

# **WORKING TOGETHER TO THE CUTTING EDGE IN ENVIRONMENTAL PROTECTION**

**The environmental strategy of the City of Tampere for 2003-2012**

**The City Board of Tampere, 17 September 2002**

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## 1. INTRODUCTION

The City Council of Tampere approved the strategy document "Tampere - Working towards excellence, The balanced city strategy of Tampere 2001-2012" in October 2001. On the basis of this city strategy, the different municipal sectors made their own strategies, which were completed in March 2002. Furthermore, six more specific operating strategies have been drawn up during 2002 in order to support the city strategy. These six strategies are personnel strategy, business strategy, housing policy strategy, service procurement strategy, information management strategy and environmental strategy. The strategies form part of the new management system that is being created by the municipality.

"Working together to the cutting edge in environmental protection" was prepared by the steering group, the members of which were elected officials and representatives of different sectors and public utilities of the City of Tampere, and by the strategy group, which comprised Matti Leinonen, Vice Chairman of the Environmental Committee, Harri Kallio, Head of Environmental Protection, Antonia Sucksdorff, Planner, Outi Teittinen, Coordinator for Sustainable Development, and Harri Willberg, Environmental Coordinator.

The strategic objective "Tampere will be at the cutting edge in environmental protection", which was included in the city strategy, was selected to be the environmental strategy's vision for the year of 2012. The environmental strategy is based on the city strategy and focuses on the issues of ecological sustainability in Tampere.

The environmental strategy replaces the City of Tampere's environmental policy programme, which was completed in 1994. The City of Tampere fulfilled the environmental policy programme by means of the environmental management system that was made for this purpose. The principles of this system are still applied by the municipality. Only the public utilities adhere to the ISO 14 001 standard in their operations. The new management system will ensure the implementation of the goals in the municipal environmental policy. This way it will also be ensured that ecological sustainability will be incorporated as part of all decision-making.

Before starting preparing the environmental strategy, a plan for activating people and providing information was drawn up. The starting points for the strategy were openness and interaction with Tampere residents and other stakeholders. The opinions of Tampere residents were sought at a public event and by means of questionnaires. The opinions of the municipal employees were sought by means of co-operation groups, personnel newsletters and the Internet.

HAUS, the Finnish Institute of Public Management, has functioned as consultant in the making of the environmental strategy. HAUS uses the Balanced Scorecard strategy tool tailored for public administration. The same tool was used when making the city strategy "Tampere - Working towards excellence". The Balanced Scorecard method is illustrated in appendix 1.

## 2. STRATEGY BASIS

### 2.1 The state of the environment in Tampere

Despite new problems, the state of the environment in Tampere has improved significantly during the last 20 years. Reviews have been made on the state of the environment in Tampere in 1987, 1994 and 1998. The latest review was drawn up in 1998 <sup>1</sup>, and the following information is based on the summary of this review.

In Tampere the principal air pollutant sources are energy production, industry and motor vehicles. The effective joint production of electricity and heat, the extension of the district heating network, and the closing down of minor thermal power plants have significantly reduced - except for the carbon dioxide emissions - the total and specific emissions generated in Tampere Power Utility's energy production. In Tampere the electricity consumption grew by about 16 % from 1990 to 1999. The increasing emissions of nitrogen oxides generated by road traffic pose a problem in Tampere, too.

In Tampere the water consumption per inhabitant has decreased since the mid-1970's. The quality of the drinking water has been good at all the water inlet works, and the water has met the requirements set by the Ministry of Social Affairs and Health. The results concerning the wastewater purification carried out by the wastewater treatment plants are also good. In 1997, 94 - 97 % of the organic and phosphorus burden was removed at the wastewater treatment plants. All sludge created at the wastewater treatment plants is recovered and reused.

Waste management has experienced much change. Today the waste management of Tampere and the neighbouring municipalities is the responsibility of a regional waste management company. Source separation of waste has been made realisable in Tampere, and the waste management centres accept - apart from traditional dry waste - hazardous waste and recyclable waste. In addition, the waste management centres compost biowaste and wastewater sludge. Since the beginning of 1998, landfill gas has been recovered at the Tarastenjärvi landfill. The recovered gas has been used as energy. 3.3 million m<sup>3</sup> of landfill gas was pumped in 2001. More than half of the pumped gas was methane.

The road and street traffic is the largest source of noise pollution in Tampere. In addition, the noise generated by air traffic has increased. In the new housing areas, noise control is implemented by a better placing of buildings and garden areas as well as by improving the structural solutions in the buildings. Nevertheless, the aim of a compact city structure sets challenges for noise control.

The valuable habitats, natural monuments, cultural landscapes and historical relics have been surveyed in Tampere, and new nature conservation areas have been founded in order to ensure the diversity of nature. However, because of the new goals set for the construction of the central city areas, park and green areas in their natural state will be squeezed by the new housing, which makes the preservation of these areas more difficult.

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<sup>1</sup> Katsaus ympäristön tilaan Tampereella 1998; Marjatta Salovaara, Tampereen kaupunki, ympäristövalvonta 1999. This review has not been translated into English.

The environmental strategy's steering group conducted a SWOT analysis in the autumn of 2001. The analysis concerned the environmental issues in Tampere (table 1).

