

THE ENVIRONMENT
in the Principality of Monaco

2013



Gouvernement Princier
PRINCIPAUTÉ DE MONACO

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Preface

The year 2013, declared International Year of Water Cooperation by the United Nations, was the occasion for HSH Prince Albert II to honour of His presence multiple initiatives across the world.

As Head of State and President of the Prince Albert II of Monaco Foundation, the Sovereign continued throughout the year His steadfast commitment to the environment and sustainable development.

Whether in Marseille for the 40th edition of the CIESM Congress, at the University of Louvain in Belgium, or in Tangier at the 5th Meeting of the Parties at ACCOBAMS, HSH Prince Albert II continued to spread the “message of Monaco”, initiated in 2012, in favour of a sustainable management of the oceans and the seas.

In 2013, the Sovereign was keen to travel to the Republic of Palau, with HSH Princess Charlene, and meet the highest state officials to discuss important issues such as the preservation of biodiversity, the protection awareness of endangered animal species, or the conservation of protected areas such as marine areas and coral reefs.

The Sovereign also addressed topics related to environmental protection during His trips to Israel and Brazil.

Finally, during the official visit of the French President in the Principality, agreements on environmental issues have been signed between these two countries, in presence of François Hollande and HSH Prince Albert II.



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Monaco renews its fleet of 10 electric Smart

At the request of HSH Prince Albert II of Monaco, the agreement signed in December 2009, between the Principality of Monaco, Smart and Daimler AG was renewed with the delivery of 10 third generation fortwo electric drive Smart in the Principality.

In the presence of HE Mr. Bernard Fautrier, Minister Plenipotentiary, Head of Mission at the Ministry of State, and Mrs Marie-Pierre Gramaglia, Minister of Public Works, The Environment and Urban Development, Mr Frederic Grandvoinet, Key Accounts Director for Mercedes-Benz France officially handed over the keys of this fleet on Thursday, February 28, 2013.

The sustainable city

The Government of Monaco has a sustainable city policy focused on preserving or strengthening a quality of life that is recognized and appreciated. This policy is centred around mobility management, waste treatment, open spaces and noise pollution.

Mobility Policy

The State mobility policy aims to reduce the negative impacts of road transport (traffic, air quality, noise pollution, etc.) but also aims to offer alternative transport solutions. Actions taken cover two areas: implementing a master plan for urban infrastructure and implementing the Urban Travel Plan (UTP). The latter focuses on developing public transport, optimising freight transport in cities, encouraging electric and hybrid vehicles, and developing low impact transport methods.

Improving infrastructure

Infrastructure development (the "dorsale" express way, the 'tunnel descendant' or underground bypass, etc..) are aimed at streamlining the traffic movements. The road infrastructure master plan includes building the boulevard du Larvotto or the "dorsale" which follows the disused railway line from Saint Roman to Cap-d'Ail. It is a major road network aimed at facilitating travel between districts, especially by reducing the volume of through traffic in different parts of the Principality.

This master plan also factors in the project to build an underground tunnel to link the boulevard du Jardin Exotique to the boulevard Charles III so that heavy goods vehicles and employees can access Fontvieille directly via the Marquet link.

Opening this road between Fontvieille and Cap d'Ail has eased inflowing and outflowing traffic in this area, and helped reduce its isolation.

Public transport development

In 2013 more than 6 million travellers used the Monaco train station, 9,000 commuters entered the Principality daily by bus and 7 million trips were made on the Monaco urban network operated by the Compagnie des Autobus de Monaco (CAM).

The Government is involved in modernising the resources in order to improve the quality of services provided by the Compagnie des Autobus de Monaco (CAM): increasing the frequency of bus services, installing digital information screens inside the buses and at bus stops, adding evening and night bus services, intermodality and implementing an operating system using GPS localisation providing real-time information about buses for travellers (www.cam.mc). Since July 2011, the Principality added 4 hybrid buses to its fleet, which now operating entirely with bio-diesel fuel.

