

# Environmental responsibility 2011

## Environmental strategy

Being responsible as a company, Technopolis focuses on offering environmentally-friendly business environments and services to its customers, investors and other stake holders. To support this purpose, Technopolis has implemented to its operations an environmental strategy and green action plan for 2011-2015

The strategy focuses on following environmental goals: carbon dioxide emissions reduced by 20%, energy consumption by 10% and water consumption by 8%, and improved efficiency in waste management.

Furthermore, LEED (Leadership in Energy and Environmental Design) building rating system, with American origins, was chosen as a tool to compare and develop the environmental performance of properties. Technopolis own offices in different cities will seek WWF Green Office environmental label. Technopolis concept and services offered to customers were decided to be developed according to Green Office principles. Environmental and social responsibility reporting will be developed according to GRI (Global Reporting Initiative).

Execution of environmental strategy has proceeded well. During 2011, Technopolis had altogether four new development projects under construction seeking LEED building rating, in Vantaa, Helsinki, Jyväskylä and Tampere. Of these projects, Technopolis Helsinki-Vantaa phase 5B (F) was completed in May becoming Technopolis first project to receive international LEED certificate.

It qualified for Gold level with 63 credit points in a third-party evaluation, which indicates excellent environmental performance. In addition, also other new construction projects, which were under planning, and a total of six most potential existing buildings were registered to seek LEED certification.

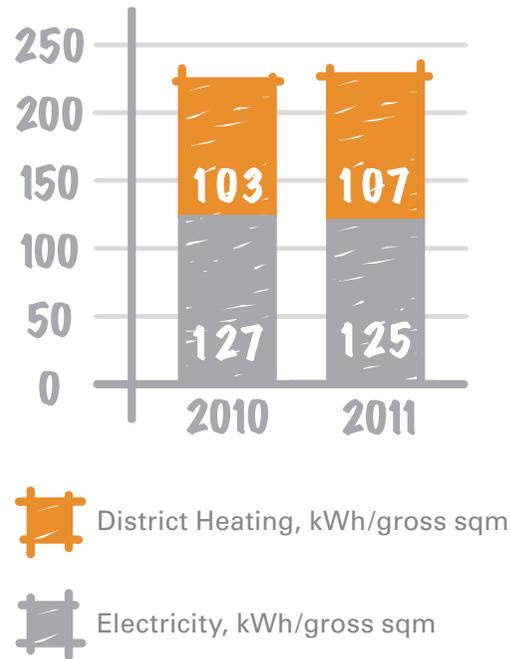
Pursuing of WWF's Green Office label was started in nine own offices during 2011: Espoo, Jyväskylä, Kuopio, Lappeenranta, Helsinki, Vantaa, Tallinn and in two offices in Oulu. Also, development of green services, which support Technopolis green values, was started in 2011.

## Environmental impact of construction

Green action plan set at least energy certificate level B as a goal for new construction projects in 2011. Energy efficient solutions were planned, among others, to HVAC and lighting. Additionally, innovative energy solutions were tried out, e.g. energy piles were piloted in Jyväskylä in Innova 2nd phase as a first pioneer in Finland

Water efficient systems were chosen and green areas were planned to require less irrigation in new construction projects. Brownfields were remediated according to requirements and local habitats were protected. In 2011a total of 35.318 euros including VAT was used for remediation of contaminated land areas in Estonia.

Energy consumption per gross area, Finland



New development projects' location were chosen to meet the requirements of attractiveness, good traffic connections, and close-by services. Goal of planning was also to motivate building users to reach the site with low-emitting and fuel-efficient vehicles or by bicycles by offering them signed parking places or charging stations, and bicycle racks.

Attention was also paid to waste management: waste rooms at the property were equipped carefully to provide wide sorting and recycling possibilities. Effort was put to construction site waste management resulting at a good recycling rate, over 75% in general and even 90% in some cases, concerning new construction projects in Finland. Indoor air quality was also paid

attention to, through air rates, filter decisions, CO<sub>2</sub> sensors, and cleanliness management during construction. Low-emitting materials were preferred and thermal comfort and amount of daylight was optimized through good planning.

### Energy and water consumption

Energy efficiency of existing building stock was actively developed. Efficiency improvements and green investments took place among others in Espoo, Vantaa, Jyväskylä and Oulu. Furthermore, effort was put to raise the energy certificate levels of existing buildings. As a result, a dozen of Motiva model based energy audits were started and energy certificates were renewed.

