

**THE ENVIRONMENT**  
in the Principality of Monaco

DIRECTION OF THE ENVIRONMENT

*2011*

# HSH Prince Albert II

## A committed Head of State



TSH the Prince and Princess at their Wedding on July 2, 2011

HSH the Sovereign Prince's commitment for the range of themes related to sustainable development was illustrated throughout the year 2011 by a series of actions and initiatives.

The highlight of the year 2011 was the Princely Wedding – an event that TSH insisted in making as eco-responsible as possible, asking in particular the Fondation Prince Albert II de Monaco to compensate for the carbon emissions of the festivities within its "Monaco Carbon Offsetting" (MCO<sub>2</sub>) programme. This was achieved through the implementation of CER (Certified Emission Reduction), by selecting four projects certified by the United Nations' Framework

Convention on Climate change and the Kyoto Protocol: methanisation (recovery of the methane emitted by waste dumps) in the State of Para in Brazil, gravity hydraulics in Himachal Pradesh in India, river tapping in Yunnan in China, and a wind farm in Jiangxi, China.

In February 2011, in the Oceanographic Museum HSH the Prince chaired the second edition of the "Monaco Blue Initiative" created in partnership with the Oceanographic Institute and Fondation Prince Albert II de Monaco. Close to 80 personalities gathered on this occasion to reflect on the development and management of Protected Marine Areas.

In September, HSH the Sovereign Prince and Mr Christian Estrosi, Deputy mayor of Nice and Chair of the Nice Côte d'Azur metropolis, supported the partnership between the Principality and Nice Côte d'Azur in favour of freely chargeable electric vehicles for the Nice-based clients of "L'auto bleue" ("Blue Car") and to the subscribers of Monaco's public car parks.



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In his address, HSH the Prince recalled that "the issue of Protected Marine Areas is extremely prolific. It opens essential avenues for reflection on the wider issues of the protection of biodiversity, the preservation of marine areas and more widely, the peaceful coexistence of man and his natural environment."

In March 2011, for his commitment in favour of the protection of the environment, HSH the Prince received the insignia of Doctor Honoris Causa at the Portalis Institute of Law and Political sciences of Aix en Provence on the occasion of its 25<sup>th</sup> anniversary.

In September, TSH Prince Albert II and Princess Charlène attended the WWF's "Panda Ball" benefit dinner. The proceeds of the auction were earmarked for projects related to the International Year of Forests. The event was organized for the fiftieth anniversary of the WWF and provided an opportunity to strengthen its cooperation with Fondation Prince Albert II de Monaco.



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Awarding of the insignia of Doctor Honoris Causa of the Portalis Institute of Law and Political sciences of Aix en Provence to HSH Prince Albert II

In mid-September, HSH the Sovereign Prince took part in the International conference "2011, International Year of Forests - Forests of Europe and the World - Which way for the future?", organized at the initiative of Mr Gaston Franco, European deputy and President of the Group "Forest" of the Joint Committee of the European Parliament on "Climate change, Biodiversity and Sustainable development", in the buildings of the European Parliament in Brussels. In His speech, the Prince pointed out the activities launched by His Government and His Foundation in order to fight deforestation. He took part in the round table "Forests: beyond mere environmental matters".

In September, HSH the Prince went to Nantes for the International Biomarine Convention. This convention, which brought together industrial decision makers, scientists, officials, journalists and actors of civil society, was designed to support exchanges in order to generate new and concrete solutions derived from the oceans in favour of sustainable development. These encounters made it

possible to survey most advanced technologies and economic models around biological resources and renewable marine energy.

At the end of September in Arkhangelsk (Russia), HSH the Prince intervened in the Arctic forum "The Arctic - Territory of Dialogue" alongside Mr Vladimir



HSH Prince Albert II addressing the International Biomarine Convention in Nantes

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The 4<sup>th</sup> ceremony of Fondation Prince Albert II de Monaco Awards took place in October 2011. Since 2008, these Awards recognise personalities developing an outstanding action for the preservation of our planet on the three axes of the Foundation that is: Climate Change, Biodiversity and Water.

Putin, Prime Minister of the Federation of Russia, and Mr Olafur Ragnar Grimsson, President of the Republic of Iceland. For this second edition, the discussions focused on transportation in this area. This conference, organized by the Russian Geographical Society, of which HSH the Prince is an honorary member, brought together the representatives of the member countries of the Arctic Council, scientists, and specialists of this region.

