

THE STATUS OF THE ENVIRONMENT IN

# PIEMONTE 2010

TRENDS, ACTIONS AND OUTCOMES TRIGGERED  
BY IMPLEMENTED ENVIRONMENTAL POLICIES



## **TABLE OF CONTENTS**

**NATURE AND BIODIVERSITY**

**CLIMATE CHANGE AND ENERGY**

**AIR**

**EMISSIONS**

**WATER**

**SOIL**

**WASTE**

**URBAN ENVIRONMENT**

Pictures on front cover and page 5: Antonello Provenzale

Picture on back cover: Dante Alpe

## THE STATUS OF THE ENVIRONMENT IN PIEMONTE 2010

“The underlying goal is to improve or reorganize the decision-making process, in order to fully integrate social, economical and environmental topics, and to ensure the broadest collective participation and involvement.” This is the strategic approach established by the final document of the Earth Summit organized by the UN in Rio de Janeiro in 1992, pointing out that ruling environmental issues represents one of the most difficult challenges we are facing today: the correlation between environmental policies and those concerning development sectors requires, in fact, the identification of accurate and specific strategies, actions and tools.

Knowledge is a fundamental tool, indispensable to pursue and promote sustainable development in our Region, because it allows to underline environmental issues and their trends over time; thus, it represents a key point of reference to implement effective environmental policies, to guide territorial and urban planning tools, in order to boost economic growth while respecting the environment at the same time.

Climate change, biodiversity conservation, soil consumption, air and water quality, waste are the most important and urgent problems we must tackle with intellectual rigour and integrity. Disseminating information on these issues is the first step towards the joint and aware commitment that we all must undertake to successfully combine development needs and the respect for the environment we live in.

Roberto Ravello  
Councillor responsible for the Environment, Water  
Resources, Mineral and Thermal Waters, Soil Defence,  
Mining Activity, Mountain Economy, and Civil Defence

# NATURE AND BIODIVERSITY

*"Even the smallest feline is a masterpiece."*

Leonardo Da Vinci

Biodiversity is nature in all its forms, it encompasses all living organisms: it helps us in many different ways that we take for granted. It provides us with food, medicines and clothes. Let's think for a moment of what nature does for us, free of charge! Insects pollinate flowers and crops, soil and tree roots purify water. Moulds and insects decompose our waste, while trees clean the air we pollute. It would cost us a fortune if we had to pay for all these services. On top of that, we have to add what money will never be able to buy and the techniques that man will never be able to recreate: the beauty of nature, the inspiration it provides...

But the loss of biodiversity is growing at an unprecedented pace.

What is **threatening** biodiversity?

- *Habitat* fragmentation and deterioration are ascribable to uncontrolled development of structures and infrastructures, to changed soil exploitation, to intensified farming exploitation and to natural disasters.
- Climate changes. The increased temperatures and the intensified extreme weather events take a toll on biodiversity: Several modifications have already been observed in animal species distribution, on migrations and on biological cycles, showing altered reproduction seasons.
- pollution and spreading of exotic species (not typical of a given area) potentially invasive.



## POLICIES DESIGNED TO PRESERVE BIODIVERSITY

International declarations are numerous (the International Convention on Biological Diversity – 1992, the Johannesburg Plan – 2002, the Syracuse Charter – 2009). In order to draw the attention of politics an international level, the year 2010 was declared the International Year of Biodiversity by the United Nations. Italy, like the other EU Countries, is working on a [National Strategy for Biodiversity](#), through which it aims at integrating the needs of biodiversity, with the development and implementation of national sectoral policies and by outlining the post-2010 vision to preserve biodiversity.

### THE SYRACUSE CHARTER

The World Leaders at the G8 (2009), with the Syracuse Charter adopted in an extended form (19 Countries), committed to strengthen actions aimed at reducing the loss of biodiversity and to outline a long-term strategy designed to preserve nature.

The key principles are as follows:

- biodiversity and ecosystem services are essential for life on Earth, for mankind welfare and for achieving all the Millennium Goals
- biodiversity and ecosystems have a big economic value and they can contribute considerably and substantially to the resolution of the current global financial and economic crisis
- it is urgent to identify a common pathway, leading to new goals after the year 2010.



## IN PIEMONTE

### GOALS

- Safeguard *habitats* and the most vulnerable forms of life (animals and plants)
- Strengthen compatibility between territorial development and biodiversity
- Reduce the impact of exotic species (not typical of our Region), which may invade biodiversity.

### ACTIONS

The Region attaches special importance to the creation and protection of the **System of protected regional areas** and of the **Natura 2000 network**, encompassing sites with high naturalistic and biodiversity value.

#### Surface of the protected territory in Piemonte

TYPE OF AREA	NO. OF SITES	HECTARES	% VS REGIONAL SURFACE
PROTECTED AREAS(*) - AAPP	69	218.171,98	8,59
SCI (SITES OF COMMUNITY IMPORTANCE)	123	279.055,91	10,99
SPA (SPECIAL PROTECTED AREAS)	51	307.775,90	12,12
RN2000 (NATURA 2000 NETWORK)	143	396.797,78	15,62
RN2000 + PROTECTED AREAS		472.823,10	18,62
SIR (REGIONAL RELEVANT SITES)	41	15.764,09	0,62
RN2000+AAPP+SIR		488.603,30	19,24