Moreover, Technopolis committed in the beginning of 2011 to 6% energy savings by the end of 2016 by signing an energy efficiency agreement for premises with Rakli, Finland's Environmental Administration and Ministry of Employment and the Economy. The agreement is part of Finnish energy efficiency agreement, which is directly linked to EU's energy end-use efficiency and energy services directive that defines 9% savings target for each member country. Technopolis reports annually its properties' energy consumption as regards to energy efficiency agreement for premises.

Reported energy consumption for 2010 includes remotely read and some manually read consumption of properties in Finland. Rectified consumption for 2010 as regards to properties in Finland is 103.303 MWh, of which electricity consumption covers 56.904 MWh and heating energy 46.399 MWh. In 2011, amount of consumed heating energy was increased by 4,1 %, and as a result, savings were not achieved in total energy consumption compared to 2010 regarding operations in Finland. This is assumed to be caused by the long and cold winter time in the beginning of 2011 in Finland.

### Energy consumption key figures in 2011:

- 104.851 MWh (Finland), 124.166 MWh (Group)
- 232 kWh/gross sqm (Finland), 226 kWh/ gross sqm (Group)
- Energy savings in consumed electricity compared to 2010 level is 0,6 % (Finland)

### Key figures for water consumption in 2011:

- 101.238 m<sup>3</sup> (Finland), 122.523 m<sup>3</sup> (Group), 5,6 m<sup>3</sup>/FTE (Finland) and 5,5 m<sup>3</sup>/FTE (Group)

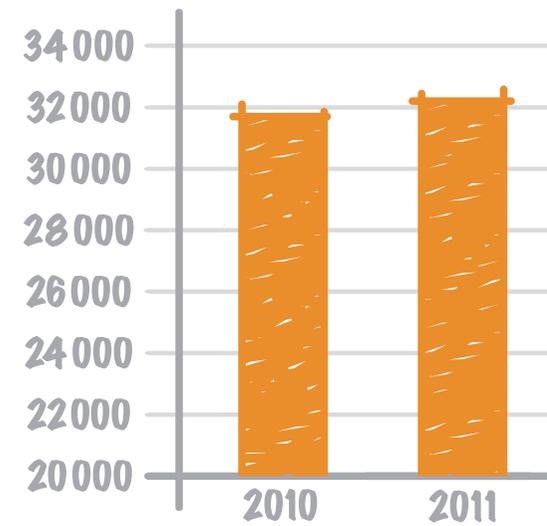
### Carbon footprint

In 2011, amount of renewable energy sources of purchased electricity in Finland was 39 %. Decrease from previous year (45 %) is due to purchasing most electricity from Oulu Energy, while amount of fossil energy sources in electricity production has increased in both the production of Oulu Energy (40 % → 49 %) and in Kuopio Energy (40 % → 68 %), which is the second significant electricity provider for Technopolis. However, Technopolis decided in 2011 to offer 100 % green electricity from renewable energy sources in Finnish campuses starting from 2012. This is expected to significantly cut down the carbon footprint of Technopolis energy consumption in the future.

Technopolis aims at decreasing its carbon footprint also by improving energy efficiency in general and investing in geothermal energy and district cooling in some development projects. For example, in Innova 2nd phase in Jyväskylä, it has been estimated that the carbon footprint can be decreased to half thanks to energy piles enabling the utilization of geothermal heating and cooling, Are Sensus low energy system and green electricity produced from renewable energy sources. According to calculations, energy piles can save up to 50 % of energy needed for heating and 40 % needed for cooling in Innova 2nd phase.

The estimation of energy sources in the production of electricity purchased by Technopolis and the carbon footprint of energy consumed by Technopolis

