



# Barcelona Works towards Sustainability



Barcelona  
pel Medi  
Ambient



Edition:

Barcelona City Council Environment Area

Photographs:

Parc dels Escullis: Litoral Consult

School Agenda 21: Escola Nostra Senyora de Lourdes

DL:

Printed on recycled paper

Barcelona 2009

## **“The sustainable Barcelona of the 21st century has to be a place where solutions are found.**

These socio-economic, environmental and urban planning-based solutions will preserve and improve the quality and quantity of recreational spaces for the community, “people spaces” - streets and squares, parks and gardens and with plenty of green spaces and people-friendly architecture. Solutions so that the mixed, compact city that we so desire does not become overcrowded and suffocating. Ways of recovering and re-shaping the urban fabric, emphasising creative rehabilitation and always looking towards the future. Solutions that provide new mobility based on public transport that is equally accessible for all, regardless of destination, with moderate environmental costs. Solutions that will result in healthier people and a healthier environment, free of waste, with less noise, with breathable air and that is decent for other living beings that share the same space with us. Solutions, therefore, that integrate selective collection practices and waste recovery and recycling; that put a premium on fresh and healthy food; that save water, energy and resources; that minimise the city's negative impact on the planet and the atmosphere. Solutions, finally and above all, that foster positive social integration and the social well being of people, wherever they may come from”.

(From the People's Commitment towards Sustainability)

# Barcelona's Commitment towards Sustainability

In 1995, the city of Barcelona signed the Aalborg Charter, and like thousands of towns and cities around the world, it decided to embrace the principals and values of sustainable development as a part of its governmental strategy. The Aalborg Charter and other international agreements signed by the Barcelona City Council, have spurred the city on to promote the development of its local Agenda 21 programme whilst simultaneously implementing sustainability criteria in municipal services and activities.

In developing the Local Agenda 21 programme (1998-2002), all the city's organisations and groups were encouraged to get involved in the process, due to the belief that a more sustainable city can only be created if everyone takes part and works together. As a result, the People's Commitment towards Sustainability was adopted - a document of principals and goals that are shared by all of the city organisations, which have voluntarily signed up to it. To date, some 640 city organisations have signed this Commitment.

## From Agenda to Action

In the Action 21 phase (2002-2012), each signatory has to identify a Plan of Action that describes the measures they propose to undertake in their contribution to reach the collective goals. The Barcelona City Council has implemented a support plan to promote the Action Plans and the implementation of good practices. The support plan includes the distribution of a methodological guide, an advisory service and specific training sessions, Action 21 Awards and a website to reinforce networking.

Barcelona's progress towards sustainability will depend on the actions that its inhabitants and organisations manage to implement, regardless of how simple and modest these activities may be.

All of these actions are encompassed within a framework of ten lines of work.

1.

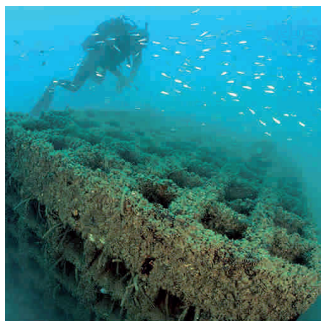
# green spaces and biodiversity

## To protect natural spaces and biodiversity and expand urban green areas.

Protecting and fostering biodiversity in the city and expanding green areas are among the Agenda 21 objectives. Fulfilling these commitments will help to protect the Earth's biodiversity and improve quality of life for citizens.

Barcelona is working to reinforce public awareness of the city's natural

heritage, to better manage the species and their habitats, to provide education on the values of biodiversity and to expand urban green areas through the application of sustainability criteria. In preparation for the future, Barcelona City Council is drawing up its Biodiversity Plan and the Strategic Green Plan.



➔ *From 1979 to 2008, Barcelona's urban green areas rose from 458 to 1,076 ha and the number of trees along its streets increased from 71,282 to 154,103<sup>1)</sup>.*

➔ *Built in 2003, the Parc dels Esculls, located between Mar Bella beach and the new entrance to the port, covers an*

*area of 18,363 ha and attracts and provides refuge for a range of species. Ten months after being installed, it had been 100% colonised by benthic organisms either covering the rocks or in movement like painted combers, Mediterranean rainbow wrasse, large-scaled scorpion fish, European sea bass, etc.*

<sup>1)</sup> Green Spaces Database, Barcelona City Council Environment Area

## 2. public space

### To protect the compact and diverse city with high quality public space.

The most sustainable model is the Mediterranean city, where a myriad of different activities and land uses come together.