<p><b>Strengths:</b>            Environmental issues are part of the administrative culture            The growing environmental awareness            The improved state of lakes and rivers and the good quality of tap water            The large area and the great natural diversity            The founding of the environmental information centre and the nature school</p>	<p><b>Weaknesses:</b>            Poor commitment to environmental affairs            The financing of environmental investments            The pedestrian and bicycle routes in the city centre</p>
<p><b>Opportunities:</b>            Carrying out the municipal management by following the principle of sustainable development            Life-long environmental education            Development of rail transport</p>	<p><b>Threats:</b>            The strategy will not be realised in practice            Sustainable development will be lost among other matters            Too widely scattered a land use and the structural change in commerce            Increase of problems caused by road traffic            Increase in greenhouse gas emissions            Increase in consumption</p>

*Table 1: a SWOT analysis on the environmental issues in Tampere*

## 2.2 International and regional environmental programmes, strategies and agreements

Tampere's environmental policy programme, sustainable development programme and environmental strategy have their origins in Agenda 21, which is an action plan on long-term sustainable development drawn up at the United Nations Conference on Environment and Development in 1992. Agenda 21 defines how to reach the goals of sustainable development. At the municipal level, the most efficient way of reaching the goals is to make a local Agenda 21. The local agenda of Tampere called Tampere 21 was completed in December 1999. Tampere 21 was prepared - together with Tampere residents and other interested parties - in theme groups with almost 200 Tampere residents participating. Tampere 21 can be found in English on the Internet at [www.tampere.fi/ytoteto/yva/eng/about/agenda21/agenda21.htm](http://www.tampere.fi/ytoteto/yva/eng/about/agenda21/agenda21.htm) The local agenda has played a significant role in the making of the Tampere city strategy.

The goals set in the UN's Agenda 21 were adapted to the European conditions at the conference on sustainable development in European cities, which was organised in Aalborg in May 1994. At the conference the Aalborg document was approved and the campaign on sustainable development in European cities was launched. Tampere joined this campaign in 1995.

The environmental programme for the Tampere region was completed in November 2001. Several different participants worked together for the drawing up of this programme. These participants also approved the programme. The goal of this programme is to improve the state of the environment in the Tampere region. The visions, goals and measures have been grouped under five headings: 1) Diversity and sustainable use of natural and cultural

environments, 2) A healthy, pleasant and ecologically sustainable housing environment, 3) Environmentally responsible business operations, 4) Recreational use of nature and 5) Environmental awareness and research. The programme can be found in Finnish at [www.vyh.fi/poltavo/ohjelma/pir/etusivu.htm](http://www.vyh.fi/poltavo/ohjelma/pir/etusivu.htm)

In May 2002, the European Commission approved its sixth environment action programme, where the guidelines for the EU's environmental policy for the next 10 years were determined. The programme focuses on four priority areas: climate change, health and environment, nature and biodiversity, and natural resource management. The environment action programme determines the most difficult environmental problems and the areas where measures are most badly needed. The programme can be found at <http://europa.eu.int/comm/environment/newprg/index.htm>

Seven thematic strategies are being created to focus the environment action programme. These thematic strategies concern matters that are important but the goals and measures of which have not yet been defined specifically enough. The seven thematic strategies are being developed on the following themes: soil protection, marine environment protection, pesticides, air pollutants, urban environment, sustainable use of resources, and recycling of waste.

In addition, the European Commission's sustainable development strategy has also been completed. The strategy's most central themes are public health, climate change and clean energy, natural resource management, social inequality, ageing and pension schemes as well as mobility, land use and regional development. The strategy comprises two documents, which are included in the conclusions drawn by the chairmen of the Lisbon and Gothenburg Summits. The so called Lisbon strategy (social and economic dimensions) was approved at the Lisbon Summit in 2000, and the Lisbon strategy was complemented by the environmental dimension in Gothenburg in 2001. The Gothenburg document can be found at <http://ue.eu.int/fi/Info/eurocouncil/index.htm>

### **2.3 Evaluation of the environmental policy programme and the connection to the environmental strategy**

The City of Tampere's environmental policy programme was completed in 1994 (Environmental policy programme of the City of Tampere; the City of Tampere, Environmental Protection Department 1994). The City of Tampere selected the environmental management system as the means of reaching the goals in the environmental policy programme. Tampere was the first Finnish municipality to make its own application of the environmental management system. The system is mainly used by companies.

The City of Tampere's environmental policy programme and the environmental management system were audited in the summer of 2000. The auditing was carried out as a joint project of the Pirkanmaa Regional Environment Centre and the City of Tampere (Tampereen kaupungin ympäristöpolitiikan ja ympäristönhallintajärjestelmän auditointi; Leena Kiuru, Pirkanmaan ympäristökeskus, 2000; the report has not been translated into English). In this report senior management and those responsible for environmental affairs at different units and public utilities of the City of Tampere were interviewed. By means of these interviews the practical implementation of environmental goals was evaluated.

In the text below, there is the report's evaluation regarding the implementation of the environmental policy programme. Each goal also contains a reference to the critical success factor dealing with the same issue in the environmental strategy.

The environmental policy programme (1994):

1. *"Tampere will develop as a leading municipality in environmental protection*

*The development of Tampere ensures the pleasant living environment and the implementation of the technical solutions necessary in environmental protection. This status and positive publicity will attract new residents and environmentally aware companies to Tampere."*

The auditing of the City of Tampere's environmental policy and environmental management system in 2000:

"There has been reasonable progress in the implementation of the goal: in Tampere several significant environmental measures have been taken. Nevertheless, not all of the planned measures have been implemented, and the progress towards the goals has not been fully realised as planned."