Encouraging intercity public transport

The Government is focusing its action on mobility both within the city and for trips to neighbouring towns and regions. In September 2008, the State purchased five TER (Regional) trains in the Principality's

livery, which are integrated into the French regional rail network.

This investment of 50 million euros by the State of Monaco has helped employees who travel into Monaco each day.

These train have therefore helped to increase frequency of TERs (regional trains) arriving at Monaco train station to one every 15 minutes during morning and evening peak hours.

By developing interoperability between the regional train (TER) and CAM thanks to a combined fare (monthly season ticket), it is now easier to use these public transport services. In addition, a preferential rate for young people (0-26 years) has also been launched.



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The Principality is also developing intermodality through the “Carte d’Azur”, which gives free access to the bus networks in the Principality of Monaco, the General Council of the Alpes-Maritimes, the Urban Community of Nice Côte d’Azur (27 towns), and the metropolitan area of Sophia-Antipolis (16 towns around Antibes). Since September 2013, the “Sillages” network in Grasse, the CARF in the East of the département and SITP in Cannes Mandelieu, also accept the travellers with this ticket.

Urban Distribution centre

In 1989, the Government of Monaco set up an Urban Distribution Centre (UDC) in order to reduce the number of heavy goods vehicles coming into Monaco and to optimise their loading rate. In 1999, the UDC was connected to a pre-consolidation platform in the Parc d’Activités Logistiques (PAL) in Nice Saint-Isidore. The PAL has helped streamline the flow of goods and provided offsite storage space through shared logistical costs and haulage systems.

This haulage platform has led to a 50% reduction in road congestion by commercial vehicles and, according to a study by ADEME, to reduce air pollution by 30 %.

Carpooling



The Government encourages many initiatives to optimise local travel. In particular, the State encourages the active population in the Principality to use carpooling. Created in October 2006, the car pooling service (www.monacovoiturage.mc) has more than 1,250 members. Through special rates for car parks and shared fuel and motorway tolls, carpooling can substantially reduce travel costs.

Promoting electric and hybrid vehicles

Since 2010, the number of green vehicles has increased by 18.23%, 66.33% of these are electric vehicles. In 2013, there were 659 fully electric or hybrid 2 or 4 wheeled vehicles, in use by companies, government departments or individuals.

The State and the City are showing the way: almost all vehicles purchased today are either electric or hybrid. Currently, the Government’s fleet includes 77 electric vehicles and 10 hybrids.

In 2012, the Monaco Government strengthened the grant scheme designed to encourage the purchase of clean vehicles. In September 2013, in order to encourage this approach, the allocation terms for this grant included three new criteria:

- The creation of a specific grant for “plug-in” rechargeable hybrid vehicles,
- The maximum threshold of CO₂ emissions was lowered by 150 grams to 110 grams per kilometre for petrol hybrid vehicles,
- Grants for diesel hybrid vehicles were removed.

The subsidy level for electric vehicles remains unchanged at 30% of the purchase price including VAT, capped at €9,000 and €3,000 for motorbikes.

The State encourages the use of electric vehicles through various measures, such as free annual road tax, road parking and vehicle recharging. The Public car parks department provides 440 recharging stations free of charge to users of electric vehicles and offers discounts on its car park season tickets.

Season ticket holders of public car parks in the Principality, who have electric vehicles can also recharge their vehicle(s) free of charge at the Auto-Bleue stations in Nice, provided that they register on the Auto-Bleue site (<http://www.auto-bleue.org/>).

The Government also provides support to Monegasque stakeholders (voluntary organisations, companies) in their efforts to promote clean vehicles, and is investing in partnerships with car manufacturers (Mitsubishi, Renault-Nissan, Smart...). The Principality, a true full size laboratory for car manufacturers, therefore benefits from innovations in the electric vehicle sector.