Our aim is for Barcelona to be a compact city whilst also being an appealing place to live and work, thus guaranteeing the quality of life of its citizens. The 22@ Barcelona Project was developed with this exact purpose.



It constitutes the most important project undertaken in recent years to transform the city and has the furthest reaching scope in Europe.

The 22@ district already has 1,441 companies and in the future, they will coexist with universities, research, training and technology centres, state-subsidised housing, facilities and green spaces.

➔ *The urban renovation of the Forum Zone entailed converting an industrial and peripheral space into an important leisure and services area, which also houses different environmental infrastructures: the incinerator became a new combined cycle power plant that supplies energy to the buildings in the area, the*

*wastewater treatment plant was modernised and adapted to the surroundings, and the photovoltaic solar plant casts a huge shadow over the Forum's square and supplies a thousand homes with electricity whilst significantly reducing CO<sub>2</sub> emissions (440 tonnes per year approximately).*

### 3. mobility

## To improve mobility and make the streets a welcoming place.

The accessibility and balance of the urban space ensure sustainable mobility and a pleasant environment to live in.

Work is being carried out throughout the entire metropolitan area of Barcelona to improve and promote public transport, to foster clean, non-polluting means of transport, to create areas that are safe for pedestrians and reduce the environmental impact caused by traffic.



#### → BICING

*From March 2007, the city of Barcelona has enjoyed an innovative, efficient and ecological means of public transport: Bicing. It is a new, practical and sustainable public service that aims to cover short routes within the city using rented bicycles. The stations are situated in easy access areas, near train and subway*

*stations and public car parks. They are all equipped with bicycles that can be taken and then returned to the free spaces.*

*At present, the service already has more than 190,000 registered users, 418 active stations and around 6,000 available bicycles<sup>2)</sup>.*

<sup>2)</sup> [www.bicing.com](http://www.bicing.com)



## 4. environmental quality

### To reach optimal environmental quality levels and become a healthy city.

The health of a city's environment, the quality of its food, its cleanliness and its acoustic comfort all have a direct influence on the health of people who live there.



Barcelona is taking measures to control and improve the air, water and food quality and acoustic comfort, whilst encouraging and promoting healthy lifestyles.

➔ *With about 8,500,000 users per year<sup>3)</sup>, Barcelona's beaches have become one of the city's main public areas, mainly thanks to the high levels of hygiene and security. There are over 4 km of beaches that are fully equipped and adapted to the city, offering a wide range of services and activities throughout the year (sport, education, culture and leisure). The city of Barcelona has seven beaches, all officially recognised with several*

*certifications such as the ISO 14001:1996 environmental management standard.*

➔ *Within the framework of Barcelona's Noise Pollution Reduction Programme, the main roads and streets of the city have been covered with noise-reduction road surfaces. Nowadays, more than 2,000,000 m<sup>2</sup> of Barcelona's public roads<sup>4)</sup> are covered with this kind of road surface.*

<sup>3)</sup> [www.bcn.cat/platges](http://www.bcn.cat/platges)

<sup>4)</sup> [www.bcn.cat/estadistica](http://www.bcn.cat/estadistica)

## 5. natural resources

### To preserve natural resources and promote the use of renewable energies.

The water and energy sources on which the city relies are limited natural resources.

Barcelona is committed to creating a new water culture, guaranteeing the efficient use of energy and promoting the use of renewable energies.



*Photovoltaic solar panels of the City Hall*

➔ *Since August 2000, the Solar Bylaw has been applicable in the city of Barcelona, making the installation of solar heating panels compulsory in new and renovated buildings. Since the introduction of the bylaw, the surface area of the city's solar heating installations increased from 5,000 m<sup>2</sup> in 2000 to 62,819 m<sup>2</sup> in 2008<sup>5)</sup>.*

➔ *Since the approval of the Commitment in 2002, domestic water consumption has dropped by more than 15 litres per person and day. Consumption has therefore been reduced from 128.20 litres per person per day in 2002, to 112.90 litres per person per day in 2008<sup>6)</sup>.*

<sup>5)</sup> [www.barcelonaenergja.cat](http://www.barcelonaenergja.cat)

<sup>6)</sup> Agenda 21 indicators 2008

## 6. urban waste

### To reduce waste production and promote a recycling and reuse culture.

Every resident in Barcelona produces 1.5 kg of waste per day<sup>7)</sup>. This amount increases each year, as it does in most cities, and is thus becoming one of the city's greatest challenges.