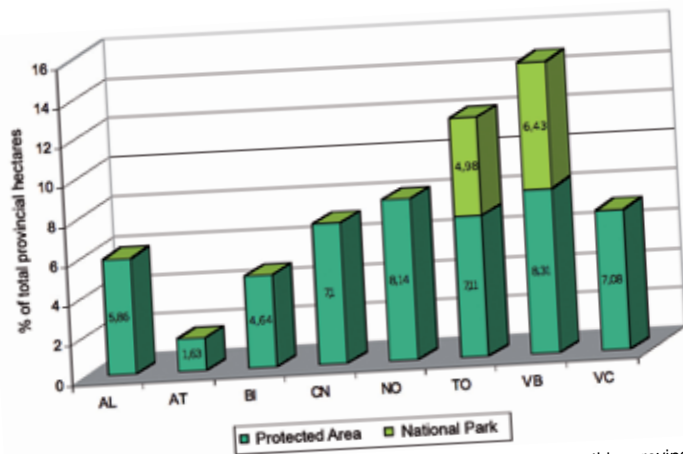
(\*) including 2 national areas (considering only the Piedmontese portion of the Gran Paradiso National Park) and considering the Po river area as one single entity



Map of protected areas in Piemonte and of the areas included within the Natura 2000 network

The Region acknowledges that most part of biodiversity extends beyond the borders of these site. A broader intervention on the environment is ensured by specific policies on **natural heritage conservation**, in addition to the integration of biodiversity-related topics in all the other regional sectoral policies (soil planning and exploitation, landscape protection, soil defence, farming, fishing, mountain economy, etc.).

Actions aimed at protecting endangered species, at protecting wet lands, at requalifying deteriorated areas, as well as the design and creation of the **Regional Environmental Network (Rete Ecologica regionale)** (which has Natura 2000 network sites as its main points of reference), represent concrete actions on which the Region has been focussing its attention and its resources for quite some time.



Percentage of protected soil by province

## USEFUL LINKS

- <http://gbo3.cbd.int/> (Future strategy of the Convention on Biological Diversity)
- <http://ec.europa.eu/environment/biodiversity/campaign/> (Information campaign of the European Union)
- [www.minambiente.it](http://www.minambiente.it) (National strategy on biodiversity)
- [www.regione.piemonte.it/sit/argomenti/parchi/index.htm](http://www.regione.piemonte.it/sit/argomenti/parchi/index.htm) (Protected Areas and the Natura 2000 network)
- [www.regione.piemonte.it/parchi/testounico.htm](http://www.regione.piemonte.it/parchi/testounico.htm) ("Single document on the protection of natural areas and biodiversity" – Regional Law 19/2009)
- [www.regione.piemonte.it/ambiente/tutela\\_amb/rec.htm](http://www.regione.piemonte.it/ambiente/tutela_amb/rec.htm) (Environmental reclamation projects)
- <http://rsaonline.arpa.piemonte.it/indicatori/natura>

# CLIMATE CHANGE AND ENERGY

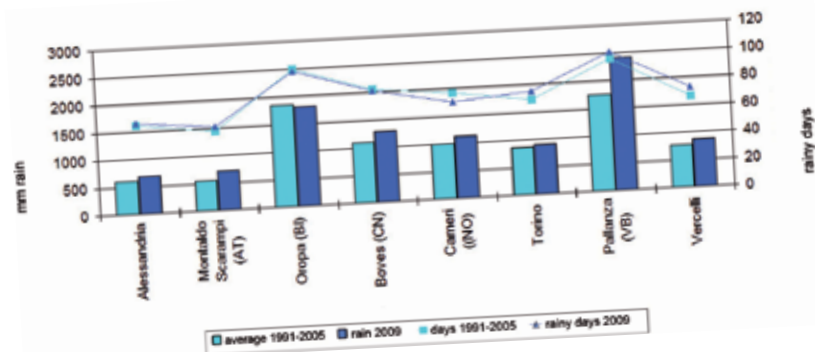
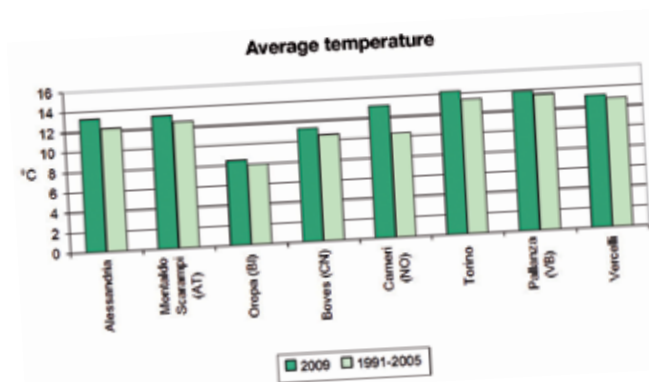
*"Today, the only fixed point is that everything moves"*

Michail Gorbaciov

## THE CLIMATE

Also during this past year, Piemonte data show a trend towards change in climate dynamics. Despite a particularly cold winter, the year 2009 recorded, in fact, temperatures that in average are higher than the standard ones of the last years. With respect to the average datum recorded in the period 1991-2005, an increase of 0.7 °C has been observed.

Overall, rainfalls exceeded the climatological average (+ 10%) and sometimes they were particularly intense and heavy. Also snowfalls in the winter season 2008-2009 have been heavier if compared to previous years.



Average yearly temperatures in 2009 compared to climatological averages (period 1991-2005). Recording stations, providing representative data for provincial capitals

Yearly rainfalls and number of days of rain in 2009 compared to the climatological averages in 1991-2005. Recording stations, providing representative data for provincial capitals

## GOALS TO BE ACHIEVED BY 2020

In order to effectively fight climate changes triggered by global warming, the European Union defined a set of strategic measures designed to reduce emissions into the atmosphere in the energy sector, the so-called "Climate and Energy Package". It contains the goals to be achieved by 2020:

- 20% reduction of greenhouse gases, with respect to the 1990 level
- 20% increase in the share of renewable sources in the total energy consumption
- 20% cut in energy consumption with respect to forecasts to 2020
- 10% of fuels used in transports should consist of bio-fuels.