A few days later in Evian, HSH the Prince was invited to the Annual conference of the Workshops of the Earth. Debates, round tables, testimonies, presentations of the latest projections and study reports put rhythm into the three days of exchanges of the sixth edition of this conference. Some twenty workshops and round tables addressed the crucial issues of energy, mobility, water, smart city, biodiversity, and risk management in order to find an answer to the central issues addressed by the Workshops of the Earth: "What revolutions to govern together a vulnerable world?"

In October, in Paris, HSH the Prince went to the Oceanographic Institute for a conference on the topic "Abyssal zones - a voyage in a little known world" which counted with the participation of many scientists and personalities including Maud Fontenoy, whose Foundation conducts various actions to protect the oceans and the littoral. The exchanges contemplated the topic of the marine great depths, which is the source of exceptional biodiversity and of development for many economic sectors.

HSH the Sovereign Prince then moved to Brussels to take part in the opening session of the "Arctic Futures Symposium 2011" conference, jointly organised by the International Polar Foundation and His foundation, with the Royal Library of Brussels. He was welcomed by Mr Alain Hubert, President of the International Polar Foundation.

The discussions followed on those held in the same context the year before. Political decision makers and scientists had an opportunity to share further thoughts on the challenges related to the exploitation of natural resources, transportation and the protection of the indigenous populations of the Arctic region.

HSH Prince Albert II surrounded by personalities participating in the conference on the topic "Abyssal zones: a voyage in a little known world" at the Oceanographic Institute in Paris





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Participation of HSH Prince Albert II in the Preparatory conference for "Rio +20" at the Oceanographic Museum of Monaco.

At the end of November, the Principality hosted the preparatory conference for "Rio +20" to be held in June 2012. At their encounter in September 2010 in the United Nations, HSH the Sovereign Prince and HE Mr Zukang Sha, General Secretary of the "Office for the preparatory Process of the United Nations Conference on Sustainable Development (U.N.C.S.D.)", called for a prominent place for the oceans at the "Rio +20" conference. It was decided that HSH the Prince would assume leadership regarding the protection of the oceans.

To prepare this international venue, the Principality hosted on November 28 to November 30 some thirty high-level experts who reflected on the challenges of "Sustainable management of the oceans within the framework of a green economy and the eradication of poverty", by addressing more particularly the issues of food safety, energy and tourism.

The objective of this workshop of experts was to draft, on the basis of the contributions by experts and participants, concrete conclusions and political recommendations to be integrated into the preparatory process of "Rio +20".

At the beginning of December, HSH the Sovereign Prince took part in the plenary opening session and various

workshops of the 17<sup>th</sup> UN Conference on Climate in Durban. HSH the Sovereign Prince attended the evening event organized by the UN Foundation, in partnership with His Foundation, on the theme of energy efficiency. Accompanied by the Princess Charlène, HSH the Prince took part in the UNEP's "One Billion Tree Campaign". On this occasion, He paid an explicit tribute to Wangari Maathai, disappeared in 2011, who was a member of the board of directors of Fondation Prince Albert II de Monaco. TSH the Prince and the Princess also attended the presentation of the Polaris project by the International Polar Foundation. In His short address, HSH the Prince recalled the ratification of the Kyoto Protocol in 2006 by the Principality, which committed to reduce its greenhouse gas emissions by 8 % in 2012 compared to 1990.

HSH the Prince declared on this occasion: "We must now convince everyone both of the relevance of continuing the fight against global warming started 15 years ago and of the need for the greatest possible member to take part in the achievement of this goal".

He also recalled that last year, the emissions of the main greenhouse gases had reached record levels. Confirming the necessity to concretise the Cancun agreement,



**“We must prevent the looming climatic disaster that we have provoked from getting worse”**

*HSH Prince Albert II*

TSH at the UNEP event “One Billion Tree Campaign” during the 17<sup>th</sup> UN Conference on Climate in Durban

HSH the Prince added: “We must prevent the looming climatic disaster that we have provoked from getting worse. In particular the Green Funds for the Climate must be made operational here and now by approving the project of an instrument as discussed in this assembly, We must now build trust, by adequately taking into account the particulars of each country, to foster a gradual increase of our level of ambition – a level of ambition sufficient to maintain the increase in the average global temperature within 2 degrees Celsius, in spite of the doubts regarding the fulfilment of this objective.”. HSH the Prince concluded by quoting professor Wangari Maathai, one of the most eminent figures of the African continent which hosted the conference, and who recently left us: “We cannot tire or give up. We owe it to the present and future generations of all species to rise up and walk!”

