

HAMBURG

European Green Capital 2011



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European Green Capital 2011

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Making our urban environment sustainable...

Is there a city in the world without an environmental problem? I doubt it. This is certainly worrying because around 75% of Europeans live in cities. It also means we need cities to step up and inspire us all – including other cities – with examples of how they have tried to make things better. Most of the environmental challenges we face today originate in cities. It remains true that they are the best place to solve them.



We need to look long and hard at our urban environments – at city air, water, energy use and noise. And we need to think in the long term. Planning today for the city of tomorrow has never made more sense. It has never been more necessary. Because if we want cities to flourish, they must be cleaner and healthier places to live in.

City authorities must take the lead in their own cities. And we have to help them. The European Green Capital Award is one of the ways we can promote better sustainable mobility, modern waste management, sustainable land use, and green solutions, which local authorities can use for themselves.

It is also about the people in cities. People who have to be more aware of city problems, of what it takes to live sustainably and be shown what they can do to take part.

We should not talk about the city of yesterday. Cities evolve, grow; sometimes they even shrink and die. They are living things. We need to build our vision of what the city of tomorrow should look like. To do this we need to draw everyone together who can help us. Working together and exchanging good practice is the only way that vision will become a living reality. I am delighted to see that Hamburg is leading the way as this year's European Green Capital award holder.

A handwritten signature in green ink that reads "Janez Potočnik". The signature is stylized and fluid, with a long, sweeping line extending from the end of the name.

Janez Potočnik
European Commissioner for the Environment

Message from the Mayor of Hamburg

Dear readers,

Ask any visitors seeing Hamburg for the first time to put their initial impressions into words and they will nearly all say the same thing. For a city, we have a striking amount of trees, green spaces and water. The Elbe and Alster rivers, together with an abundance of canals and waterways, comprise the friendly face of our city. This is why newcomers fall in love with Hamburg, just as our residents perceive their city to be the most beautiful in the world. Hamburg is a metropolis with a high quality of life plus all the benefits of woods and green spaces.



At the same time, Hamburg is one of Europe's most important economic and industrial centres and the home to its third largest port. It is a logistics hub for northern Europe and a growing location for international enterprise.

As European Green Capital, our aim is to serve as a model to other European cities with regard to the environment and sustainability. In Europe, combining forces to protect the environment is paramount, since environmental problems do not stop at country or city boundaries. For us, the title of European Green Capital 2011 is both an incentive and an honour.

We are proud of the solutions we have already put in place for a growing metropolitan area and are convinced that acting responsibly to protect the environment in a city that is both industrial and 'liveable' is not only necessary, but also entirely feasible. In this way, we can ensure future generations will also enjoy what Hamburg offers.

A handwritten signature in green ink, consisting of a stylized 'O' followed by a series of loops and a long horizontal stroke.

Olaf Scholz

First Mayor of the Free and Hanseatic City of Hamburg



Hamburg is European Green Capital 2011

The Free and Hanseatic City of Hamburg gained the prestigious European Green Capital title on the recommendation of a panel of environmental experts. They gave it top marks, ranking it above the 34 other European cities in the competition – no mean achievement!

Praise where it's due

The European Commission was quick to realise the key role local authorities play in environmental protection and ensuring sustainable progress, especially in urban areas. The European Green Capital award is a way of showcasing cities' achievements, sharing good ideas, and encouraging healthy competition in the race to create greener living conditions.

An inspiring idea

The Mayor of Tallinn in Estonia, Jüri Ratas, was the inspiration behind the initiative. In May 2006, 15 European cities plus the Association of Estonian Cities got together and agreed the Tallinn Memorandum. It called on the European Commission to establish a special scheme to reward cities that show leadership in environmentally friendly urban living, and can inspire others to follow. "A green and sustainable Europe is essential for improving public health and the quality of life of our citizens," explained Mr Ratas.

Since the scheme was launched, more than 50 cities have joined the race to win the coveted European Green Capital award. Stockholm was the first to gain the crown, in 2010.

A prize for environmental excellence

The European Green Capital is expected to:

- *achieve consistently high environmental standards;*
- *commit to further ambitious goals for environmental improvement and sustainable development;*
- *serve as a role model for other European cities.*



Three out of four Europeans now live and work in an urban environment.

“European cities can learn from one another”

Urban living is growing in Europe

More and more people in European countries are moving into cities: three out of four of us live in an urban environment today. Therefore, improving living and working conditions in cities is an issue which directly affects many of us. These dynamic population centres also nurture the skills and commitment needed to ensure progress.

Large or small, north or south, in warm or cold climates, European cities are all facing the same challenges, and can learn from one another. Hamburg is taking the lead in linking economy and ecology by developing solutions which benefit both spheres.

Expert opinion

The title is awarded by a panel of international experts in different environmental fields. They base their judgement on 10 indicators including mobility, air quality, waste management, sustainable land use, combating climate change, and local governance.

Communication is key to being an effective role model. Successful cities have to demonstrate how they are passing on information and raising awareness. This means developing and implementing an ambitious communication strategy and a programme of events that will inspire visitors and residents alike.