Encouraging low impact transport methods

In the context of sustainable mobility, low impact transport methods (walking, cycling, etc.) are encouraged. Monaco therefore has 124 mechanised links: 2 construction hoists, 35 escalators, 4 disabled lifts, 2 tele-steps, 73 public lifts and 8 travellers. The guide “Monaco Malin” has been updated and reprinted

to facilitate people’s travel experiences around the city. The new edition includes all alternative solutions to the car: bus stops, car parks that loan out e-bikes (electric bikes) free of charge to season ticket holders and residents, cycle lanes and lifts that accepts bicycles.

In addition, Monaco has a shared rental system for pedal-assist bicycles (pedelecs). This new service is the result of a trial period that helped to define the best possible system to suit the specific characteristics of the Principality. Since September 2013, 50 bikes and 10 charging stations have been installed, with around 350 members.

Waste management

The Principality’s waste management policy has the following objectives: reduction of waste at source, and optimised collection, recycling, treatment and disposal, notably via the waste to energy plant.

Monaco is autonomous for daily collections and processing of waste that can be recycled into energy. Since 1986, a fully automated pneumatic refuse collection system is in operation in the district of Fontvieille: it covers 22 ha with a network 6 km long. However, oversize refuse, incineration residues and hazardous waste representing a risk to safety or the environment (toxic or ultimate waste) are removed and treated outside of Monaco.

Waste to energy

Currently, most of the waste is processed in the incineration plant for urban and industrial waste, (UIRUI), to generate electricity and steam. This steam is converted into heat and cooling in a generation plant and distributed in the district of Fontvieille through a district network.

Materials recovery of waste

The waste derived from separate specific collections are sent to different recycling centres: These are mainly paper, glass and recyclable household packaging. This recycling programme has been optimised by increasing the number of voluntary collection stations and by introducing recycling bins in buildings. This measure, recently supplemented through the introduction of recycling cardboard boxes from offices, continues to be developed. Over the longer term, the plan is to install a loading bay to transfer recyclable household waste. This should provide Monaco with an effective infrastructure to



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Subsidies for buying electric and hybrid/electric vehicles.

This year, Monaco has continued its proactive policy by improving the system of purchase subsidies updated in 2012. The objective is to continue to encourage the least polluting vehicles by:

- Limiting the subsidy to hybrid vehicles emitting less than 110g/km of CO₂.
- Creating a specific bonus for rechargeable electric vehicles.
- Removing the subsidy for Diesel hybrid vehicles because of the diesel’s harmful impact on health.
- Maintaining the subsidies for purchasing electric vehicles. The amount will remain at 30% of the purchase price including VAT, capped at EUR 9 000 for the four-wheeled vehicles and 3,000 euros for the two-wheeled vehicles, tricycles and quadricycles.

handle large quantities of recycled waste, and redirect them to different materials recovery centres.

Anti-pollution measures

The Department of the Environment permanently monitors environmental quality throughout the year through monitoring networks (air quality, quality of coastal marine waters and bathing water, noise pollution), in order to act on priority issues such as pollution and improving the environment.

Air quality

The growth of human, industrial and logistics activities, energy production and waste treatment, all discharge polluting substances into the atmosphere. Since 1991, an automated network of 6 stations for monitoring air quality has been set up in the Principality (quai Antoine 1^{er}, rue Grimaldi, boulevard du Jardin Exotique, place des Moulins, Fontvieille school and boulevard Charles III) in order to avoid irritation or a risk to health and the environment.

This network provides continuous measurements, issues pollution alerts and monitors long-term changes in air quality. There are two different types of monitoring stations: proximity, and background. The first are located close to the sources of pollution (road traffic), the second, also known as 'general ambience', are far from any notable source pollution.

The pollutants monitored for are: nitrogen dioxide, fine particles and suspended particulates, lead, sulphur dioxide, ozone, carbon monoxide and benzene. The values measured are compared to the thresholds set by European directives.