## 100<sup>th</sup> anniversary of the discovery of the South Pole



# Management of natural heritage: a priority



The four pillars of the sustainable development policy of the Principality of Monaco are based on the management of the natural heritage; the implementation of an Energy/ Climate Plan; a panel of actions in favour of a sustainable city; the mobilisation of the Monegasque Community, The management of the “natural heritage” covers the preservation of marine and terrestrial biodiversity, but also on the management of water resources, and the monitoring and control of pollution.

## **Biodiversity : a Priority**

The Princely Government strengthened its policy for environmental preservation and protection by its adhesion to International conventions, including the Convention on Biological Diversity, the Washington Convention (CITES), or the Barcelona Convention (addressing specifically the challenges of the Mediterranean basin).

Indeed, in spite of an exiguous and densely built territory, the Principality of Monaco is particularly proactive in the preservation of its biodiversity, whose wealth is often unsuspected. The objectives of this action are to know it better in order to better protect and manage it while developing it.

## **Knowing**

The first component of this policy consists in the acquisition of knowledge. Each year, the Direction of the Environment implements programs for the inventory, mapping and follow-up of the fauna and flora, both marine and terrestrial, of Monaco’s territory.

Through these actions it is possible to perform precise data acquisition, identify a possible imbalance in an ecosystem, and evaluate the quality of the environments. This made it possible to better adapt the management measures needed to maintain biodiversity.



## Conference of the Parties to the Washington Convention

Monaco took part in the 15<sup>th</sup> session of the Conference of the Parties to the Washington Convention (CITES) from March 13 to March 25, 2010 in Doha, Qatar, which brought together 1,200 participants and more than 170 governments.

Monaco advocated the listing of the blue fin tuna (*Thunnus thynnus*) in Appendix I of CITES (maximum protection). Although rejected, this proposal prompted debating on this species and its future.

Attention was also paid to other species like sharks, corals, polar bear or the African elephant, and over ten species were added to the appendices.

The adoption of programs for struggling against trafficking and co-operation with other organisations reinforced the efficiency of CITES, instrument for the protection of biodiversity.



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These tools allowed us, for example, to count peregrine falcons on cliffs of the Rock, and to discover an important population of noble pen shell (*Pinna nobilis*) in Larvotto.

The size of the Principality makes it possible for the Government to ensure the accurate identification of terrestrial and marine zones rich in biological diversity. This knowledge of the territory makes it possible the Direction of the Environment to carry out a regular follow-up on these sites and so to be reactive in their management.

### Protecting and managing

Measures for natural heritage management are implemented on the basis of acquired knowledge. The first stage is the creation of protected areas designed both to maintain the whole of an ecosystem and the protection of species. As early as 1908, the first protection measures of the marine zone of Larvotto were implemented. They lead to the creation of the first marine reserve in Monaco in 1978.

This marine reserve covers 30 hectares (60 acres), half of which constituted by a colony of Posidonia, an endemic seagrass of the Mediterranean which produces great quantities of oxygen and provides a shelter and a reproduction site for many species. More than 450 noble pen shells were identified on one third of the protected area.

In 1986, a second marine reserve was created on Monaco's littoral.

Taking water samples with a NISKIN bottle



© P. Poneil

## Satisfying results of three years of entomological research in the Principality

The insect inventory campaign carried out from 2008 to 2011 under the MONACOBIODIV Convention revealed a diversity which was as exceptional as unexpected:

- > 330 taxons of Coleopters (beetles, ladybirds, weevils) and 101 taxons of Heteropters (wood bugs).
- > low-mobility microfauna preserved by the peninsular situation of the Rock:
  - 5 species of Miridae (Heteropters) unknown in France, captured with an ultraviolet trap on its slopes.
  - 2 Coleopters that were unknown so far by Science: an Anobiidae of the *Synanobium* genus and a cavernicolous weevil of the *Troglorhynchus* genus, certainly the first endemic insect of the Principality, as it is exclusively found in the galleries dug under the Princely Palace (*Troglorhynchus sp.*, *Synanobium sp.*).