Handing over the title

The European Commission has already announced the next winners of the European Green Capital award. Vitoria-Gasteiz in Spain will inherit the title in 2012. It is the capital of the Basque Country and its second largest town, with a population of 240 000. In 2013, the crown will be passed to Nantes in France, on the River Loire, with some 280 000 inhabitants.

“Award-winning cities must have ambitious goals for improvement”



Hamburg's port is the third largest in Europe.



Hamburg at a glance

The Free and Hanseatic City of Hamburg has a long-standing reputation as a waterfront city. As one of Europe's great ports, situated on the River Elbe in the north of Germany between the Baltic and North Sea coasts, it has served as a trading hub for centuries, and in modern times as a major industrial centre.

Growing and green: it must be Hamburg

Hamburg is home to 4.3 million inhabitants in the metropolitan region, 1.8 million of them in the city centre. In addition, more than 300 000 people commute to work daily. Hamburg hosts over 500 industrial firms, not to mention Europe's third largest port – able to handle large, ocean-going vessels and vital to Hamburg's economic prosperity. This makes Hamburg a transport crossroads, tourist destination, high-tech hub and media centre, as well as a city with an ever-growing population.

With numerous parks as well the River Elbe, Alster valley, canals and channels, Hamburg is a city on the water with a high quality of life. Almost 2 500 bridges span the city's canals and waterways – more than in Venice, London and Amsterdam combined – keeping residents uniquely close to their aquatic environment.

Hamburg metropolitan area

Hamburg is Germany's second-largest city, after Berlin, and as a city state, one of the 16 Länder in the Federal Republic of Germany. The city of Hamburg is part of a metropolitan area encompassing 14 other districts. The metropolitan area covers 19 801 km² extending from the federal state of Schleswig-Holstein to Lower Saxony.

The River Elbe, running through the city, is key to Hamburg's prosperity.



General facts and figures

- Population:** 1.8 million in the city, 4.3 million in the metropolitan region. The city hosts 4.7 million visitors per year
- Location:** North Germany, on the River Elbe, around 100km from the Baltic and North Seas. Hamburg is the third largest port in Europe, after Antwerp and Rotterdam. Size: 755.29km². Moreover, Hamburg is the third largest aircraft manufacturer in Europe.
- Gross domestic product:** €88.5 billion (2008)
- Universities and colleges:** 20
- Proportion of foreign residents:** 13.5%

Big news in the German media industry

The media sector is one of Hamburg's biggest employers, with some 15 400 companies providing work for 65 000 people. Daily and weekly newspapers, radio, TV and film all have a strong presence in the area. The city is also a powerhouse for digital media, advertising and creative design.

As an industrial centre with a growing population, Hamburg has to confront a range of environmental challenges. But wise use of natural resources, coupled with an innovative policy for 'Responsible Growth', has helped to make the city an example of environmental best practice. It has set itself ambitious targets for future development: for example, cutting CO₂ emissions by 40% by 2020 and 80% by 2050, compared with the more modest EU target of 20% by 2020.

Close to nature

Hamburg is impressively green in comparison to most cities of similar size, with over 16.7% of the urban area given over to forests, recreation and green spaces. Water covers a further 8%, contributing significantly to the city's recreational opportunities. Waterfront terraces and walkways offer pleasant open-air environments for residents, while the River Elbe ferry lines serve the needs of both commuters and visitors.

Hamburg has 3000 hectares of state-owned parkland (1460 parks in total). Farming, fruit growing and horticulture occupy a further 25% of the municipal area. Hamburg's 31 nature reserves account for 8.4% of its territory, placing the city ahead of other German states, while additional protected spaces make up a further 19% (14 360 ha) of Hamburg's total area.

“It has more parks and open spaces than any other city in Germany”



Media industries thrive in Hamburg, generating a vibrant and creative atmosphere.

Green facts and figures

- 4 700 hectares of woodland – more today than 100 years ago.
- Public parks, recreation areas and woodlands make up 16.8% of the municipal region. Every week, 1 million people use them for leisure and recreation. 89% of the population lives within 300m of a park.
- 11 657km of bus routes, with 10 426 stops.
- 656 million public transport passengers per year in 2009.
- 99% of residents have access to public transport within 300m of their homes.
- CO₂ emissions cut by 15% (1990-2006).
- 200 000 low-energy lamps in 400 public buildings save €3.4 million per year.

“Hamburg faces tough environmental challenges”



Across the River Alster, Hamburg residents enjoy a fine view of the city skyline.



Industry works with the environment: Europe's biggest copper smelting plant is no more than 2km from the city hall.

Responsible industry

Hamburg's manufacturing companies employ some 83 000 people, primarily in air and spacecraft and engineering, and in Europe's largest copper smelting plant. Industrial companies invest some €45.8 million a year in measures to care for the environment. Of this, €24.1 million goes towards water protection.



Why is Hamburg special?