Energy consumption's CO<sub>2</sub> emissions, Finland



Energy consumption's CO<sub>2</sub> emissions, tons

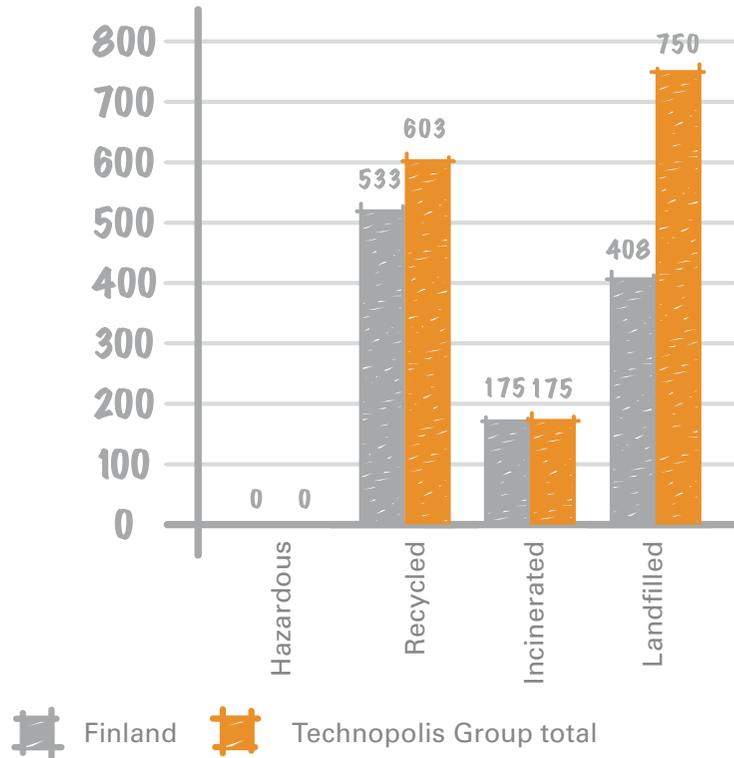
is based on data from energy companies on their production methods and their CO<sub>2</sub> emissions.

Decrease in the amount of renewable energy sources in purchased electricity and increase in total consumed energy in Finland made it challenging to cut down energy consumption's carbon footprint. Estimate for the carbon footprint of rectified energy consumption in Finland in 2010 is 31.887 tons of CO<sub>2</sub>.

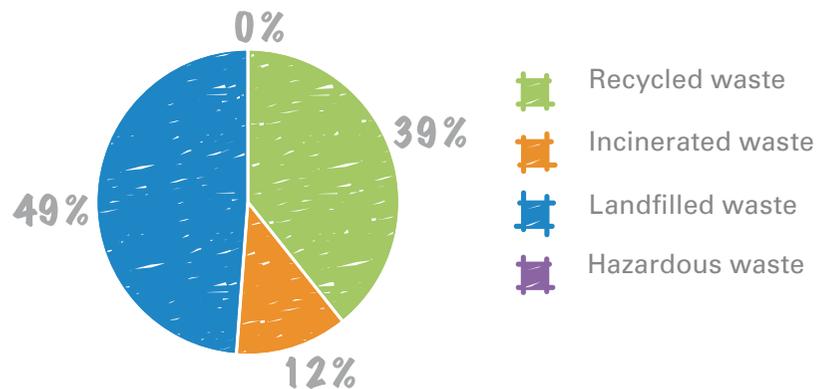
### Carbon footprint of energy consumption in Finland in 2011:

- 32.348 tons CO<sub>2</sub> and 71,5 kg/gross sqm (Finland)
- 43.328 tons CO<sub>2</sub> and 78,8 kg/gross sqm (Group)

Waste categories by treatment type, tons



Waste amounts by treatment type, Group



### Waste, utilization and recycling rate

Data collection regarding waste management was expanded in 2011 and data was collected from Finland, Estonia and Russia by waste treatment type and waste components. Treatment types in Technopolis properties alter from region to region according to local waste management partner's ways of operation. In office campuses in Finland, the use of RFID follow-up and waste compressors is comprehensive and efficient. Goal is to improve waste management also in Estonia and Russia in the future. A reduction target for total waste amount for the next years will also be set during 2012.

As regards to waste data, recycled waste also includes reused and recovered waste. Incinerated waste also includes mass burned mixed waste, and other incinerated waste, in addition to energy waste. Waste amounts for each waste category are based on data provided by waste management partners, and as regards to St. Petersburg, on estimate of number, volume and hauling intervals of used waste containers.

#### Key figures for waste in 2011:

- Recycling rate: 48 % (Finland), 39 % (Group)
- Utilization rate: 63 % (Finland), 51 % (Group)
- Waste amount: 1.116 t (Finland), 1.528 t (Group) and 61 kg/FTE (Finland), 70 kg/FTE (Group)

Green Office environmental management system in Technopolis own offices and used by some of the customers, guides the prevention of waste generation and promotes sorting of waste. Tenants are responsible for special waste components generated by their operations, such as, WEEE and hazardous waste, even though Technopolis organizes common annual WEEE and hazardous waste hauling on its campuses. Hence, Technopolis has no access to tenants' waste amount data regarding WEEE and hazardous waste. Also, leased IT equipment used by Technopolis is not included in the waste amounts, since leasing partner is responsible for the possible end use and life cycle of the leased IT equipment.