**Entomologists :** Philippe Poneil of IMEP-CNRS. in charge of the study - Photographs. Jean-Michel Lemaire (Natural history museum of Nice) and Armand Matocq (National Natural history museum of Paris).

## The Rock, a nesting place for the Peregrine falcon

Three Peregrine falcons were hatched in the Spring of 2010 in cliffs of the Rock, close to the Princely Palace. This sensational event was largely echoed in the press.

For reproduction, *Falco peregrinus* chooses a ledge or a cave on an inaccessible cliff, surrounded by avian preys in sufficient quantity to feed its offspring.

After two months the young falcons, under the supervision of their parents, start their difficult training in flight hunting.

Acrobatics, dives and chases are spectacular demonstrations of the defence of the reproduction site by this raptor, who can dive with closed wings at more than 180km/h to capture its preys in full flight.



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This 2 hectare zone located near the entrance of port Hercule contains a unique site in this constructed area: a coralligenous cliff. This site features an underwater cliff approximately thirty metres high and is a privileged spot for the development of colonies of red coral, an emblematic species in the Mediterranean. Protection was reinforced in 1993 by the prohibition of fishing brown grouper, a placid species appreciated for food. The protection measure of this endangered species seems to be effective in the Principality: a seven-fold increase in some twenty years was observed in its population in Monaco's waters.

The effectiveness of the various protection measures is easily measurable through inventories and regular programmes for the follow-up of the fauna and flora. The scientific methods used in these studies also made it possible to show the stability of the colony of Posidonia of Monaco over thirty years, a guarantee of the high quality of the marine environment. This species also takes part in the stabilisation of sea-beds by its roots and decreases the effect of coastal erosion by limiting the force of the swell.

The Princely Government continues today its efforts with the creation of a first protected area on the terrestrial part of its territory – the cliff of the Rock will soon have a statutory protection which will allow the implementation of a control program.

## Developing

In 2010, the International Year of Biodiversity, the Direction of the Environment launched a project for the immersion of artificial reefs designed to increase biodiversity in some areas of Monaco's waters. 3D bathymetry to characterise the seabed was carried out. The next stage consists, with the support of reef experts, to precisely locate underwater implant places, the shape of the reefs and their constitution in order to maximize their chances in the natural process of colonisation. Some of these installations will also make it possible to develop this new biodiversity by offering new spots for scuba diving.

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**“The Principality of Monaco is particularly proactive for the preservation of its biodiversity, whose wealth is often unsuspected.”**

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## Reproduction of the Crested Cormorant of the Mediterranean on the cliffs of the Rock?

The observation of Crested Cormorants (*Phalacrocorax aristotelis desmarestii*), an uncommon Mediterranean subspecies on the littoral, under the cliffs of the Monaco Rock, raised intense interest among ornithologists.

The presence of 6 young individuals photographed in 2010 suggests there is winter reproduction in Monaco. It remains to be checked in 2011 that they are not just erratic young individuals from Corsica.



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Hives on the roof of the Museum of Stamps and Mint

In addition, at the end of 2010, the Principality signed a partnership convention with the French bee-keeping association (UNAF: *Union Nationale de l'Apiculture Française*) for the creation of an apiary in Monaco and supporting the Charter "The Bee, a sentinel of the environment": 6 hives were installed on the terrace-roof of the Museum of Stamps and Mint in Fontvieille. The bees play a prominent role in the pollination of more than 80% of our vegetal environment; more than 20,000 threatened plant species are safeguarded

thanks to the bees, and 40% of human consumption (fruits, vegetables, oilseeds...) depends on their activity. Despite these revealing figures of the central role of bees, French bee-keepers noted the disappearance of almost 30% of bee colonies since 1995.