## ACTIONS

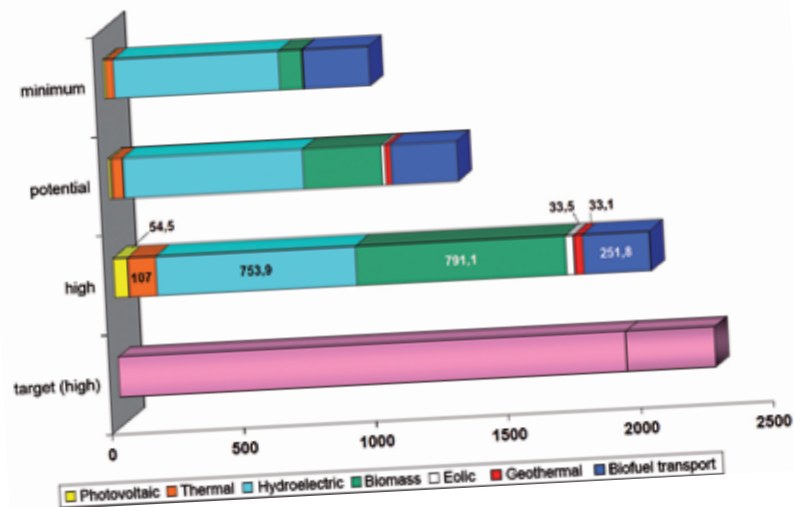
With the **Energy Planning Report** approved in September 2009, the Region, besides providing the current picture of the Piedmontese "energy situation", suggests possible action plans compatible with the goal of achieving Community objectives. Of course, the different scenarios are tied to very different choices that involve energy providers as well as consumers in their needs and habits.

In summary, these are the possible actions and solutions:

- energy resources diversification and increased use of renewable sources
- development of co-generation technologies and district heating
- management of energy demand by improving energy efficiency
- need to support the changeover of the thermoelectric power generation park.

Savings and "good practices" in the energy sector are actions that can be implemented by each one of us, in order to contribute actively to the implementation of the envisaged scenarios and to the achievement of the 2020 objectives.

Being aware that a successful experience is the best way to guarantee its replicability, the **collection of "Good practices in the energy sector"** has been organized, with the support in 2009 of regional tenders. This material is available to everybody in the Region's web site, and it can be used as useful reference material for those who wish to be involved and committed in the "Piedmontese energy challenge".



Scenarios of renewable sources growth

## USEFUL LINKS

- [www.regione.piemonte.it/energia](http://www.regione.piemonte.it/energia)
  - [www.regione.piemonte.it/energia/regione-piemonte-per.html](http://www.regione.piemonte.it/energia/regione-piemonte-per.html)
  - [www.regione.piemonte.it/ambiente/energia/relazione.htm](http://www.regione.piemonte.it/ambiente/energia/relazione.htm)
- (Energy Planning Report)
- [www.regione.piemonte.it/ambiente/buonepratiche/index.htm](http://www.regione.piemonte.it/ambiente/buonepratiche/index.htm)
  - <http://rsaonline.arpa.piemonte.it/indicatori/clima>
  - <http://rsaonline.arpa.piemonte.it/indicatori/energia>

# AIR

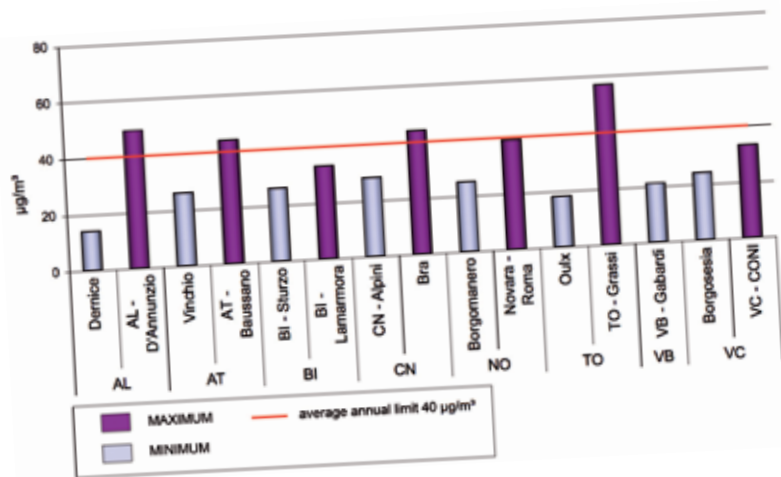
"Timeless corner, the earth and the sky (with wind bisecting line)..."

Federico Garcia Lorca

## CURRENT SITUATION AND FUTURE PROSPECTS

2009 data confirm the trend recorded over the last years:

- the situation is still **critical for nitrogen dioxide, ozone and PM<sub>10</sub> particulate matter**, even though concentration levels of the latter have slightly dropped, and despite the fact that it is little relevant for the purposes of achieving the goals established by the current law
- the situation is stable for carbon monoxide, sulphur dioxide, metals and benzene, whose concentration level stay below the limits established by current laws.



Minimum PM<sub>10</sub> and average yearly maximum value by province - year 2009  
Recording stations, providing representative data for provincial capitals

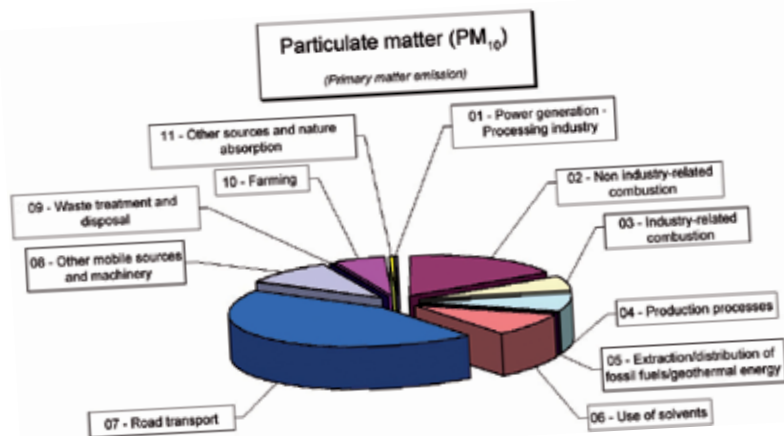
## FINE PARTICULATE MATTERS

- 😊 Fine particulate > 10 micron trapped in the upper airways
- 😞 10 > fine particulate > 5 micron reach the trachea and the bronchi
- 😞 fine particulate < 5 micron reach pulmonary alveoli