The environmental strategy's critical success factors: all factors

The environmental policy programme (1994):

2. *"Ecological criteria are incorporated into city planning*

*The following criteria are taken into account in all land use planning: reducing road traffic, utilising the current infrastructure and preserving the local nature. The environment in Tampere is made more pleasant by cherishing the constructed cultural environment and the heritage of historically valuable buildings."*

The auditing of the City of Tampere's environmental policy and environmental management system in 2000:

"There has been reasonable progress in the implementation of the goal: several different measures have been taken, such as making construction culture inventories and refurbishing old industrial buildings according to their new uses. In addition, measures have been taken in land use planning: for example, the green plan has been incorporated into the master plan. However, the change in planning and decision-making takes place rather slowly, and not all of the environmental studies - drawn up to make the planning easier - have been comprehensive enough."

The environmental strategy's critical success factors:

- Combating climate change
- Noise control
- Securing natural diversity
- Taking the environmental issues into account in decision-making

The environmental policy programme (1994):

3. *"Environmental education is instituted as part of all education*

For environmental protection to succeed, each decision-maker, official and citizen should consider environmental matters and aim to follow the principle of sustainable development in their own lives. Therefore special emphasis is given to environmental matters in teaching and education. Citizens should take the initiative in taking care of their environment and in observing its state."

The auditing of the City of Tampere's environmental policy and environmental management system in 2000:

"The implementation of the goal has progressed well. The environmental issues have been incorporated into the curriculum from the day-care centres to the polytechnic. At comprehensive schools and upper-secondary schools the school-specific environmental programmes have been introduced into the curricula. The practical implementation varies: some schools greatly emphasise the themes of sustainable development in their teaching and education, and some have incorporated environmental issues as part of the teaching of all subjects. Regarding the provision of environmental information, several units still have room for improvement."

The environmental strategy's critical success factors:

- Increasing environmental awareness
- Personnel's and elected officials' environmental knowledge and actions
- Making environmental inventories and reports, environmental monitoring

The environmental policy programme (1994):

4. *"The amount of waste is reduced*

The amount of waste generated is taken into account in the purchases made by the municipality. Products with less packaging and with a smaller environmental burden are chosen. The consumption of disposable products is minimised, and reusable and long-lasting consumer goods are preferred. The recycling and reutilisation of goods are intensified by encouraging the citizens and the City personnel to use the existing recycling facilities and by developing new operating methods."

The auditing of the City of Tampere's environmental policy and environmental management system in 2000:

"The implementation of the goal cannot be evaluated because of the lack of waste volume monitoring. Practical measures in waste management have been realised almost at all the units. The greatest weaknesses concern the monitoring of waste volumes and waste management costs, the amount of encouragement given, recycling of different materials, and purchases."

The environmental strategy's critical success factors:

- Increasing environmental awareness
- Decreasing the volume of landfill waste
- Environmental aspects in the purchases made by the municipality
- Personnel's and elected officials' environmental knowledge and actions

The environmental policy programme (1994):

5. *"The biodiversity is maintained"*

Human activities have an impact on the balance of nature. Biological diversity enables nature to adjust to changes caused by man up to a certain point. This is why maintaining natural diversity is absolutely necessary. Land use planning, economical use of natural resources and consumer goods as well as recycling are key components in maintaining biodiversity."

The auditing of the City of Tampere's environmental policy and environmental management system in 2000:

"There has been fair progress towards the goal. The most significant changes and measures have been implemented in forest planning, management of green areas, and land use planning, where a green plan has been made and incorporated into the master plan. The forest plan for 2001-2010 highlights rare and from the nature conservation's perspective valuable areas, such as old forest and key biotopes."

The environmental strategy's critical success factors:

- Securing natural diversity
- Taking the environmental issues into account in decision-making

The environmental policy programme (1994):

6. *"CO<sub>2</sub> emissions are reduced"*

Carbon dioxide is a major greenhouse gas. Reducing the emissions of carbon dioxide has a key role in affecting climatic change and in how the environment will alter. The aim is that the CO<sub>2</sub> emissions will not increase from the 1990 level. With the current resources available the CO<sub>2</sub> emissions can be decreased from the level of the year of 1990 only after the year of 2000."

The auditing of the City of Tampere's environmental policy and environmental management system in 2000:

"There has not been any progress towards the goal. The consumption of fossil fuels and the resulting carbon dioxide emissions have not decreased despite the measures taken. In order to slow down the greenhouse effect, more vigorous efforts will be necessary. Sufficient economic resources must be reserved for the implementation of the energy saving plan. People must be encouraged to take care of the maintenance and adjustment of their vehicles and to focus on their driving styles. The municipal personnel's knowledge of energy saving must be updated, their opportunity to make a difference by making choices must be emphasised, and they must be encouraged to reduce energy consumption."

The environmental strategy's critical success factors:

- Increasing environmental awareness
- Combating climate change
- Strengthening Tampere Group's environmental image

The environmental policy programme (1994):

7. *"The operations of the City of Tampere ensure a healthy living environment*

*The quality of the residential environment affects human health. The municipality must take care of maintaining and improving the quality of this environment in its activities. The focus is on living conditions, a pleasant living environment, noise control, water and air quality, and preventing any health hazards in connection with municipal catering and with the food supply."*

The auditing of the City of Tampere's environmental policy and environmental management system in 2000:

"The realisation of the goal has progressed rather well. Measures in order to reduce noise as well as emissions into air, soil, and lakes and rivers have been taken at several units. Nevertheless, several significant measures have not yet been taken. Some of them require fairly large economic investments. So far the resources for these investments have not been allocated."