The waste collection and cleaning management model is committed to rendering selective waste collection as easy as possible for its



residents and businesses. As a result of this policy, the Civic Agreement for a Clean and Sustainable City was created. The programme includes over 300 urban, cultural and research organisations, companies and trade and neighbour associations

that actively work together to improve the city's cleaning and collection services.

➔ ***Between 2002 and 2008, the percentage of selectively-collected waste doubled, rising from 16.1% to 33.6%<sup>8)</sup>. This rise shows the increasing effort made by citizens, organisations and administration in terms of waste management. Selective waste collection has been enhanced by increasing the number of***

***recycling bins, and organic waste collection has been rolled out across the whole of Barcelona. In addition, the design of recycling bins has been improved to make them more accessible. They incorporate ergonomic features like height limitations, pedals and signage for sight-impaired users.***

<sup>7)</sup> Agenda 21 indicators 2008

<sup>8)</sup> Agenda 21 indicators 2008

## 7. social cohesion

### To increase social cohesion, strengthening the mechanisms for fairness and participation.

A sustainable society needs to be a united community, in which everyone can benefit from the same opportunities in order to take part in economic development and social progress.

Barcelona is working in different social areas to guarantee the well-being of residents: education and access to new and information technologies, employment and housing, public health, jobs for the physically disabled, immigration and multiculturalism.



*Delivering at the Municipal Advisory Council for Sustainability*

➔ *Different non-profit organisations have signed up to the People's Commitments towards Sustainability. One of these organisations is AIREs, a network of job-placement and social integration agencies that promote innovative projects related*

*to social and environmental quality. AIREs has converted urban waste collection and recycling into an opportunity to provide work and training for people with social-integration and job-placement difficulties.*

## 8. sustainable economy

### To promote sustainable-development-oriented economic activity.

The development of consumption-based societies is unsustainable. To guarantee our future, it is essential to redefine an economic growth model that guarantees our well-being without harming the environment, while being more supportive of other cultures, cities and regions that we share this planet with.



The public authorities are the first that have to adopt the city's sustainability policies, since it is estimated that the procurement power of the European public sector accounts for 16% of GDP. On this premise, the Barcelona City Council is developing different internal campaigns designed to reduce the impact on the environment.

➔ ***The Green Procurement Programme<sup>9)</sup> has been created to foster environmental awareness of municipal services and to build environmental, social and ethical criteria into the decision-making process when purchasing and contracting products and services. Nowadays some 37% of***

***the technical and administrative conditions include at least one optional environmental criterion. Some examples are the purchase of work uniforms or the acquisition of certified wood (mostly FSC).***

<sup>9)</sup> [www.bcn.cat/agenda21/ajuntamentsostenible](http://www.bcn.cat/agenda21/ajuntamentsostenible)

## 9. environmental education and communication

To increase public awareness of sustainability through environmental education and communication.

Moving towards sustainability requires new, individual and collective ways of thinking and acting, which in turn involves education and the active involvement of citizens.



Barcelona believes environmental education and communication to be a global strategy, focused on schools and citizens of all ages and in all situations.



[ AGENDA 21 BCN ]

escoles+sostenibles

### → SCHOOL AGENDA 21

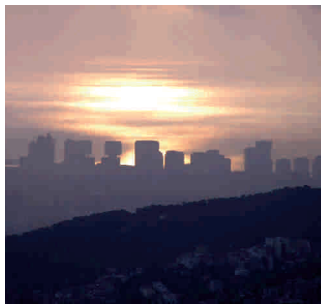
*This is a school scheme that was created with the aim of enabling educational centres to get involved in the ambitious global project of imagining and building a better and more sustainable world, starting with the most immediate, local level: at home.*

*During the current 2009-2010 school year, 326 centres have joined the Agenda 21 scheme and are taking part in numerous initiatives and activities geared towards environmental improvement.*

## 10. the city's impact

### To reduce the city's impact on our planet and promote international cooperation.

Local development affects our global reality, meaning that the footprint of each city has environmental and social repercussions on areas and communities all over the world.



Barcelona has embraced its responsibility and committed to the conservation of energy and natural resources, the minimisation of the city's environmental impact and the sustainability of its business policies.