### Environments monitoring and pollution control

The maintenance of this biological diversity is closely related to the intrinsic quality of marine and terrestrial

## Monaco acts against deforestation

This operation was launched in 2010 by Fondation Prince Albert II de Monaco in partnership with the association MC2D and the Princely Government of Monaco. The year 2011 was notable for several events highlights in Monaco in this respect:

- the UN's choice to declare 2011 the International Year of Forests, launched officially on February 7 2011 in Monaco in the presence of HSH Prince Albert II in partnership with Fondation Prince Albert II, Monaco's Government and firms of the sector;
- the launching of the Charter on the use and virtuous management of wood on July 7 2011 at Fondation Prince Albert II de Monaco, with 27 partnering companies;
- reinforcement of the Wood Forever program, designed to promote in the pleasure boating industry the use of wood obtained from durably managed forests.



## Air Quality

Since 1991, the Direction of the Environment is in charge of monitoring air quality through a network of analysers performing constant quantitative and qualitative measurements of atmospheric gases and particles. A computerized central collects these data daily for pollution alert and assessments of the evolution and variation of air quality.

Within the framework of the Government's policy for the improvement of the quality of life, an upgrade campaign of the network was launched and two new "Partisol Plus" samplers were installed to analyse heavy metals.



environments. Consequently, their stability deserves special vigilance, through the implementation of inspection networks.

### Air quality

The development of human activities in industrial production, transportation, energy production or waste disposal releases potentially harmful substances into the atmosphere. In order to prevent nuisances and risk for health and the environment, an automated network of six air quality monitoring stations has been set up in the Principality over the past 20 years. It provides uninterrupted measurements and allows the triggering of pollution alerts, as well as a long-term follow-up of the evolution of air quality.

This network consists of two types of monitoring stations: proximity stations and basic stations. Stations of the first are located close to the sources of pollution (e.g. road traffic), while stations of the second type ("general ambience") are located away from all sources of pollution.

Recorded values are compared with the threshold set of the relevant European directives.

### The quality of littoral water

The Principality monitors the physical and chemical quality of littoral water, based on repeated measurements

of all the components of the marine environment (water masses, sediments and living organisms), but also on the knowledge of activities and contributions, both natural and anthropic, likely to influence the quality of the environment.

Besides this local monitoring, the Direction of the Environment takes part in the RINBIO (Network of Biological Integrators) campaign organized every 3 years by the water authority (*Agence de l'eau*) for the Rhone area, the Mediterranean and Corsica and by IFREMER (French Institute for Research and Exploitation of the Sea).

This study uses biological accumulators (mussels) whose presence, demography, morphology, physiology and behaviour characterize an environment and its evolution. This network offers the advantage of providing homogeneous information of the levels of contamination across the Western Mediterranean (European program MYTILOS).

Lastly, public health monitoring of water is also performed through the rating of the quality of bathing water. This legal monitoring is conducted from mid-May to September; during this period, each bathing site is sampled and analysed on a weekly basis. A statement of compliance is produced after each bathing season.

## 3D Seabed Mapping

A mapping of the seabed of the Principality was performed in the autumn of 2010. This campaign allowed determining the depth (bathymetry) of the water down to 100 metres.

The method also made it possible to characterise the nature and topography of the underwater surface, to evidence notable areas of biocenosis, and identify superficial sediments.

The large amount of information collected through this campaign will be critical for the management of Monaco's littoral.



## Water Resources Management

In some areas of the world, fresh water has become a major issue because of its scarcity, its unequal geographical distribution, or increasing demographic pressure. The policy of sensible water management in Monaco began in the second half of the 19<sup>th</sup> century with the installation of perimeters of protection around the springs of the Principality.

75% of the water used in the Principality comes from France (valleys of Vésubie and Roya), and the other

25% from Monaco (Marie, Alice and Vaulabelle springs of the Larvotto district). There are also water tables under Condamine and Fontvieille. The distribution of Monaco's water is carried out by Société Monégasque des Eaux (SMEaux), a State contractor company, which also performs the treatment and quality control before providing the water to the population.

However, sustainable management of the water resources requires the rationalisation of consumption. Over about ten years, thanks to the actions carried out by the State, the private sector and the private

## Convention on Biological Diversity



A Monegasque delegation took part in the 10<sup>th</sup> Conference of the Parties to the Convention on Biological Diversity in Nagoya in 2010, the International Year of Biodiversity.

This event brought together some 18,000 participants, and produced landmark advances in the international cooperation for the preservation of species, adopting a strategic plan in twenty objectives covering the period from 2011 to 2020.

17% of the global terrestrial surface and 1/10 of the total oceanic surface should become protected areas by 2020.