## Traveling

Data collection of traveling was started in the beginning of 2011 regarding work related trips purchased in Finland through travel agencies or logistics companies, and other trips related to Finnish operations.

### Key figures for traveling in 2011:

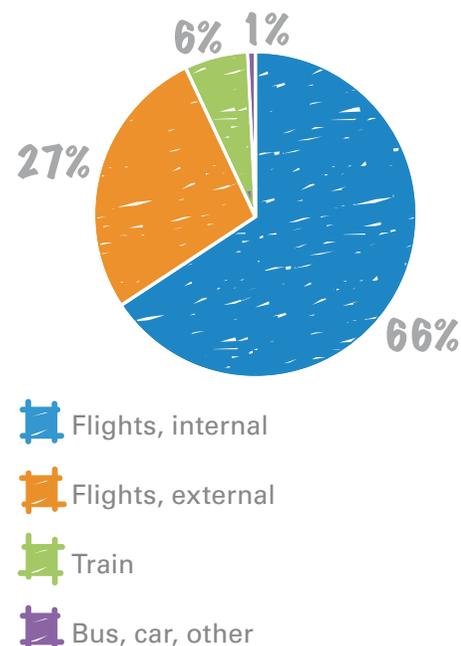
- 938.000 km
- 5.834 km/FTE

Internal flights consist of work related flights between all Technopolis offices. External flights consist of work related flights from Technopolis offices to destinations outside Technopolis offices and back, and connecting flights abroad. Traveling data neither includes locally purchased trips from Estonia and Russia nor tips by boat in general. Travel data includes only a fraction of car traveling and data collection will be developed regardingly in the future.

Technopolis aims at reducing carbon emissions from traveling. Technopolis car policy prohibited cars with over 200 g/km CO<sub>2</sub> emissions concerning limited and unlimited use of company and leasing cars already in 2011. Furthermore, Technopolis offers both its employees and customers the possibility to use video meeting services instead of work related traveling.

Technopolis also participated in SYÖKSY (a Finnish acronym for electric vehicle integration into the Ring Rail Line feeder system) electric car project in 2011. SYÖKSY aims at developing low-emission public transportation solutions to Ring Rail Line feeder system and to residents, workers and visitors in Marja-Vantaa and Aviapolis area. Project focuses on electric and low-emission vehicles. Technopolis Vantaa campus had positive experiences from testing out electric cars.

Ways of traveled kilometers, Finland



## Consumed paper

Technopolis started data collection of consumed paper products in 2011. This turned out to be challenging due to procurement from several local paper selling partners. In the future, Technopolis aims at centralizing its paper procurement, at least in Finland, and at developing reporting regardingly.

In 2011, Technopolis Oulu, Espoo, Helsinki, Vantaa and Lappeenranta operations in Finland consumed a total of 15 356 kg paper. Of this, 11 346 kg was used in Technopolis own offices and 4 010 kg was sold to customers.

## **Green procurement**

Technopolis committed to increase the proportion of green electricity to 100% in its property stock in Finland from the beginning of 2012. This will allow almost 1,300 companies as tenants in Technopolis premises to use electricity produced with renewable energy sources.

In the future, green electricity will be procured for all Technopolis campuses in Finland from Oulu Electricity Sales, Kuopio Energy and Vantaa Energy. The origin of the electricity is also verified by a third party, Inspecta Oy.

Also a green procurement guide was created in 2011, and it will be implemented in procurement in Finland and Estonia in the beginning of 2012. Three new procurement targets were set alongside with green electricity, such as, using 100 % green paper with PEFC, FSC or Blue Angel certification in own offices and selling it also to customers, providing environmental management system from restaurant operators, and providing that renovations and facility alterations improve energy and water efficiency according to environmental strategy's targets.

## **Green events and eco-efficiency co-operation**

Technopolis started a real estate and construction sector energy and cleantech cluster with Fira Oy in capital region in 2011. Cluster focuses on developing and implementing solutions and knowledge of energy efficiency and renewable energy sources on new construction projects and existing building stock. Technopolis organized Green Business Breakfast and Cleantech MoneyTalks® events in 2011 and will organize more green events with the cluster on office campuses in Finland in the future.