Europe's environmental challenges in a nutshell

As a major industrial centre, Hamburg confronts all the environmental challenges that face other European cities. It is not an eco-paradise – yet! But its leaders are actively finding ways to combine industrial activity and the employment it generates with a good standard of living for inhabitants. This is what makes Hamburg a role model.

Hamburg has forged the connection between building one of the world's most 'liveable' cities and expanding as an industrial metropolis and hub for trade and transportation. It has already made excellent progress in environmental protection and intends to increase its efforts in future.

Hamburg is in no way an environmental paradise, where all ecological problems are already solved. The city implements all aspects of European environmental policy, ranging from climate protection and improving air quality to water management and nature conservation. The environmental problems experienced in cities such as Hamburg are multifaceted, as is the potential available to solve them.



New development aspires to high standards of sustainability for both homes and offices.

The energy hill, with its wind power station and photovoltaic system, generates power for the Elbe islands.



Combating climate change

Hamburg has made real efforts to cut back on CO₂, with a Municipal Climate Protection Act, adaptation and research programmes. The climate protection programme, approved by the local government in summer 2007, identifies 10 areas of action covering over 450 individual measures. The city invests up to €22.5 million a year in these measures.

A significant partnership programme, called 'Enterprise for Resource Protection', has already completed about 1 000 projects. The aim is to encourage voluntary investment in increasing energy and resource efficiency in enterprises. For each €1 invested by local government, participating

“The close proximity of industrial, residential and commercial areas forces us to co-operate”

companies contribute €10. This has generated total private investment of €146 million matched by municipal support of €15 million. In total, the enterprises currently save 134 000 tonnes of CO₂ emissions each year.

The Hamburg ECO-Partnership, a joint venture between local government and the commercial sector, encourages companies to go beyond statutory requirements to take additional eco-friendly measures. Serving as a platform for information and networking, the partnership also offers free on-site consultations for Hamburg-based firms, supporting clients in implementing projects in the fields of environmental management and climate protection.



The Hamburg Eco-partnership encourages close co-operation between business and local government.

Expanding on environmentally sound foundations

Since the last century, Hamburg's planners have had a vision for the city's development as a pleasant living and working environment, making the most of its special natural resources. This policy continues to guide more recent change, through practical projects and initiatives.

A green network for the city

Hamburg is built on a radial or 'axial' model, extending out from the central Rathausmarkt, which facilitates residents' access to rural areas outside the city. At the same time, a 'Green Network' (Grünes Netz) structure creates a series of 'green rings' connecting the landscape axes, at various distances from the city centre. The green network covers the whole of Hamburg, forming a link between urban parks and playing fields, narrower green areas and larger spaces, from the outskirts to the city centre. Two inner loops and several landscaped axes together form an almost seamless grid, constituting a unique green urban leisure area.

The objective of the city's landscape planning policy is to link parks, leisure and sports areas, playgrounds and even cemeteries, to make it possible for people to travel from the city centre to the outskirts, on foot or by bicycle, without coming into contact with traffic. The green network is also key to the 'connectivity' of wildlife habitats – enabling animals and other species to move freely from one place to another.

The Elbe – key to Hamburg’s prosperity

From its source to its estuary, the Elbe is the lifeblood of the entire region. The interplay of tides and the influence of the North Sea have created a uniquely dynamic natural environment, which for centuries has offered a good living to the inhabitants of the area.

The Lower and Outer Elbe, also called the Elbe estuary, is the habitat for many plants and animals, some found nowhere else. The Elbe estuary is therefore designated as a site of exceptional importance within the European nature conservation network Natura 2000. At the same time, people use the Elbe estuary for shipping and industry, fishing and agriculture, as well as for recreation and water sports.

“*The River Elbe
is a vital artery*”

*The River
Elbe brings
ocean-going
vessels from the
North Sea into
the port.*



The integrated management plan for the Elbe estuary aims to protect this unique natural environment while, at the same time, finding solutions that take account of the interests of the human population. Together with local people, the partners – Hamburg, Schleswig-Holstein, Lower Saxony and the federal water and shipping administration – are developing schemes to meet all these needs.

During an assessment of Elbe water quality conducted for the first time in 1990, an additional classification bearing the label “destroyed by a very strong organic pollution” had to be introduced. Ever since then, the burden imposed on the Elbe has diminished significantly. Nevertheless, Elbe fish still cannot be recommended for human consumption without reservations and agricultural products harvested in the flood areas are still exposed to pollution. Some of the pollutants eventually get transported into the flood area, thereby endangering natural sites such as the Wadden Sea. For these reasons, river basin-wide sediment management is of great significance. In 2010, Hamburg initiated a project called ‘Remediation of contaminated Elbe Sediments – ELSA’. The project aims at removing the pollutants from the river at their very point of formation. This rehabilitation programme, covering the tributary area for the Elbe and implemented through transnational co-operation, constitutes a unique example for Europe.