➔ ***Barcelona ranks among the Western world's cities with the lowest CO<sub>2</sub> emissions per-capita (under 4 t/year). Fostering a compact, dense and complex urban structure is a key factor in achieving such low emissions. For many years, Barcelona has been working hard to reduce energy consumption, increase efficiency and make the most of available renewables. This commitment was further strengthened when the city signed up to***

***the Covenant of Mayors. In addition, Barcelona has had an Energy Improvement Plan in place since 2002, which is being updated to become the Energy, Climate Change and Atmospheric Quality Plan for 2011-2020.***

***The Zona Franca – Gran Via l'Hospitalet Power Plant and a district heating and cooling system, is estimated to bring about a reduction of 13,400 tonnes of CO<sub>2</sub> a year.***

## Barcelona's international commitments

Barcelona is looking to increase its responsibility to further advance global sustainability. For this reason, it is working in cooperation with other cities throughout Europe and globally, to find the best solutions and to promote the active role of our cities in new world challenges.

Barcelona is an active member of different networks such as United Cities and Local Governments, Eurocities, Energie-Cités, Medcités, European Campaign of Sustainable Cities and Towns and ICLEI. At the same time, Barcelona has signed numerous international environmental declarations and is working hard to implement them at local level. These include the Aalborg Charter, the Lisbon Action Plan, the Hannover Call and the Aalborg Commitments. The city of Barcelona also earmarks 0.7% of its own revenue for cooperation and development projects.



# The Barcelona Agenda 21 indicators

The indicators for monitoring the A21 for the city of Barcelona have become an instrument for assisting the local Agenda 21 process, a process for defining the commitment to sustainability that the city has assumed in past years.

## ***To protect natural spaces and biodiversity and expand urban green areas.***

1. Green area per inhabitant
2. Bird biodiversity

## ***To protect the compact and diverse city with high quality public space.***

3. Availability of public spaces and basic services
4. Index of urban renovation

## ***To improve mobility and make the streets a welcoming place.***

5. Modes of transport for the population
6. Proportion of roads with priority to pedestrians

## ***To reach optimal environmental quality levels and become a healthy city.***

7. Level of noise pollution
8. Environmental quality of the beaches
9. Quality of the air
10. Birth life expectancy

## ***To preserve natural resources and promote the use of renewable energies.***

11. Total water consumption per inhabitant
12. Public consumption of groundwater
13. Energy consumption from renewable sources

***To reduce waste production and promote a recycling and reuse culture.***

14. Generation of urban solid waste
15. Collection of organic material
16. Selective waste collection

***To increase social cohesion, strengthening the mechanisms for fairness and participation.***

17. Academic failure
18. Population that completes university studies
19. Accessibility to housing
20. Degree of association
21. Participation in municipal affairs

***To promote sustainable-development-oriented economic activity.***

22. Number of organisations with environmental certification

***To increase public awareness of sustainability through environmental education and communication.***

23. Number of schools that participate in environmental education projects

***To reduce the city's impact on our planet and promote international cooperation.***

24. Annual equivalent of CO<sub>2</sub> emissions
25. Number of points of sale or consumption of fair trade products

***Indicator related to all the objectives of aforementioned commitment to sustainability.***

26. Degree of citizen satisfaction

## **More information about Barcelona's environmental performance available at:**

Agenda 21

*[www.bcn.cat/agenda21](http://www.bcn.cat/agenda21)*

Barcelona City Council - Environment Department

*[www.bcn.cat/mediambient](http://www.bcn.cat/mediambient)*

More sustainable City Council

*[www.bcn.cat/agenda21/ajuntamentsostenible](http://www.bcn.cat/agenda21/ajuntamentsostenible)*

People's Commitment towards Sustainability

*[www.bcn.cat/agenda21/compromis/compromisangles.doc](http://www.bcn.cat/agenda21/compromis/compromisangles.doc)*

Agenda 21 indicators

*[www.bcn.cat/agenda21/a21/indicadors.htm](http://www.bcn.cat/agenda21/a21/indicadors.htm)*

General information about the city

*[www.bcn.cat](http://www.bcn.cat)*

“Sustainability, then, is the only option. Share in order to survive. Live fully, sharing the space with all other living beings, and in time share with all humans yet to be born. Share resources without damaging them, because saving does not make one poor. Share our well-being with others, because those who give generously are the richest”.



The People's Commitment towards Sustainability



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