## GOALS AND ACTIONS

The issue of exceeding limit of  $PM_{10}$  does not only concern Piemonte but the entire Po valley, due to its high population density, production activities, vehicle traffic, consistent need for heating, but especially due to the orographic features and the weather/climatic conditions which prevent pollutant dispersion. Bearing this in mind, the Regions in the Po valley subscribed a long time ago [an agreement for the setting up of effective actions to reduce emissions into the atmosphere](#), agreed and coordinated on the entire area of the Po valley.

To accompany the process aimed at achieving and meeting Community limits, during the period 2009 - 2010 the Region set up financial measures dedicated to strategic actions at a regional level, such as the [improvement of suitable local public transport vehicles and corporate vehicles](#) of small enterprises, besides [encouraging the use of public transports](#), instead of private cars, for students and workers. In particular, in view of improving local public transport vehicles, particulate dumping systems are being installed on urban and suburban buses of all public transport companies operating in Piemonte.



data: IREA Piemonte of the year 2007

## USEFUL LINKS

[www.regione.piemonte.it/ambiente/aria/home.htm](http://www.regione.piemonte.it/ambiente/aria/home.htm)

(Information concerning norms, issues, goals and actions, knowledge status and planning tools concerning air, in general)

[www.sistemapiemonte.it/ambiente/srqa](http://www.sistemapiemonte.it/ambiente/srqa)

(Data on air quality and Regional Registry on Emissions into the Atmosphere - IREA)

<http://rsaonline.arpa.piemonte.it/indicatori/aria>

# EMISSIONS

*"We cannot solve the problems that we created by using the same thought that created them"*

Albert Einstein

Released from different sources, polluting emissions are assessed by using 2007 data reported in the Regional Registry on Emissions into the Atmosphere (IREA) compared to those of 2005.

## INDUSTRY

The distribution of industrial emissions, consisting of **primary particulate** ( $PM_{10}$ ) and of **nitrogen oxides** ( $NO_x$ ) is linked to the location on the territory of big production activities.

In Piemonte, nitrogen oxides are linked to the presence of cement factories and to oil, glass, brick processing plants, while primary particulate can be linked to the presence of industries devoted to the production and processing of polystyrene, as well as of paper, iron and steel.

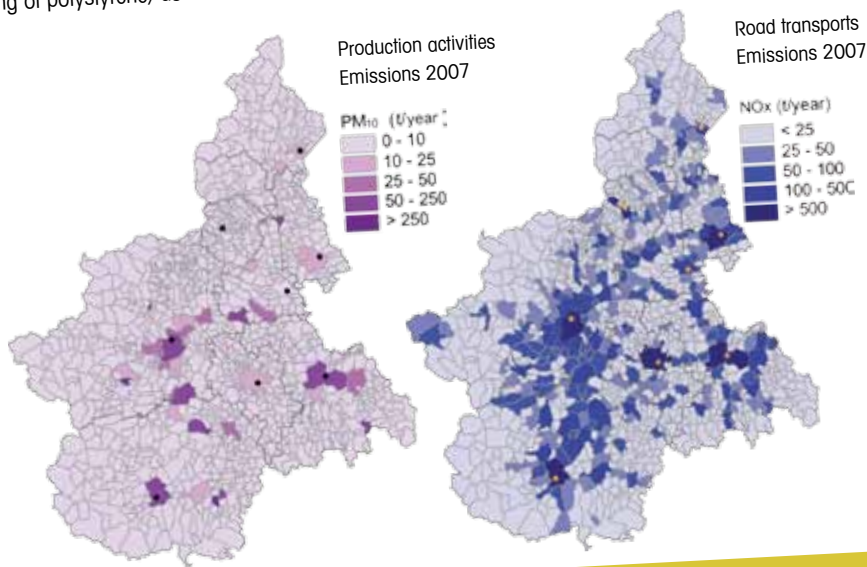
No relevant changes are detected in the distribution of nitrogen oxide industrial emissions.

The primary particulate recorded a significant drop in released amounts.

## ROAD TRANSPORTS

The distribution of nitrogen oxide ( $NO_x$ ) emissions released by traffic coincides with the **road network** (motorways, urban and extra-urban roads); in particular, at municipal level, the biggest share is played by **urban traffic**.

Primary particulate emissions ( $PM_{10}$ ) are concentrated in cities, because they are not only linked to vehicle emissions, but also to particulate resulting from brakes and tyre wear.

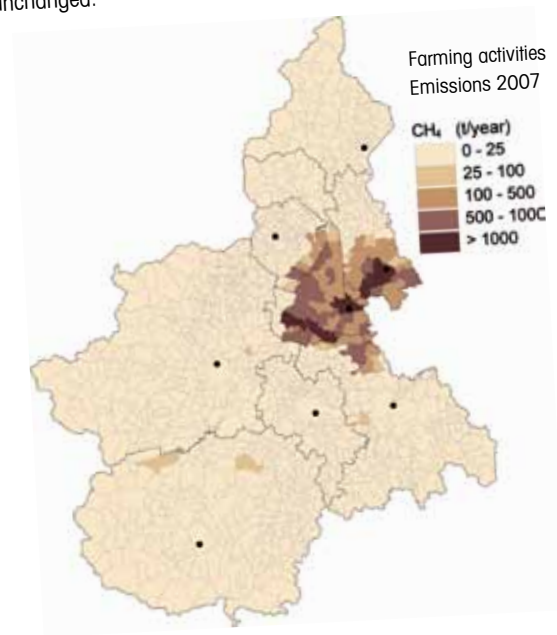


## FARMING

**Ammonia** ( $\text{NH}_3$ ) emissions by farming activities, linked to the use of fertilizers, are distributed in four areas within the Region: the first two are the lower portions of the provinces of Novara and Vercelli. The third one is in the province of Cuneo (extending in the Southern portion of the province of Torino) and the fourth one is in the province of Alessandria.