Successful conservation measures

The Hamburg Wadden Sea National Park (Hamburgisches Wattenmeer) encompasses such a unique natural environment that it was recently declared a United Nations World Heritage

Green Port Congress

Hamburg port wants to make its entire transport chain environmentally friendly – not just the loading and unloading of containers. In September 2011, it is hosting the Green Port Congress, an opportunity for port operators around the world to exchange information and develop new initiatives to promote green and sustainable practices. Hamburg, for example, is highlighting its sediment management scheme, brown field reuse and environmentally friendly cargo handling.

Gantry cranes are a characteristic feature of Hamburg's city profile.



site. It protects 137km² of unspoilt nature in the Elbe estuary, including the islands of Neuwerk, Scharhörn and Nigehörn. The unique landscape of the Wadden Sea between Den Helder in the Netherlands and Blavands Huk in Denmark includes the largest natural expanse of mudflats on Earth.

Since it was set up in 1990, the park has successfully protected important habitats like Nigehörn's white dunes. The island was immediately colonised by several seabird species, and also functions as an important resting area for migrating brent and barnacle geese, and a moulting site for shelduck and eiders. Seals lie on the sandbanks. In total, over 2 000 animal species are found in this habitat.

Cranes and cranes

The port of Hamburg handles over 100 million tonnes of goods every year, and occupies 10% (74km²) of the city's total area. It is the heart of its economy, providing more than 150 000 jobs. The huge gantry cranes that load and

“Goods are transferred by water, on special container taxis”

unload millions of containers are a familiar sight on the skyline. But the city also makes room for cranes of the feathered variety: in total, more than 200km² of land is set aside for conservation across the region, including the Boberg Lowlands, the moorlands of Duvenstedter Brook, and the Elbe island marshes.

Alongside bringing economic prosperity, the port implements long-range ecological programmes. The 'Durable Business Operations in the Harbour' project brings together a great many individual measures. They range from the energy-efficient refurbishment of buildings and the use of solar energy to expanding infrastructure for more eco-friendly means of transport such as barges, harbour trams and gas-fuelled vehicles.



Within the port, river barges transfer goods from one terminal to another.

The harbour is the focus of a wide spectrum of ecological programmes.



To minimise the environmental impact of trade on the local area, Hamburg distributes seven out of ten container loads for long-distance transport by rail – more than most other ports worldwide. Some 12% of German goods transported by rail begin or end up in Hamburg. This represents up to 220 trains in the port each day.

Within the port, an increasing quantity of goods is transferred from one terminal to another not by road, but by water, on regular port and river barges and on specially developed container taxis, which also transport city waste. To further strengthen this environmentally friendly approach, each of the three competing tenders to build a new central terminal in the Steinwerder district of Hamburg proposes a lorry-free system, with options for solar energy and kinetic energy

recovery. The SkySails project helps container ships to use less energy when at sea by exploiting wind power. Hamburg is encouraging new initiatives through the Hanse Globe award for sustainable logistics.

The port has the capacity to accommodate even the largest cruise liners, like the Queen Mary 2. In 2010, 104 big ships brought 250 000 visitors to the city. In the future, vessels will have the ability to plug in to less-polluting onshore electricity supplies. "Switch off the diesel and use land-supplied energy," is the message.

The Hamburg Port Railway is going to break new ground. In a pilot project, a new geothermal railroad switch heating system – developed by Pintsch Aben – is being tested on one of the 880 switches in the port of Hamburg. The novel heat pipe system is self-regulating. Based on the simple functional principle of a thermal siphon, the heat transport begins as soon as the ambient temperature drops below a critical threshold and is interrupted as soon as it exceeds it. This makes the operation completely self-sufficient and independent of any external energy supply, considerably decreasing the risk of failure. The device is absolutely environmentally friendly, partly due to the total absence of emissions.



To deal with the impact of climate change, flood-proofing measures protect Hamburg's new developments.



Pulling in the same direction

Ecology and the economy are two sides of the same coin. Hamburg's experience demonstrates that care for the environment need not damage growth, but rather serves as a positive benefit.

Bringing business on board

The business community has an important contribution to make. Hamburg's first eco-partnership scheme, promoting sustainable business management, dates back to 2003. In June 2010, Hamburg launched its Environment Partnership Project 2011, which already has about 80 partners taking part in additional voluntary environmental efforts, with support from the city.

Winds of change

Saving energy and prioritising renewables are key to Hamburg's strategy for sustainability. The metropolitan region has been a pioneer in wind energy since the early 1990s, and wind is still the core of its renewable energy business: 60% of global wind-energy know-how can be found within 2.5 hours of the city.

Hamburg has nearly tripled its use of renewable sources in the last 12 years, and since 2009 has its own 100% city-owned energy supplier: Hamburg Energie. The subsidiary of the water distributor Hamburg Wasser sells electricity from climate-friendly sources and organic gas. The company operates in the heating business and in electric mobility.

Hamburg has ambitious plans to use new technologies to exploit waste heat from industrial production, generate more combined heat and power, and aims to set low-energy standards for new housing.

The port is already home to the largest onshore wind turbines in the world, and rotors for giant offshore wind parks turn at testing grounds in Cuxhaven and Brunsbüttel.