The adoption of the protocol on the access and sharing of natural wealth was also a highlight of this meeting.



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individuals, drinking water consumption decreased on average by 1% a year.

Initiatives include the use of rainwater and water from the small valleys for various activities like street cleaning.

## Waste water treatment

All the waste water of the Principality and the city of Beausoleil as well as part of waste water of the cities of Cap d' Ail and La Turbie, goes to the network of collectors of the Principality, and is then sent for purification to the waste water pre-treatment plant (UPTER: *Usine de pré-traitement des eaux résiduaires*) located under the Rock of Monaco and managed

by the Direction of Territorial. This plant performs the coarse cleaning, fine cleaning, de-sanding and de-oiling of the effluents. It can process 2,000 L/s.

Once pre-treated at UPTER, the water is led to the waste water treatment plant (UTER: *Usine de traitement des eaux résiduaires*) located in Fontvieille under the "Triton" building. Purified water is then rejected into the sea by an outfall whose discharge system is located 800 metres into the sea from the Fontvieille dam, and a depth of approximately 100 metres. A characteristic trait of the Principality is that the sludge generated by the purification of water is directly led to a waste reclamation plant nearby.

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**"The Principality monitors the physical and chemical quality of littoral water, based on repeated measurements of an exhaustive range of the components of the marine environment."**

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## A field of gorgonians

The ground truth dives conducted during the underwater mapping campaign in the autumn of 2010 identified a new zone of interest in Monaco's waters.

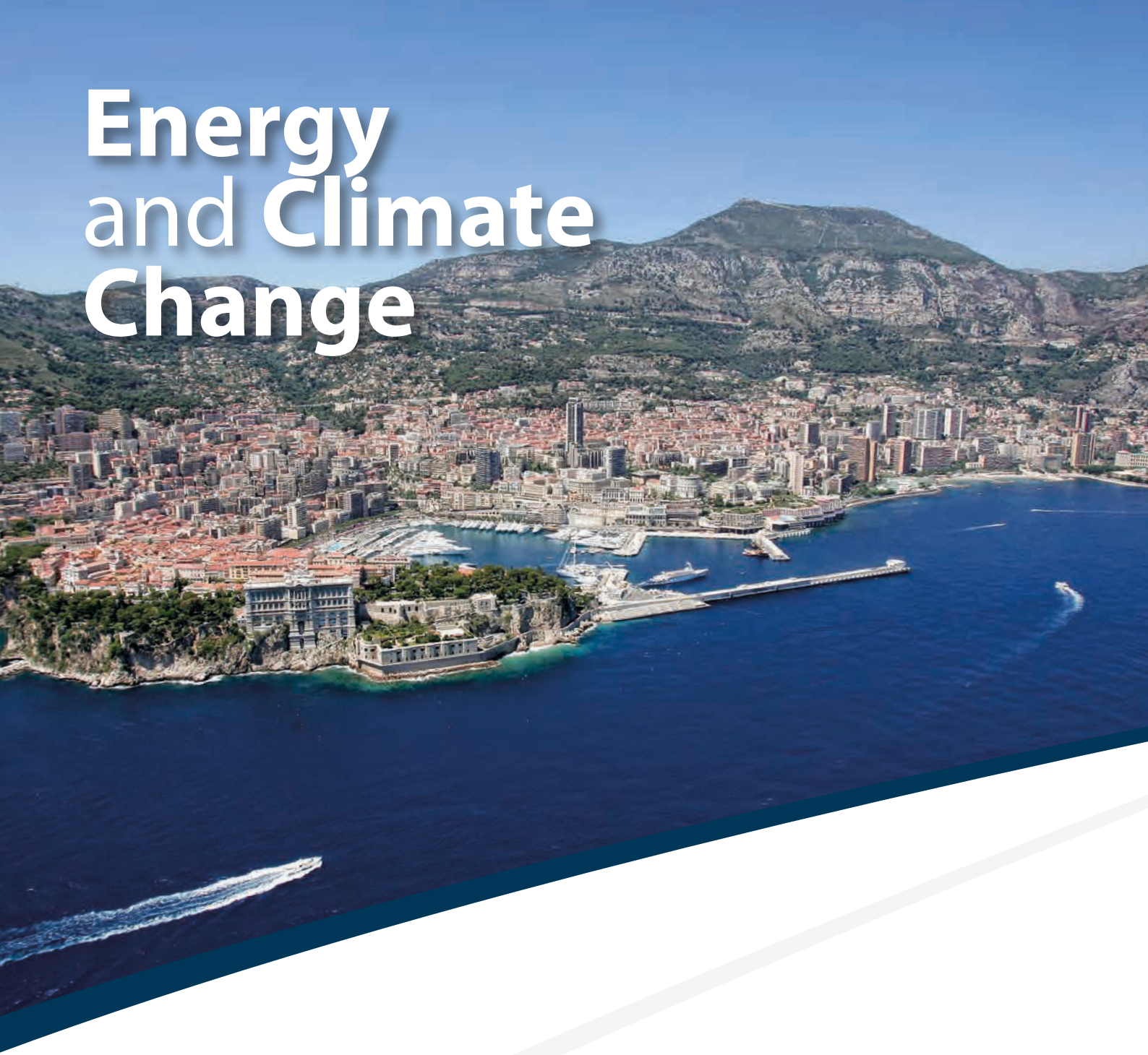
Roches Saint-Martin, located in front of port Hercules are reputed for their coral-producing community, but the field of purple gorgonians (sea fans), discovered by a robot operated remotely from the surface is just as remarkable.