**Methane** ( $\text{CH}_4$ ) emissions, on the contrary, are concentrated in a single broad area near the provinces of Vercelli and Novara, because they are linked to rice cultivation.

From a regional distribution point of view, the overall picture on emissions is substantially unchanged.



## USEFUL LINKS

[www.sistemapiemonte.it/ambiente/srqa/](http://www.sistemapiemonte.it/ambiente/srqa/) (Data on air quality and Regional Registry on Emissions into the Atmosphere- IREA).

<http://rsaonline.arpa.piemonte.it/indicatori/aria>

# WATER

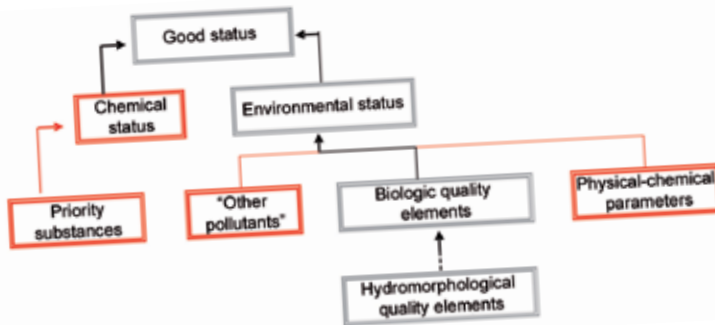
*"We appeal to the waters that border the Earth, from horizon to horizon, that flow in rivers and streams, that fall on gardens and fields and we ask them to teach us and show us the way."*

Chinook blessing

## THE QUALITY OF WATER IN PIEMONTE

Knowing the status of water quality, the primary element of all forms of life, is the first fundamental step to drive the choices and actions aimed at its protection.

Since 2009 a [new monitoring system](#) has been launched to assess the quality of waterways and lakes, according to the modalities envisaged by the water framework directive for Community action (2000/60/CE), making Piemonte compliant with European standards.



General scheme for the classification of water quality in waterways and lakes

## WATER TO BE USED FOR HUMAN CONSUMPTION

Also in 2009, the analysis carried out by Arpa, on over 20,000 water samples collected by Local Health Care Units in water distribution networks, confirmed the good quality of the water distributed to users, with high drinkability index. In particular, about 95% of samples proved to be compliant to legal limits.

## PIEMONTE INVOLVEMENT IN ACHIEVING THE GOALS SET FOR THE PO VALLEY

Piemonte catchment basin waters convey into the Po river, the main Italian river which runs along the entire Po valley and flows into the Adriatic sea. The quantity and quality of Piemonte waterways, besides being relevant for the region, contributes in achieving the goals established by the European Union, to be fulfilled by 2015, according to the methodologies and the timelines identified in the Management Plan of the Po District. Adopted in February 2010, the management plan marked one of the most important moments in the action of the Administrations in the Po valley for the protection and recovery of the quality of the "big river", and it has become a tool for programming and planning measures aimed at ensuring the correct use of waters and the recovery of the Po environmental quality, from its source to its delta.



## USEFUL LINKS

- [www.regione.piemonte.it/acqua/index.htm](http://www.regione.piemonte.it/acqua/index.htm) (Goals, actions, status of knowledge, Water Resources Information System, planning tools and legislation)
- [www.regione.piemonte.it/acqua/tutela.htm](http://www.regione.piemonte.it/acqua/tutela.htm) (Water Protection Plan)
- <http://gis.csi.it/acqua> (Quality and quantity status of surface and underground waters in Piemonte)
- [www.regione.piemonte.it/acqua/siirupar.htm](http://www.regione.piemonte.it/acqua/siirupar.htm) (Integrated Water Service)
- [www.regione.piemonte.it/bdgiur/layout/home.htm](http://www.regione.piemonte.it/bdgiur/layout/home.htm) (Water Regulations Database)
- <http://rsaonline.arpa.piemonte.it/indicatori/acqua>

# SOIL

*"There is not bigger pain than losing the homeland"*

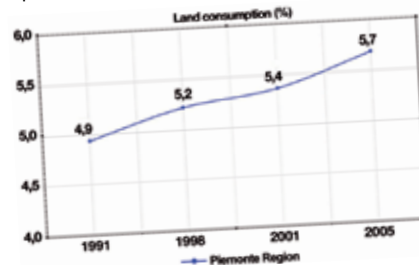
Euripide

Soil is an indispensable **non-renewable resource**, at the basis of numerous natural processes, and which allows the performance of many human activities.

## SOIL CONSUMPTION

This is a process that alters the nature of a territory, changing the natural landscape by introducing artificial elements, and impermeabilization is the last stage.

In Piemonte, soil consumption underlines a worrying trend, notably the **increased impermeabilized surfaces** affecting wide portions of soil with high farming productivity. The chart shows the percentage of regional soil consumed between 1991 and 2005.