The environmental strategy's critical success factors:

- Promoting environmental health
- Noise control
- Reducing the burden on lakes and rivers, groundwater protection

### **3. THE BALANCED SCORECARD STRATEGY IN THE ENVIRONMENT IN TAMPERE**

#### **3.1 The environmental strategy's vision for the year of 2012**

*Tampere will be at the cutting edge in environmental protection.*

A vision can be defined as the state which is aimed at by an organisation. The vision's task is to give a strategy the direction. A vision is a view of in what direction it is wished Tampere is to be developed in the future. The strategic objective "Tampere will be at the cutting edge in environmental protection", which is included in the city strategy, was selected to function as the environmental strategy's vision. The environmental strategy is based on the city strategy and focuses on the issues of ecological sustainability in Tampere.

#### **3.2 The environmental strategy's philosophy**

The steering group has drawn up the environmental strategy's philosophy in order to clarify the function of the strategy and that of the steering group.

*Tampere will fulfil its promise to be at the cutting edge in environmental protection. The goal is to improve the state of the environment in Tampere. The environmental strategy steers decision-making and makes guidelines for the future. It also enables the management of environmental issues. The strategy functions as a tool for increasing environmental awareness. This way the strategy will make Tampere residents' attitudes and daily activities environmentally friendlier.*

### **3.3 The vision's strategic objectives to be achieved by the end of 2012**

#### **1. Tampere will be more economical in the use of natural resources and energy**

Changes in consumption habits as well as buying environmentally friendly goods and services will contribute to sustainable development and to a responsible use of natural resources and energy. This will be achieved by the co-operation of the municipal administration, Tampere residents and local business life.

The City of Tampere will be more economical in the use of natural resources and energy. In addition, the municipality will favour renewable energy in its operations. Tampere will reach its energy saving goals and the energy consumption per inhabitant will decrease. In its purchases the City of Tampere will pay special attention to the products' durability and to the fact that they can be repaired and recycled. Special attention will also be paid to packaging.

In Tampere, the road traffic's energy consumption will be reduced by decreasing the number of cars and by increasing the share of public transport and that of pedestrian and bicycle transport. In addition, the road traffic performance specific emissions will be decreased by favouring low-emission, renewable and eco-efficient technical solutions in the municipality's own transport services as well as in the procured services. Moreover, new operating methods will be sought in order to improve the eco-efficiency of the choices made by residents and local businesses on the issues concerning transport. Also, unnecessary journeys from one place to another will be reduced by means of city planning.

The local businesses will internalise the concept of eco-efficiency and make it their operating model. Products and services will be produced in the way which consumes less natural resources and energy than before.

Tampere residents will prioritise the products and services that produce less waste.

#### **2. Ecological sustainability and biodiversity will be ensured in Tampere**

The city image will remain green and pleasant. Sufficient areas of nature in its natural state will be preserved in order to ensure natural diversity and the pleasant atmosphere in the housing areas. Old green areas will be preserved, and new, broad, inter-connected green areas will be planned. The well-maintained network of green areas will be further developed and made more versatile. In city planning natural diversity and the recreational areas will be cherished.

There will be data on the natural habitats and species in Tampere that are central from the standpoint of natural diversity. The environmental inventorying, monitoring and reporting will function smoothly, and the residents will be kept regularly informed of the state of the environment by means of versatile environmental indicators. Tampere residents will have the opportunity to give feedback and to express their opinions on the state of the environment.

### **3. In Tampere the burden on the environment will be decreased**

In Tampere the burden borne by air, water and soil will be monitored, and the reporting will be at regular intervals. The greenhouse gases will be decreased in accordance with the commitments Finland has made. The nutrient pollution and the chemical burden on lakes and rivers will be reduced and groundwaters will be protected.

The recycling will be organised so that useful goods and raw materials will not end up in a landfill. A market will be created for recyclable materials in the Tampere region. Biowaste will not be taken to a landfill among other waste. The Tampere residents will be encouraged - by means of instructions and favourable waste prices - to prevent the generation of waste and to sort the waste efficiently.

Tampere will realise regional strategies focusing on air, waste, and lakes and rivers. These strategies will contain goals and measures for improving the air and water quality, for preventing the generation of waste and for decreasing the volume of landfill waste. The amount of waste generated per resident will decrease and will continue to do so.

Noise prevention will be considered when planning and building new dwellings and new housing areas. There will be measures to direct the road traffic away from the new housing areas in order to have as little noise pollution as possible. There will be a mapping of the existing quiet areas, and these areas will be taken into account in zoning and road traffic planning.

