities constantly gain a lot of recognition. In 2009 the ministry of the Environment once again recognised Ecoprint as the Environmental Company of the Year, this time in the category of environmentally-friendly production processes. The title of Environmental Company of the Year gives Ecoprint the opportunity to take part in the European Commission contest for environmental companies.

|                     |                             |
|---------------------|-----------------------------|
| Name of the company | AS Ecoprint                 |
| Foundation date     | 03.08.2007                  |
| E-mail              | ecoprint@ecoprint.ee        |
| Address             | Savimäe 13, Vahi village    |
| Telephone           | 733 1400                    |
| Homepage            | www.ecoprint.ee             |
| NACE/EMTAK code     | 1812                        |
| Turnover            | 30.7 mill. Estonian kroons  |
| Number of employees | 34                          |
| Activity area       | 1400 m <sup>2</sup>         |
| Field of activity   | Printing industry           |
| EMAS-verifier       | Andres Martma, Metrosert AS |
| Licence nr          | EE-V-001                    |
| Date of approval    | 03.09.2010                  |