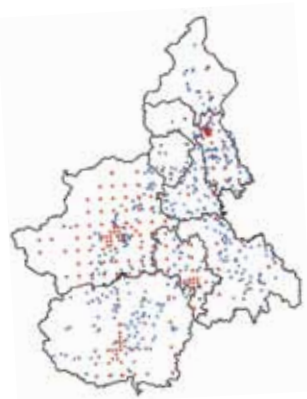


## SOIL CONTAMINATION

In Piemonte, soil values established for metals point out the presence of chromium and nickel of lithologic nature, or the presence of copper and lead of anthropic origin. The values of organic contaminants (IPA, PCB and dioxins) are almost always well below the limits established by law, even though they increase in the proximity of big urban areas.

Soil monitoring network - Arpa Piemonte

- Systematic network
- Representative sites



**In the city of Torino, the impermeabilized surface achieves 55% of the municipality surface with an increase of 17 hectares per year.**

## GOALS

Piemonte is aligned with the “Soil Thematic Strategy” of the European Commission which suggests possible measures to protect this resource, to protect its fundamental environmental, economic, social and cultural functions.

## POLICIES AND ACTIONS

The attention directed towards a reduction and a better qualitative exploitation of the soil is reflected in two main recently adopted tools of land management, the **Regional Territorial Plan (PTR)** and the **Regional Landscape Plan (PPR)**. Among the main strategies of intervention we identify:

- discourage new building construction, while encouraging requalification of urban areas and existing settlements
- define soil consumption maximum thresholds by category of municipalities
- protect best farming areas.

Soil protection does not end with such interventions, but it is involved in many regional policies which benefit from specific actions and funds. An example of this are recovery, mitigation and land compensation projects, polluted sites reclamation plans, recovery actions supported through the **PSR 2007/2013**.



## USEFUL LINKS

- [www.regione.piemonte.it/sit](http://www.regione.piemonte.it/sit) (PTR and PPR consultation)
- [www.regione.piemonte.it/ambiente](http://www.regione.piemonte.it/ambiente) (Land reclamations, environmental recoveries, pollution protection)
- [www.regione.piemonte.it/sit/argomenti/difesa-suolo](http://www.regione.piemonte.it/sit/argomenti/difesa-suolo) (Soil defence)
- <http://rsaonline.arpa.piemonte.it/indicatori/suolo>
- [http://rsaonline.arpa.piemonte.it/indicatori/siti\\_contaminati](http://rsaonline.arpa.piemonte.it/indicatori/siti_contaminati)

# WASTE

*"Nothing is created, nothing is destroyed, everything is transformed"*

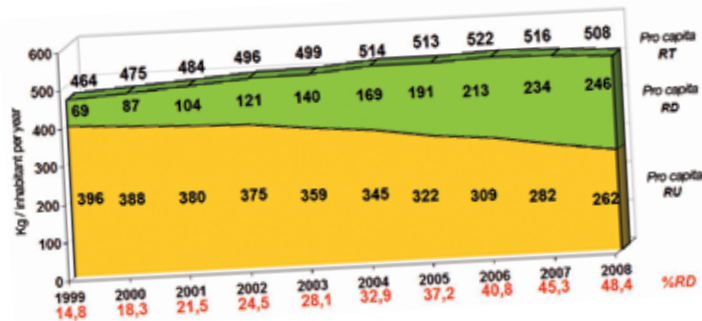
Antoine Lavoisier

In 2008 almost 2.3 million tons of urban waste was produced, over one million ton of which has been collected by separate collection and sent to reuse, recycling and recovery. By comparing 2008 data with the previous year, the overall production slightly dropped; disposed waste dropped by about 81,000 tons and accounted for about 1,162,000 tons, separate collection, about 1,090,000 tons, increased slightly above 61,000 tons.

In terms of *pro capita* amounts, it shows that:

- 😊 the production of total urban waste (RT) has slightly decreased (-1.6%) - about 508 kg/year
- 😊 the amount of separately collected waste (RD) has increased (+5.2%) - about 246 kg/inhabitant\*year
- 😊 the amount of waste sent to disposal (RU) has decreased (-7.2%) - 262 kg/inhabitant\*year

The same trend partly reoccurred also in 2009, with an increase of RD (estimated value about 50-51%), a substantial stability of produced waste (a minimum increase was detected) and an on-going reduction of waste sent to disposal sites.

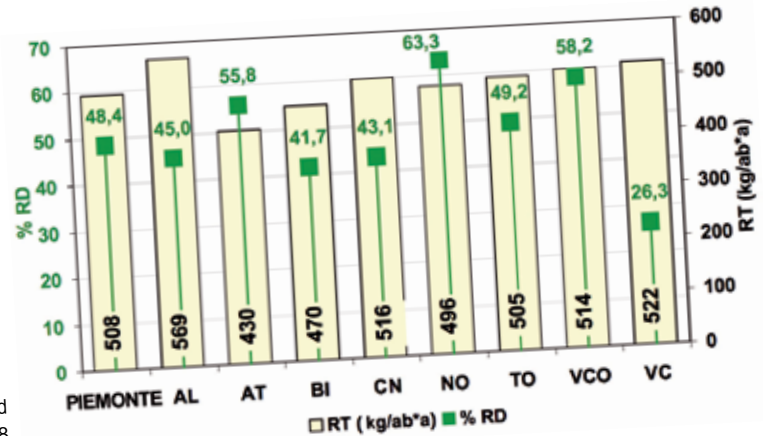
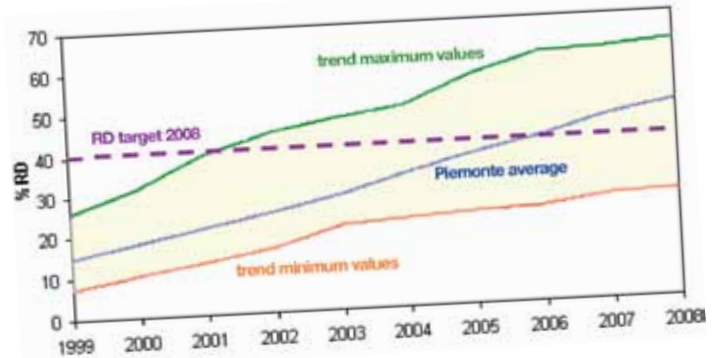


😊 2009 estimate  
% RD = 50-51

Pro capita production of urban waste (Total waste = RU + RD) in the years 1999-2008

## SEPARATE WASTE COLLECTION

The national goal of 40% has been exceeded (to be achieved by 31st December 2007); the average percentage of separate waste collection is set at 48.4%. In terms of percentage of separate collection achieved, data analysis confirms major differences, as already pointed out in the past, with regard to the achievement of the national goal of 40%.