### **4. Tampere will have a healthy living environment**

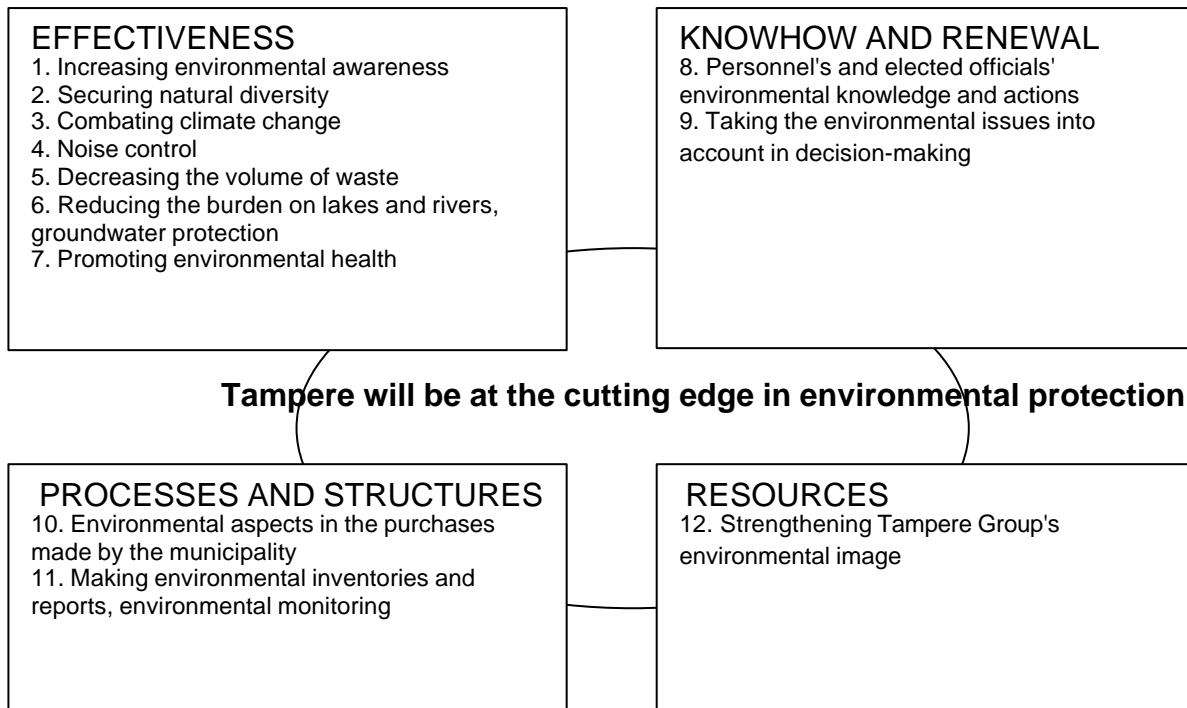
The City of Tampere will ensure that its operations will maintain and improve the quality of the local environment. This way it will be ensured that the foods produced will be safe and in accordance with rules and regulations and that the local living conditions are healthy and safe.

The outdoor air quality will be improved. The concentrations of fine particles and nitrogen oxides in the air will be decreased so that they will not pose a health hazard. The groundwater resources will be secured in order to ensure the availability of good drinking water.

### **3.4 The environmental strategy's management perspectives**

Four factors have been selected as management perspectives: 1) effectiveness, 2) knowhow and renewal, 3) processes and structures, and 4) resources. These perspectives are inter-connected and their success depends on how the relations between the different perspectives are emphasised and whether the perspectives are implemented in a balanced manner. The thread between these four factors must not be lost, or the connection between the different sub-factors will be lost.

## Critical success factors



### 3.5 Critical success factors, evaluating criteria and the goals to be achieved by the end of 2003

#### Perspective of effectiveness

##### 1. Increasing environmental awareness

The Tampere residents will be given the means for obtaining wide-ranging and up-to-date information on local as well as on international environmental issues. These means will include intensifying the delivery of information and further development of the municipal Internet services. The Tampere residents will be provided with sufficient information on the environmental impact of the choices they make and they will be encouraged to put the acquired knowledge into practice. Special attention will be paid to developing the activities of the environmental information centre and those of the nature school and to expanding the municipal environmental websites and making these websites more versatile. Environmental education will remain part of all teaching and education. Environmental education will be expanded into sustainable development education, where the principle of life-long learning will be adopted.

This critical success factor is measured by following indicators:

- Number of visitors of environmental guide book on the Internet
- Number of members in EcoFellows Ltd.

Evaluating criteria	Target level to be achieved by the end of 2003
The nature school's utilisation rate	Utilisation rate at least 90 %.
Developing the environmental websites	An environmental guide book will be available on the Internet.

## 2. Securing natural diversity

Natural diversity will be preserved in Tampere. The implementation of this goal requires that in Tampere there will be a versatile network of green areas, a sufficient number of protected areas, and conservation programmes for threatened species. The plans for looking after and managing will be made for the green areas. In these plans the differing interests directed at the green areas will be discussed and negotiated.

This critical success factor is measured by following indicators:

- Proportion nature conservation area
- Amount of endangered species

Evaluating criteria	Target level to be achieved by the end of 2003
The number of the areas to be protected, the preservation of valuable areas and natural habitats	30 hectares of new nature conservation areas will be founded in Tampere.
An inter-connected and versatile network of green areas within the city	The updating of the green area study will be started. The green area programme will be in use in 2004.

## 3. Combating climate change

Along with ratifying the Kyoto Protocol, Finland has committed itself to decreasing greenhouse gases. Finland's goal is to reduce the emission level as a yearly average for years 2008 to 2012 to the level of the year of 1990. The protocol deals with six greenhouse gases: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFC), perfluorocarbons (PFC) and sulphur hexafluoride (SF<sub>6</sub>). The flexibility mechanisms included in the Kyoto Protocol will be partly and experimentally taken into use from the beginning of 21<sup>st</sup> century. Emissions trading will be started in 2008, but the emissions trading between businesses within the EU will already start in 2005. Emissions trading means that the emission producers can buy amounts of emissions or they can sell amounts of emissions to other emission producers. This way the emission level can be lowered there where the lowering is cheapest.

The climate change caused by the greenhouse effect is a global problem, and solutions have been sought by global co-operation and agreements. International agreements and national strategies set the framework for solving the problem, but it is only with concrete measures that we can affect the generation and reduction of greenhouse gases.