The home of innovation

There are more than 600 renewable energy businesses in and around Hamburg. They build solar plants, design wind farms, and work on new ways to use biomass. Many local companies

“Hamburg is the ideal environment for us to build our renewable energy business”

are becoming experts in the sale, installation and maintenance of complete systems, and are steadily increasing their market share, while world-renowned firms from abroad have also established themselves in the area.

Sparking new ideas

Whether wind or solar energy, bioenergy, geothermal or water power, over 300 Hamburg companies are actively engaged in renewable energy production. Thus far this accounts for 17% of nationwide power generation. In 10 years, the percentage is expected to increase by at least 50%.

Hamburg intends to lead the way to a greener future, which is why the city launched its renewable energy cluster in 2009, placing the city on a par with global competitors.

Working towards this goal, Hamburg companies of all sizes prioritise networking and exchange between universities, institutions, NGOs and firms. Building strong networks and hosting workshops, conferences and events not only promote environmental protection, but also inspire new projects and foster research.

The “Cluster Erneuerbare Energien Hamburg” (Cluster Renewable Energies Hamburg) establishes contacts both within and beyond the cluster, forming a link to relevant sectors and actors.

The cluster benefits from being at the heart of the city, which is a stronghold of the German service economy. Highly specialised professionals offer services for a wide range of functions related to renewable energy, including financing, contract law, quality management and logistics.

Sunny outlook

Many of the leading global players in the solar energy business have chosen to locate themselves in Hamburg. A local developer, for instance, recently built the world's largest rooftop photovoltaic system for solar-power generation.

Companies in Hamburg are also leading the way in the field of biomass energy. The city itself is part of a pilot project to generate energy from the clippings and biodegradable waste from parks and gardens.



Many of the leading global players in the solar energy business are based in Hamburg.



A city at the cutting edge of green thinking

Hamburg attracts over 300 000 commuters every working day. The city has been developing its public transportation system for over a century: the Hamburg Hochbahn has been operating since 1911.

Environmentally friendly buses

Hamburg's 'HVV' is the world's oldest integrated public transport system and now covers nearly the whole metropolitan region. Today, almost all residents have access to public transportation within 300m of their home – a higher proportion than in other European cities. In 2003, when Hamburg started to trial fuel-cell powered buses, there were 535 million bus and train passenger journeys. Today there are 656 million per year.

Hamburg is home to the world's largest fleet of hydrogen-fuelled buses – and it is still expanding. Each of the nine existing vehicles contains 1 920 individual fuel cells converting hydrogen into electric power, and they will soon be able to pull into Europe's biggest hydrogen filling station, in the port, producing hydrogen from solar or wind power generation. The almost noiseless, 200-kilowatt engines emit steam, rather than harmful emissions that contribute to climate change, improving Hamburg's air quality.

Hop on a bike

Since July 2009, the StadtRAD bicycle scheme has developed a network of 71 stations around the city, with 1 000 bikes and 53 000 registered users. Hamburg already has 1 800km

“Almost all residents can reach public transport within 300m of their home”

Your move

- *A new metro line is under construction.*
- *A network of rapid transit and regional rail services converge at the city centre: three U-Bahn underground lines, six S-Bahn suburban lines and nine regional rail services ensure rapid and direct connections.*
- *At the weekend and on public holidays, selected buses and train services operate all night.*
- *Since November 2010 a fleet of eco-friendly taxis has been introduced, with fewer CO₂ emissions.*
- *There are six ferry lines serving the harbour and the River Elbe.*

of cycle paths. The aim is to increase bicycle traffic from 12% of total road use in 2008 to 18%, through additional bike lanes and cycle-hire schemes. This will mean 500 more bikes and 40 more stations.

Hamburg's green port

Around 11 000 ships sail into the port every year, owned by over 100 shipping companies. The port's management understands that economy and ecology go hand in hand, and the infrastructure surrounding the port reflects this philosophy. For example, saving energy not only conserves the environment, it also cuts running costs. This makes Hamburg an attractive destination, reflected in the way the port and its logistics have developed over the past few years.

In February 2010, international container shipping companies voted Hamburg the best out of eight north European ports (Hamburg, Rotterdam, Antwerp, Bremerhaven, Zeebrugge, Amsterdam, Felixstowe and Wilhelmshaven). This helps to explain why, despite the global economic crisis, in 2010 the port achieved further growth of 9.8%, handling a total of 121 million tonnes of cargo.

“In 2009, Hamburg's public transport service carried 656 million passengers”

“Container shipping companies voted Hamburg their favourite port”

Emergency protection

Hamburg was instrumental in getting the EU to apply a ‘polluter pays’ principle for ports, discouraging container ships from discharging ‘old oil’ and other ship waste. If a toxic spill of any sort takes place in the port, an emergency team is on 24-hour standby, together with dedicated water police and fire crews.

Kattwyk brücke: seven out of ten container loads are transported from the harbour by train.