Pro capita waste production percentage and RD percentage in Piedmontese provinces - year 2008

## WASTE TYPES

In urban waste management, a major role is played by knowing the type of waste we are dealing with, in the Piedmontese area, so reference was made to a database containing about 250 analysis.

The **main portion**, in the total urban waste (RT=RD+RU), consists of **bio-waste** (consisting of organic waste and tree-cutting waste) with 30.2%, followed by paper with 28.8%; much lower percentages concern plastics (13.8%) and glass (9.6%).

## GOALS AND ACTIONS

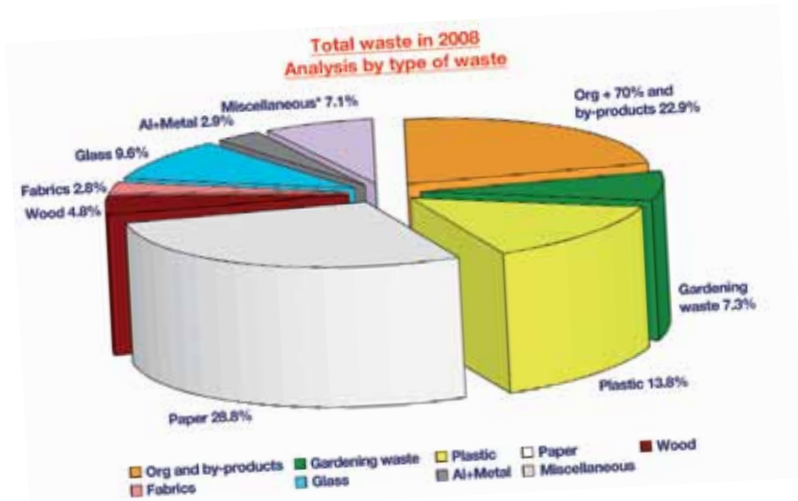
In compliance with the recent Community law (directive 2008/98/CE), goals and actions must be planned according to priorities:

1°. **reduction of waste production**. It is necessary to implement actions aimed at "avoid waste production" such as, for example, reducing the use of packaging, extending products' life cycle, marketing and consuming products without packaging, discouraging the use of throwaway products, reducing the production of biodegradable waste

2°. **promotion of recycled products and their components**. Actions should focus on encouraging forms of exchange, marketing or free transfer of goods and their components so that they can be reused for the same purposes they were originally designed for

3°. **materials recovery**. Actions to be undertaken are aimed at intercepting some types of waste in order to manage, among other things, a level of recycling that is compatible with Community instructions. This will be possible through services reorganization, aimed at encouraging household waste collection models

4°. **energy recovery from waste**. Actions will then be aimed at identifying the best technologies available, in order to transform waste into energy sources.



## WASTE COLLECTION MODALITIES

- **Road side collection:** separated urban waste is placed by citizens in bins located in public areas.
- **Household collection:** some waste is collected directly at the citizens' homes in specific bins.

Home-by-home collection, according to bins, can be internal or external. External household collection, currently being implemented in certain areas where it is difficult to place other types of bins, waste collection takes place in buried bins. This system includes several buried waste bins, in which certain types of waste are disposed; each bin can be fitted with identification or disposed waste weighting systems.

## CITIZENS' BEHAVIOURS

In view of the entry into force of the prohibition to hand out throwaway plastic bags, initially envisaged on the 1st of January 2010 and then postponed by the law to the 1st of January 2011, it is necessary to encourage citizens/consumers to give up the use of throwaway plastic bags and use a multi-usage bag when shopping.

Besides handing out reusable bags, in the first phase, it will be necessary to somehow reward consumers for the inconvenience of having to carry their own bags from home. In collaboration with supermarket chains, it has been proposed to create dedicated initiatives aimed at encouraging clients to change their purchasing habits and reward them when adopting a virtuous behaviour and refusing the throwaway plastic bags and using their own bag brought from home. The initiative named "No excuse, reuse your plastic bag!" has already been launched in over 300 shops of the Conad, Coop, Crai and Il gigante chains.



## USEFUL LINKS

- <http://extranet.regione.piemonte.it/ambiente/rifiuti/> (Information concerning the production and management of waste, regional actions, Waste Information System and the specific legislation of the waste sector), in particular <http://extranet.regione.piemonte.it/ambiente/rifiuti/urbani.htm> (Data on urban waste concerning 2008 and relevant indicators)
- [http://extranet.regione.piemonte.it/ambiente/rifiuti/prog\\_recupero.htm](http://extranet.regione.piemonte.it/ambiente/rifiuti/prog_recupero.htm) (Information on the Recovery project)
- [http://extranet.regione.piemonte.it/ambiente/rifiuti/riduzione\\_urb.htm](http://extranet.regione.piemonte.it/ambiente/rifiuti/riduzione_urb.htm) ("Self service detergents" and "As in the cellar" ("Come in cantina") projects)
- <http://extranet.regione.piemonte.it/ambiente/rifiuti/organici.htm> (Data on organic waste separate collection and their treatment)
- [http://extranet.regione.piemonte.it/ambiente/rifiuti/piano\\_rifiuti.htm](http://extranet.regione.piemonte.it/ambiente/rifiuti/piano_rifiuti.htm) (Updating of the Regional Plan on Urban Waste and Sludge Management)
- [www.regione.piemonte.it/parchi/testounico.htm](http://www.regione.piemonte.it/parchi/testounico.htm)
- <http://rsaonline.arpa.piemonte.it/indicatori/rifiuti>