During the municipal environmental policy programme, the goal of decreasing greenhouse gases was not reached in Tampere. Now it is time for action, and this concerns both the municipal organisation and the residents. We can combat climate change with the following measures: responsible use of energy, an increase in the share of district heating, land use planning, and development of public transport and pedestrian and bicycle networks.

This critical success factor is measured by following indicators:

- Greenhouse gas emissions
- Modal split
- Share of district heating in the new housing construction

Evaluating criteria	Target level to be achieved by the end of 2003
Development of public transport and pedestrian and bicycle networks	The decision on rail traffic system will be made. The development plan for the pedestrian and bicycle networks in the city centre will be implemented.
Responsible use of energy	A new energy saving agreement with Ministry of Trade and Industry will be made and the city's own program for energy saving will be adjusted to correspond to the agreement. Training on energy saving and campaigns (an energy saving week, a car-free day, the world's environmental day) will be organised for personnel and Tampere residents. Information and campaigns for the local residents and businesses. The themes are environmental advantages provided by renewable energy sources and eco-electricity.
Greenhouse gas emissions	The use of renewable energy sources in energy production will grow.

#### 4. Noise control

Noise is a burden on the environment, but it is also a health hazard. The goal is to reduce all kinds of noise pollution, not just to pass below the guideline values.

In May 2002 the European Parliament approved a directive requiring the EU Member States to draw up national noise surveys and action plans in order to reduce noise. In addition, the directive prescribes uniform methods for noise level measuring, by means of which the data produced in different EU Member States could be compared.

The land use of the City of Tampere will be planned so that the national guidelines will not be exceeded in the new housing areas. In the old housing areas where there is noise pollution, the noise level will be reduced. Public transport as well as pedestrian and bicycle networks will be developed in order to decrease the noise level, which also contributes to reaching the other goals in the environmental strategy. The noise control programme will define the means of noise reduction in a greater detail. There will also be a mapping of the quiet areas in Tampere. The quiet areas will be preserved.

This critical success factor is measured by following indicator:

- Number of inhabitants living in areas exposed to noise (average noise level at 7 a.m. to 22 p.m. is more than 55 dB)

<b>Evaluating criteria</b>	<b>Target level to be achieved by the end of 2003</b>
The number of people and/or areas exposed to noise	The noise control study of the city's central areas will be completed.
Preservation of the quiet areas	The quiet areas will be mapped in connection with the road traffic noise study focusing on the city's central areas.

## **5. Decreasing the volume of waste**

The total volume of municipal waste has increased along with the growing number of waste producers and is about 450 kg per inhabitant per year.

The goal of preventing waste generation is challenging and requires a new way of thinking. In order to progress towards this goal attention must be paid, for example, to packaging and to the purchasing of services instead of products. The decrease in the volume of landfill waste will be advanced by making the separate collection of biowaste more effective, by developing recycling activities, renovating the treatment places for special waste, and by producing recycled fuel and using it as energy.

Waste management responsibilities belonging to the municipality, the service provider and the supervising authorities will be clarified.

This critical success factor is measured by following indicator:

- Amount of white paper in city purchasing

<b>Evaluating criteria</b>	<b>Target level to be achieved by the end of 2003</b>
Decreasing the volume of waste	The recycling operations will be developed. The renovation plan on recyclable waste collection points will be implemented. The treatment places for snow and soil dumps and for other special waste (sludge, construction waste) will be renovated. The municipal facilities and units will be prepared for the sorting of waste.

## **6. Reducing the burden on lakes and rivers, groundwater protection**

The Water services development plan is a document that will state the goals for water services in Tampere. The plan will consist of the areas in the city that will be included in the city water and sewage pipes system as well as the timetable for the expansion.

The work for decreasing the nutrient load on lakes and rivers will be continued. A study will be conducted in order to clarify the possible conservation needs of the ditches, brooks and springs located in the city's central area.

This critical success factor is measured by following indicator:

- Quality of water in Tampere lakes

Evaluating criteria	Target level to be achieved by the end of 2003
Water services development plan	The Water services development plan will be ready.
Reduction of the nutrient load on lakes and rivers	A study will be conducted in order to clarify the possible conservation needs of the ditches, brooks and springs located in the city's central area.

## 7. Promoting environmental health

A healthy environment is a prerequisite for Tampere residents' wellbeing. Environmental health will be promoted by improving the quality of both indoor and outdoor air and by ensuring that the municipality's own properties are healthy to stay in. Safe foods that are in accordance with rules and regulations are also a significant part of environmental health.

This critical success factor is measured by following indicator:

- Air quality index
- Healthy environment in day-care centres and preparation of measure programs

Evaluating criteria	Target level to be achieved by the end of 2003
Indoor air quality	The instructions for solving the problems relating to the indoor air in the City's properties will be completed. Measures will be taken in order to improve the indoor air at day-care centres and schools.
Food control	The regular food control will be directed according to risk evaluation. The categorisation to be used in risk evaluation will be completed.

## Perspective of knowhow and renewal

### 8. Personnel's and elected officials' environmental knowledge and actions

Everybody is able to reduce the environmental impact and the consumption of natural resources by his or her daily consumption habits and way of living. Furthermore, from the standpoint of sustainable development, it is important to carefully assess what effects one's consumption choices and course of action have on the environment.