The recycling offensive

Waste prevention is the best thing that people can do for the environment, and yet it is not always easy to avoid waste. So Hamburg’s recycling offensive is an important contribution to climate protection and conserving resources.

It works on two levels: on the one hand, the total volume of waste is considerably reduced through recycling, and on the other, precious raw materials are returned to the production cycle.

Numerous activities are under way to improve local waste management. Furthermore, current savings of around 1 million tonnes of CO₂ a year in Hamburg, through recycling and waste management, should increase by a further 100 000 tonnes from 2012 onwards. Projects include modifying raw material collection from private households, intensifying public information campaigns, motivating the housing industry and adjusting legal frameworks. Hamburg is well on the way to its objective thanks to the regular collection and recycling of old paper, glass, plastics, organic and green waste.



Water matters

Guaranteeing a clean, safe and adequate water supply for residents is a major preoccupation for Europe's cities. Hamburg draws on high-quality, natural, local groundwater for 100% of its supplies.

This assures high-quality drinking water, while investments in a comprehensive infrastructure maintenance programme have led to an exceptionally low leakage rate from fresh water pipes of just 4% (compared to 7% on the national average).

Innovation also has its place, for example with pilot schemes that allow for heat from waste water to warm houses, by means of heat exchangers situated at the bottom of large sewers. The Hamburg Water Cycle® enables sewage disposal which is energy self-sustaining and neutral for the climate with nutrient reclaim. Among others, these innovations help to reduce the amount of carbon dioxide emitted and are therefore an essential part of Hamburg's climate adaptation strategy.



Hamburg has ambitious plans for managing water and rainfall in the future.

Preparing for the future

Changing rainfall patterns linked to climate change, and an increase in sealed urban areas, mean adapting the sewage and drainage system to prevent sewer overflow and flooding.

The EU project Urban Water Cycle (2004-2008) examined the entire water cycle with the aim of upgrading local drainage systems through decentralised storm water management. A second Competence Network project (2007-2009) brought together local authorities and universities, to come up with technical and planning tools for storm water management in Hamburg.

The city is now developing ambitious plans for dealing with excess storm water involving a range of partners including local authorities, policy-makers, researchers, architects and landowners. This is happening within the project RISA (RegenInfraStrukturAnpassung – Rain



“Hamburg has an exceptionally low water-leakage rate of 4%”

Infrastructure Adaptation), which promotes a new way of dealing with storm water in Hamburg. To meet current challenges, the city's approach is to complement the centralised system of drainage (discharge) and storage with more innovative solutions for decentralised storm water management. The project aims to establish sustainable storm water management practices throughout Hamburg.

Experts found that the city has outstanding programmes for wastewater removal and energy efficiency.





What impressed the experts

“Hamburg has shown major achievements in the past years, and at present, has also achieved excellent environmental standards across the board. The city has set very ambitious future plans which promise additional improvements,” said the panel of experts.

Hamburg scored above average on seven of the 10 indicators for the European Green Capital award. In three areas, the environmental experts awarded Hamburg top marks: combating climate change, wastewater management and local governance.

Wise to global climate change

Hamburg is applying comprehensive measures across the board, with ambitious plans for further cuts in greenhouse gas emissions in the future. Its local air quality is already very good, and renewable sources generate 12% of electricity. The experts identified excellent targets, future planning and monitoring, all financed through a substantial budget.

Handling waste

Hamburg's integrated waste management system works very well, reducing landfill waste through a recycling and incineration processes. The local authorities have carried out public awareness campaigns to encourage households and businesses to sort paper, glass, plastics, metals and bio-waste. There are plans to boost recycling and energy recovery in the future.

Vasco-da-Gama-Place in Hafencity, Hamburg's showcase for sustainable urban development.



Liquid investment

Hamburg has controlled per capita water consumption through metering, reducing leakage, and high investment in infrastructure. The city has strong systems for wastewater removal, overflow capacity, and energy efficiency. It implements innovative processes to remove ammonia from sewage sludge and recover energy from sludge incineration. The experts commended the city's rainwater management project.

Eco-friendly local administration

The experts found a lot to praise when it came to Hamburg's local governance, with a well integrated and coherent approach built on the Local Agenda 21 strategy, embodying the United Nations' environment protection goals. The city applies binding eco-criteria in its purchasing, and energy-saving standards in public buildings. Financial incentives encourage all schools to cut their CO₂ output, and 60 of them have already made 20% savings.

The experts were impressed by the city's strong commitment to the social aspects of environmental improvement, including a participatory approach to policy-making and a special focus on disadvantaged neighbourhoods.

Spread the word...

Hamburg's plans for an event-packed year, including bringing the green capital message to other European cities, played a large part in securing the 2011 award. Experts praised the "fresh ideas, commitment and enthusiasm" integrated in Hamburg's proposals, highlighting the 'Train of Ideas', and numerous study tours, lectures, exhibitions, conferences and high-level events, appealing to both residents and visitors.



The city launched its green capital year with energy and verve.