In 2007, to improve treatment of flue gas from the incineration plant, works of around 20 million euros were carried out on the furnace boiler system, improving the purification process, adding another flue gas washing tower and installing a catalytic filter. The flue gas from the plant are continuously monitored. The data from monitoring the emissions from the stack are compared with European standards. The compliance rate is 100%. In addition, data collection programmes to monitor the impact of pollution in the neighbourhood are carried out regularly and the results indicate environments that have low or no pollution levels (equivalent to accepted urban or industrial thresholds) background noise, no we want to mean that the data are so low that they match to an "urban or industrial" threshold and from an incineration plant).

Noise abatement

The issue of noise pollution is an integral part of the quality of life in the Principality. The action of the Government focused on 2 aspects:

Monitoring noise pollution

Although the levels observed are consistent with a highly urbanised environment, the absence of heavy goods vehicles at night tempers the level of nocturnal sounds.

“ The Government of Monaco is developing a sustainable city policy focusing on preserving or strengthening a quality of life that is recognized and appreciated.”

On the strength of these results, the speed limit on certain road sections has been reduced, and low-noise road surfaces are being trialled. In addition, under the Urban Transport Plan, the main road networks are now underground, which helps to reduce noise emission.

The noise pollution monitoring network also includes installing a noise monitoring system for the heliport, to measure the noise impact. A psycho-acoustic study by the Government has led to a number of initiatives being implemented: restricting flights to test engines, new procedures for landing and take-off, authorisation for the closure of private loggias in the façades affected by the heliport, limiting the time a helicopter can remain on the ground with rotors running to 10 minutes.

Building site noise abatement

Measures for noise abatement on building sites were enhanced in 2010, with the promulgation of a ministerial decree amending the working hours for building sites. Furthermore, in 2011 a circular was issued to the construction industry requiring it to include the issue of noise abatement when planning building projects. This circular requires prior completion of a noise study, assessing the sound levels in the immediate vicinity of the future site before work commences and producing a projected noise curve generated by the construction work. These measures are intended to promote the use of the most efficient techniques and equipment to reduce the sound impact.

In addition, the Department of the Environment is currently setting up a noise observatory to improve management of sound pollution issues in the Principality.

Risk monitoring network

The risk monitoring network comprises:

- A network of 2 meteorological monitoring stations to collect data on temperature, precipitation, wind, psychrometrics and solar radiation;



- A system of seismic sensors in collaboration with the Centre Universitaire Geoazur;
- A tide gauge in cooperation with the Navy's Hydrographic and Oceanographic Department (SHOM);
- An environmental radioactivity detection system in collaboration with the International Atomic Energy Agency (IAEA).

Management of public open space

The Principality has nearly 443,000 square metres of public and private parks and gardens covering about 22% of the territory, including 275,000 square metres of public parks consisting mainly of ornamental gardens. These public open spaces represent a surface area of 13.85 square metres per capita.

Public open space is managed by the Department of Urban Amenities using environmentally friendly practices: protecting water resources by installing watering systems with sensors connected to rainfall data, reducing chemical treatments and developing organic pest controls.

In 2012, following an audit by the certification organisation ECOCERT, 3 sites in the Larvotto ward received the Ecological Open Space label (Espace Vert Ecologique) (EVE): the Japanese Garden, the Gardens

in the Villa Sauber and a group of gardens including le Portier, the central reservation (located to the right of the Japanese Garden and the Grimaldi Forum) and the flower beds around the Grimaldi Forum.

This international award represents a true achievement for the policy for managing public open space implemented for many years by the Department of Urban Planning.

To strengthen the Principality's policy to encourage a "green heritage", the Tree Code has been developed to define actions required to manage and conserve the Principality's tree heritage. It applies to all public and private open spaces. Consequently, more than a thousand species have received the status of remarkable trees, based on a number of different criteria: biological, botanical, social and environmental.





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