There will be more and more opportunities for environmentally responsible consumption and action. The key factors in working for the environment are the awareness of the effects one's own activities have on the environment and of the opportunity to affect the state of the environment. The municipality's employees and elected officials can set a good example for the Tampere residents with their own

actions. The employees' and elected officials' knowledge of and ability to implement environmental issues will be measured by means of an environmental barometer. The employees of the City of Tampere will also be encouraged to travel to and from work on foot, by bicycle or by using public transport as far as it is possible. By establishing organic food groups, the municipal employees will be offered the opportunity to buy pure, locally produced food. This way local producers and businesses will be supported.

This critical success factor is measured by following indicator:

- Environmental questionnaire to city employees

<b>Evaluating criteria</b>	<b>Target level to be achieved by the end of 2003</b>
The level of knowhow in environmental issues and attitudes towards these issues	An environmental questionnaire will be directed at the municipal employees. Regarding travelling to and from work, walking and bicycle use well as public transport will be promoted. A training plan for courses in driving economically for personnel will be made.

## **9. Taking the environmental issues into account in decision-making**

As regards the implementation of sustainable development, it is important to take the environmental issues into account in decision-making. When the environmental issues are paid attention to in all municipal planning and decision-making, Tampere and those working for it can be steered so that the environmental impact can be minimised and the residents are ensured the healthy living environment that has been planned and built in a sustainable way.

The operations of the City of Tampere's management group will be developed so that the significance of the decisions to be made will be evaluated from the standpoint of sustainable development. Sustainable development programmes will be drawn up and implemented in the City of Tampere's departments and units. The environmental impact of major projects and plans will be studied and evaluated together with the inhabitants.

This critical success factor is measured by following indicators:

- Report on sustainable development in Tampere
- European Common Indicators on sustainable development

<b>Evaluating criteria</b>	<b>Target level to be achieved by the end of 2003</b>
The standpoint of sustainable development in decision-making	The criteria for sustainable development in decision-making will be made and taken into use.
Tampere residents' participation in sustainable development work	The residents' opportunities to participate in the municipality's sustainable development work will be increased.
Sustainable development at the municipal units	The units will realise their sustainable development programmes.

## Perspective of processes and structures

### 10. Environmental aspects in the purchases made by the municipality

By taking environmental issues into account in all its purchasing the City of Tampere can contribute to the prevention of waste generation and that of growing chemicalisation. When making purchases, the municipality will pay special attention to the product's long service life and low energy consumption.

Environmental labels are used to separate the products with a lower environmental load from the other products. The environmental labels supervised by the authorities are the Nordic Environmental Label, the EU's environmental label, the EU's energy label, and the organic product label.

In the summer of 2001 an environmental auditing project was organised for the transport and machinery contractors. During the project 136 contractors were audited. In the audits points were given to the contractors, and the best possible score was 80. The average score was 67.3 points. The auditing was based on co-operation and on choosing contractors for carrying out commissions. Apart from examining the environmental aspects in the contractors' operations, the purpose of the auditing was to inform the contractors of environmental issues. The auditing showed that the contractors used by the City of Tampere could pay more attention to environmental issues. Auditing will be implemented in other fields, too.

This critical success factor is measured by following indicator:

- Share of eco-labelled products in city store purchasing

Evaluating criteria	Target level to be achieved by the end of 2003
The environmental criteria for purchases	The environmental expertise of material centre will be strengthened. Share of eco-labelled products in city purchasing will be clarified.
Environmental audits	The environmental auditing of the businesses and organisations providing services to the municipality will be started.

### 11. Making environmental inventories and reports, environmental monitoring

Regular environmental inventorying is a central part of environmental protection; inventorying enables us to react to the changes in natural diversity and air quality, for example. The inventorying, reporting and monitoring will be made more systematic by using the opportunities provided by the geographic information system and by creating the municipality's own reporting system, where it would be easy to collect reports for different purposes.

By means of environmental indicators, the state of the environment will be monitored and the results will be compared with those of the other cities.

This critical success factor is measured by following indicators:

- Report on state of the environment in Tampere
- Report on sustainable development in Tampere
- European Common Indicators on sustainable development

<b>Evaluating criteria</b>	<b>Target level to be achieved by the end of 2003</b>
Environmental reporting system	Reports on sustainable development and state of the environment in Tampere will be made. The reporting system for energy consumption will be taken into use.
Developing the on-line monitoring of the state of the environment	The air quality index will be shown on the display located on the illuminated pole of the Näsinneula observation tower.

## Perspective of resources

### 12. Strengthening Tampere's environmental image

The environmental strategy's vision is to be at the cutting edge in environmental protection, and therefore the City of Tampere must set a good example for its residents and show that it has committed itself to improving the state of the environment with concrete actions and not just with words. Working together with local businesses and other stakeholders contributes to the strengthening of the municipality's environmental image, and so does global environmental work.

The City of Tampere has given orders about the management of public city areas in its construction orders. Based on these orders the Mayor nominated a city area group, which steers the projects related to the city area and gives statements about their suitability. The city area group has for example made quality orders for the city centre.

The environmental management committee appointed by the City Board will continue - in accordance with its assignment - to make initiatives to improve the city image and to make the atmosphere more pleasant. The environmental management committee will also organise campaigns and competitions. These campaigns and competitions will lower general costs, activate all inhabitants and make the different housing areas more familiar to the inhabitants of Tampere.

This critical success factor is measured by following indicator:

- Number of members in EcoFellows -organisation.

<b>Evaluating criteria</b>	<b>Target level to be achieved by the end of 2003</b>
Enhancing the partnership activities	At least 30 partners will join the EcoFellows -organisation.
Global environmental work	Participation in the operations of global environmental networks. Participation in the PRESUD project, where cities evaluate each other's sustainable development. Working together in environmental issues with our twin cities.