Green Capital: a source of inspiration

One of the most important roles for Europe's Green Capital each year is to act as an inspiration and source of ideas for its own citizens, and for other cities. Hamburg has a "meticulous, well-structured communication strategy and a very attractive programme of events for well chosen target groups, involving all the city's stakeholders".

A strong commitment

Hamburg's dedication to spreading its green message goes all the way to the top – and is key to generating enthusiasm at every level. The involvement of young people is especially important, so in summer 2011 an Environmental Youth Summit is drawing young activists from all over Europe together to discuss the 'City of the Future'.

Hamburg's leaders believe the city will only reach its green goals with the support of its people. A population of 1.8 million can do more to protect the environment than five new wind turbines. So it has launched numerous awareness-raising campaigns to help people get to know their 'green capital', setting up an Info Pavilion near the central station plus additional information points throughout the city and wider region.

Hamburg regards itself as a successful 'brand'. Even people who have not visited the city link its name with water, an international outlook, and openness to the world. The Hamburg Marketing company was set up in 2004 to boost national and international awareness of the Hamburg brand and to highlight the city's attractions. Hamburg's 'honorary ambassadors' are appointed around the world to promote the metropolitan region. The city also fosters young, creative talent. For example, the Eurobest Advertising Festival in Hamburg in December 2010 joined

The ambitious Train of Ideas is visiting 18 cities across Europe.



journey from their personal experience of their environment to their broader surroundings in the city and nature, and then lastly to a global perspective.

The themes covered include urban development and living, mobility, energy and climate protection, nature and city greenery, resource protection, economy and consumption. The concept was developed by the Kunstraum agency for the Hamburg Ministry of Urban Development and Environment.

Wherever it stops, the exhibition will show Hamburg's best practices as well as environmental solutions from other cities. The train will be back in Hamburg in September 2011, ready to move on to the next European Green Capital in 2012.

forces with the Berlin School of Creative Leadership to launch the Eurobest Future Creative Leaders Programme, for young people with leadership potential.

Train of Ideas

Hamburg's ambitious Train of Ideas is one of the most innovative features of the year, embarking on a Europe-wide tour to carry green thinking to 18 cities, including Warsaw, Malmö, Copenhagen, Brussels, Vienna, Barcelona and Marseilles. Seven containers with an exciting interactive exhibition lead visitors on an educational

Train of Ideas tour plan



Timing

15-21	April:	Hamburg
26-29	April:	Copenhagen
01-04	May:	Malmö
06-10	May:	Gothenburg
12-15	May:	Oslo
20-22	May:	Zurich
24-27	May:	Munich
31 May-04 June:		Warsaw
07-10	June:	Riga
12-14	June:	Tallinn
20-22	June:	Vienna
25-29	June:	Barcelona
02-04	July:	Marseille
07-10	July:	Nantes
01-04	Sept:	Paris
07-13	Sept:	Brussels
15-19	Sept:	Amsterdam
21-25	Sept:	Antwerp
29 Sept-22 Oct:		Hamburg

“*The involvement of young people is especially important*”

Something for everyone

With an ambitious programme of over 500 different events throughout the year, the Green Capital 2011 caters to every taste.

The year opened with an evening of celebration in November 2010. High-ranking officials from local and European politics invited around 500 partners and sponsors of the Green Capital year to present the 2011 programme, including the Info Pavilion and the Train of Ideas.

In January, it was the turn of some 5 000 Hamburgers to join the party, despite the rain, with teams competing in an ‘Energy Battle’, dancing on a sustainable dance floor which lit up in response to the dancers’ movements.

In February, the Environmental Economic Summit brought together some of the 700 businesses now involved in the Environmental Partnership for climate change. Participants revealed how they conserve resources in their own companies.

Throughout the year, environmental tours offer visitors the opportunity to see more of the city’s green practices, whether on foot, bike, or public transport. Additionally, regularly changing exhibitions give further insights.

Networking and dialogues on a wide range of topics, including environmentally friendly mobility, consumption, water, climate action and building, are drawing in policy-makers, the business community, media and the public.

Hamburg invites local youth throughout Hamburg and Europe to the first Environmental Youth Summit in the summer of 2011. The event offers young leaders and experts a forum to discuss and exchange their ideas for cities of the future. To explore Hamburg’s environmental side, the



The Info Pavilion near the central station hosts both permanent and temporary exhibitions.

city also offers more than 80 environmental tours where visitors and citizens may experience the city by foot, bike or public transportation.

Other highlights include the international forum for development strategies for the waste resource sector (T.R.E.N.D.), plus the 'goodgoods' exhibition in May 2011 – Germany's largest sustainable consumption trade fair. Hamburg is also holding the first-ever International Environmental Law Conference on 15-16 September.

From the preliminary activities in 2010 to the closing ceremony at the end of the year, the European Green Capital accolade will leave its mark on Hamburg.

For full programme details see: <http://hamburggreencapital.eu/>



Hamburg's vision for the future

Hamburg's pioneering efforts to create an eco-friendly and sustainable metropolis will continue long after the end of its year as Green Capital. As a world-class centre for creativity, research and innovation, it aims to be at the forefront of progress towards meeting the environmental challenges of this century and beyond.