# URBAN ENVIRONMENT

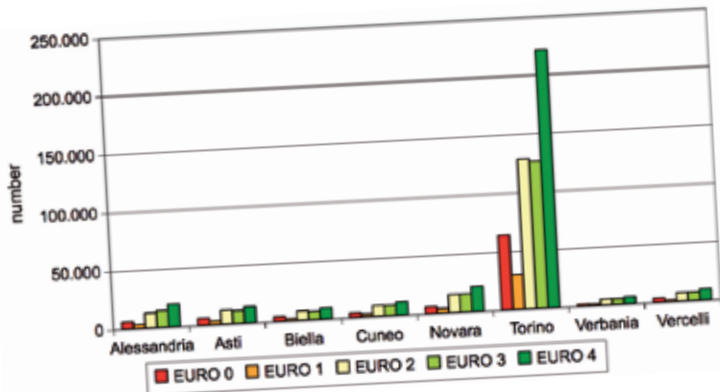
"Better City, Better Life"  
Expo 2010 Shanghai

In 1800 only 2% of the world population lived in cities, in 2000, almost half of the world population moved to urban areas and, by 2010, according to the estimates of the United Nations, urban population will represent 55% of the total human population. The quality of urban environment has thus become one of the main concerns of local policies, with a twofold goal: **improve citizens' life and reduce the impacts of urban development on the environment** (air and water quality, noise, soil consumption, loss of biodiversity, etc).

## ACTIONS

### Vehicle fleet

With respect to air pollution and emission reduction, major commitment has been devoted to the improvement of the fleet of vehicles used for **Local Public Transport** with the goal of eliminating by 2011 all EURO 0 and EURO 1 vehicles, to increase the use of low environmental impact vehicles (methane, lpg, electric) and to fit current vehicles with particulate containment systems.



Environmental quality of circulating vehicles - year 2008

## Density of pedestrian areas and cycling tracks

The current urban context suffers from a rebalancing problem between the space dedicated to vehicle traffic and the space dedicated to pedestrian and bicycle mobility.

- Since 1990 the Region annually provides Local Authorities with funds for the design and construction of **cycling tracks**.
- the **bike sharing project**, provides the possibility of supplying citizens with public bicycles.
- The strategy of **zones 30** proved to be an efficient action to ensure safety in residential areas. So far, 23 initiatives have been implemented with the support of the Region in the main Municipalities of Piemonte.

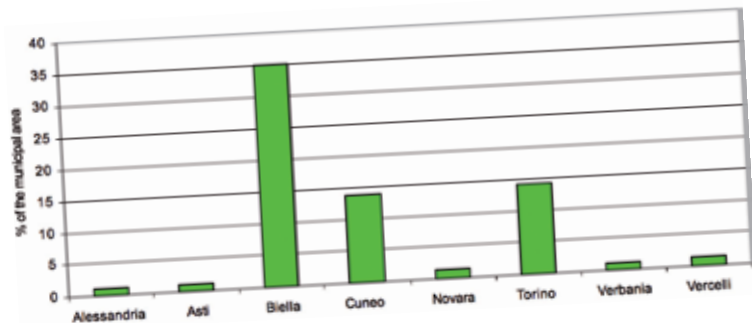
## Public green

In Piemonte, almost all provincial capitals have already carried out a survey on urban green and 2 of them have already adopted a sectoral Plan. The activity of the regional strategic project started in 2009 with the goal of creating a **Green Crown** for the metropolitan area of Torino, linking the elements of value in the territory (protected areas, waterways, farming areas and sites with historic and cultural value) in a system which also acquires the value of the environmental network. Recovering the balance in the relationship between city and nature, the city and open spaces, represents an undisputed element of value for the improvement of the overall quality of life of the entire metropolitan area.



## Density of pedestrian areas and cycling tracks - year 2000, 2008

MUNICIPALITIES	PEDESTRIAN AREAS		CYCLING TRACKS	
	m <sup>2</sup> for 100 inhabitants		km for km <sup>2</sup> of municipal surface	
	2000	2008	2000	2008
Alessandria	3,5	3,4	5,4	7,4
Asti	-	7,6	1,3	3,2
Biella	2,1	2,8	-	11,8
Cuneo	18,6	22,6	23,4	30,9
Novara	-	2,3	11,6	19,4
Torino	31,3	80,3	49,9	91,8
Verbania	112,4	206,1	27,9	59,0
Vercelli	8,1	21,1	1,9	44,1



Density of urban green - year 2008

## USEFUL LINKS

<http://en.expo2010.cn/> (Expo 2010 Shanghai)  
[www.regione.piemonte.it/trasporti.htm](http://www.regione.piemonte.it/trasporti.htm)  
[www.regione.piemonte.it/trasporti/prss/lineguida/lg30.htm](http://www.regione.piemonte.it/trasporti/prss/lineguida/lg30.htm)  
[www.regione.piemonte.it/ambiente/coronaverde/index.htm](http://www.regione.piemonte.it/ambiente/coronaverde/index.htm)  
[http://rsaonline.arpa.piemonte.it/indicatori/ambiente\\_urbano](http://rsaonline.arpa.piemonte.it/indicatori/ambiente_urbano)



[www.regione.piemonte.it](http://www.regione.piemonte.it) - [www.arpa.piemonte.it](http://www.arpa.piemonte.it)

"Not deviating from nature, learning its laws  
and its examples is wisdom"

**SENECA**