#### **4. IMPLEMENTATION AND MONITORING OF THE ENVIRONMENTAL STRATEGY**

The implementation of the balanced scorecard strategy requires close connections to financial and operational planning and to the different municipal sectors and sector-specific strategies. The sectors are responsible for realising the operating strategies.

The environmental strategy was approved by the City Board in September 2002. The target levels to be achieved by the end of 2003 are preliminary, and the final target levels will be approved in the budget. The implementation work will be reported to the City Board. The reporting will be co-ordinated by the Environmental Protection Department, and it will be carried out by using the scorecards complying with the Balanced Scorecard method. The reporting for the period of January-June will be conducted in August, the period of January-September in October, and the period of January-December in connection with the financial statements.

#### **APPENDIX 1: The Balanced Scorecard method**

The Balanced Scorecard is the framework for a strategy basis as well as for making, implementing and evaluating a strategy. The starting point for the Balanced Scorecard is the view according to which strategic management at public organisations means both envisioning the future and carrying out practical work for the future.

When making the balanced scorecard strategy, the strategy's connections to operational and economic planning as well as to the budget's annual goals are emphasised. This enables the implementation of the strategy. The strategy model also highlights the role of political decision-making - particularly the City Council's role - in the strategy process and as a maker of strategic choices.

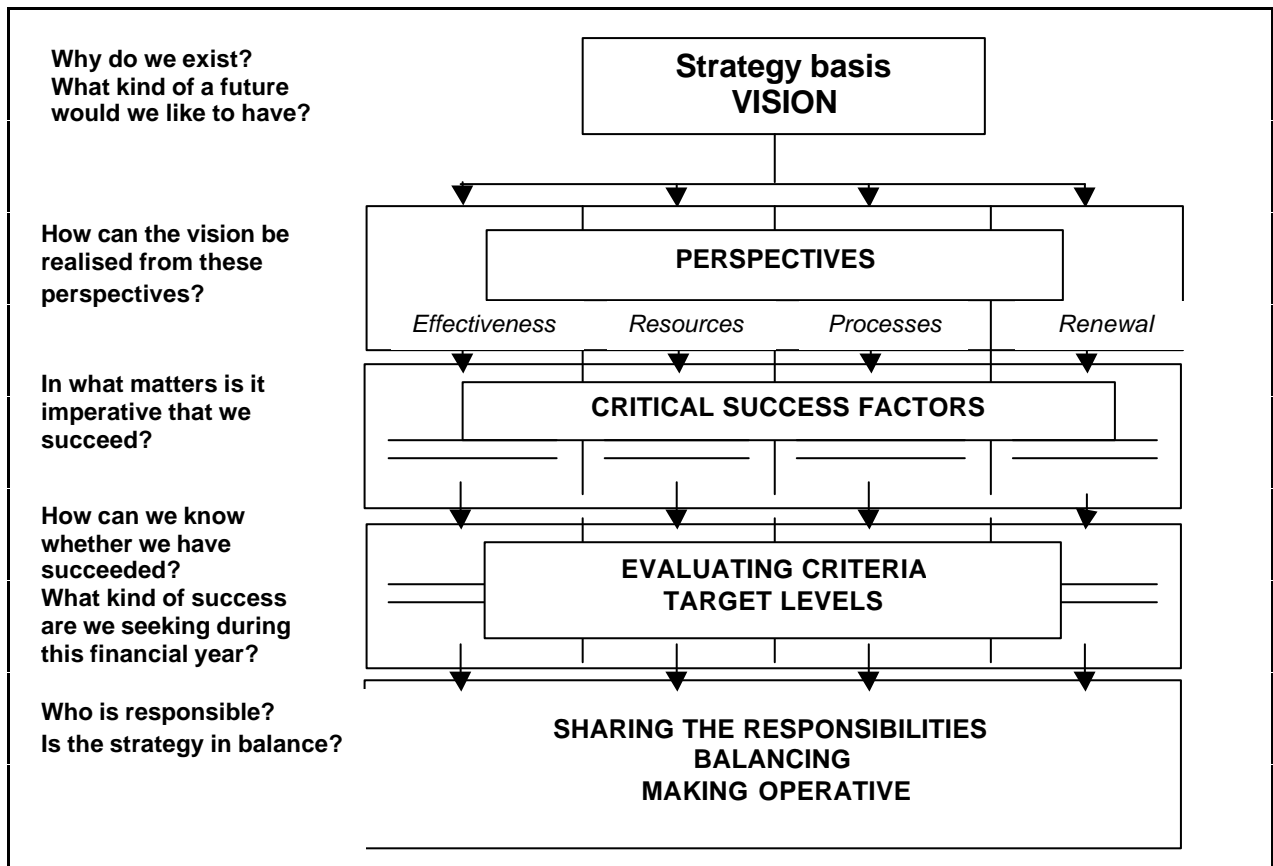
The Balanced Scorecard strategy process is started by defining the strategy basis and the vision. The strategy basis is the starting point and gives the strategy a direction.

The Balanced Scorecard strategy is built from the following perspectives:

- the perspectives of political decision-makers, citizens and customers (effectiveness)
- the perspectives of resource management (resources)
- the perspectives of the organisations' capacity and functionality (processes and structures)
- the perspectives of working communities and personnel (renewal and working capacity).

Each perspective is accompanied by critical success factors, which play a core role in the success of the strategy. Success is measured by the evaluating criteria for which the target levels are set annually.

## The Balanced Scorecard process



**Source:** Kaikem paree Tampere