Centre for climate research

No wonder climate change is a serious concern, given that the flat lands of the Elbe estuary will suffer a high risk of flooding if sea levels rise, and Hamburg itself is only 6m above sea level. Storm floods in the 1960s increased city planners' awareness of the need for protective measures. Striving to cut CO₂ emissions by 40% by 2020 and 80% by 2050 is just part of the response.

The KlimaCampus is Hamburg University's renowned centre for basic research in climate science. Together with the University of Technology and the Competence Centre of the Hamburg University of Applied Sciences, it is working on innovative and practical measures for mitigation and adaptation.

The KLIMZUG-NORD project to counter the impact of climate change brings together universities, research facilities, ministries and private companies. It is working on ideas for evaluating climate data and planning natural protection, so as to produce a coordinated master plan, from now until 2050.

The World Future Council is dedicated to promoting sustainable development for the generations to come. Based in Hamburg, which helped fund its launch, the organisation runs a global climate campaign.

“Hamburg is a renowned centre for climate change research”

Greening the motorway

A pioneering scheme to reduce the environmental impact of motorway construction means covering a 3.5km section of the A7 road. The Hamburger Deckel scheme not only reconnects fragmented natural environments, it also cuts noise pollution for nearby residents.

Allotments, currently situated alongside the highway, are to be relocated on the three sections of tunnel, and the vacant land resold. The spectacular covering forms part of the eight- and six-lane expansion of the A7 between the Elbe and the border of Schleswig-Holstein, with work lasting until 2017.

The motorway cover scheme links green spaces, to reduce the environmental impact of road construction.



Sustainable urban growth

Over the last 30 years, Hamburg has switched its expansion policy away from greenfield development, which creates urban sprawl, more roads and traffic, and destroys landscapes and natural habitats. Instead, the city is regenerating brownfield urban areas:

- HafenCity, one of the prime urban development projects in Europe, will expand the existing city centre by 40% – in the spirit of combining a high degree of urbanity with the highest standards in sustainability. The former port and industrial area is transformed into a new type of downtown, with a mixed use spatial structure for 12 000 residents, more than 45 000 jobs and thousands of daily visitors. What provides the basis of high quality urbanism after 10 years of development also offers an example of best practice for sustainable city development. The physical structure of the new city stands on a new, raised flood-proof level created by underground parking and establishing an interesting landscape of private and public spaces. The urban structure incorporates a finely tuned mix of different uses – including housing, work, commerce, gastronomy, culture and leisure space – and high efficiency, low-carbon spatial interaction. Mobility is possible via a new underground line to be opened in 2012, fuel cell operated buses and a new fuel cell station. The heating of buildings is linked to a CO₂ benchmark-based local system using, for the eastern part of HafenCity, almost only renewable energy sources. And HafenCity is already featuring some of the best international buildings planned and certified to specific and demanding criteria for green buildings.
- The ‘Leap across the Elbe’ means opening up an arc of urban development in the centre of Hamburg, comprising Europe’s largest river island, including HafenCity, the islands of Wilhelmsburg and Veddel, and the Harburg Upriver Port to the south. To support this long-term strategy and foster its development, an International Building Exhibition (IBA) 2013 is taking place in the area.
- For more than a century, building exhibitions in Germany have been examining the future of human co-existence. In more ways than one, an IBA is not an ordinary exhibition. It demonstrates innovative approaches and model solutions to urgent contemporary questions on the urban future, that are developed and implemented at the end of a complex process lasting a number of years, and are open to evaluation by both experts and citizens.



A new urban park on the Elbe islands will offer leisure, sport and relaxation facilities to improve the quality of city life.

The IBA Hamburg has three key themes: adapting to climate change; turning the diversity of an international urban community into a strength; and making transitional spaces into liveable places.

Among the pioneering projects on display, there will be an 'Energy Bunker' in Wilhelmsburg, supplying renewable heat for nearby facilities, and the Georgswerder Höhe 'energy hill'. After the war, the flat meadows north-east of Wilhelmsburg were used to dump rubble and waste. Later, toxic waste such as paints and varnishes were also deposited there. In 1979, the toxic dumping operations officially stopped. But in 1983 it became evident that dioxins were leaking out at the foot of the landfill into the groundwater. As a result, the landfill was covered and the leaking water collected and purified. Today, a wind power station and a photovoltaic system on the site generate some of the energy for the Elbe islands. For the International Garden Show in 2013, a new urban park is being created in Wilhelmsburg, with leisure, sport and relaxation facilities, to improve the quality of life for local people.

Aiming high

Securing the European Green Capital award in 2011 not only enables Hamburg to showcase some of its proudest innovations, but also creates a new incentive to aim higher in its efforts to care for the natural environment, and offer its citizens a high-quality, sustainable standard of living. The Hanseatic city is aspiring to be a green model in every way, for Europe and the world.

European Commission

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