The study of this new biodiverse zone located more than fifty metres deep will require new immersion sessions of the robot to acquire additional images.



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# Energy and Climate Change



The increasing use, over nearly one century and a half, of fossil fuel such as oil or coal is the main cause of the increase in the amounts of greenhouse gases (GHG) rejected into the atmosphere. These gases are naturally present; but the increase of their concentration due to the massive anthropic rejections is a source of climate change, as underlined in the various reports of the Intergovernmental Panel on Climate Change (IPCC).

The adoption of the Kyoto Protocol under the United Nations framework Convention on Climate change aims at reducing GHG emissions. The Principality ratified this protocol in 2006 and entered the network of carbon neutrality of the UN Program for the Environment (CN Net) in 2008.

The Principality fosters the electric security of the East-PACA (Provence, Alpes, Côte d'Azur), by supporting the local production of renewable energy and by reducing energy consumption, in particular electric power.

Aware of these stakes dependent on climate change and eager to respect its commitments, the Principality of Monaco implements a resolute and innovating energy policy through its Energy/Climate Plan. This plan is articulated around two major issues: the security of energy supply, and the struggle against the climatic change.

It translates into quantified objectives on three axes: regulation, incentives and exemplariness of the State.



## Securing electric supply

On January 21, 2011, the Principality of Monaco signed the Objectives Contract for the Securing of electric supply of the East of the PACA Area, along the French State, the PACA Regional Council, the Departmental authorities of Alpes-Maritimes and Var, RTE, ADEME and EPA Plaine du Var.

The Principality committed to support and take part in the objectives of the Contract, which are:

- Reducing by 15% the consumption of electricity in the departments of the Alpes-Maritimes and Var before December 31, 2013, relative to 2008;
- Producing 15% of the energy used from renewable sources by December 31, 2012
- Launching an ambitious program for the control of electricity consumption, the reduction of peaks of electricity consumption and the development of the local production of renewable energy.

Moreover, RTE committed to install a grid of 225kV lines in this zone by December 31, 2015.



## Energy security

For its electricity supply, the Principality almost exclusively depends on a very high voltage (400,000 volt) line serving the Eastern tip of the French Mediterranean coastline, from power plants located in the Rhone valley. This single channel of supply represents a strong structural constraint, and during winter peaks of consumption, the strong demand in energy can cause shortages that harm both the economy and the quality of life of the Principality.

## Limiting peak consumption

To avoid such shortages, the Government of Monaco has set the objective of limiting peak electric output by 2020 at a level lower than the level of 2006, i.e. 97,500 kilowatt.

The risk for users in such episodes is have their power supply deliberately interrupted locally (offloading) in order to avoid a larger blackout of Monaco, Alpes-Maritimes and the East of Var.

The Government of Monaco is a partner of the EcoWatt initiative ([www.ecowatt-provence-azur.fr](http://www.ecowatt-provence-azur.fr)) launched by RTE (*Réseau et Transport d'Électricité*), designed to warn users about the risks of saturation of the grid and reminding them "proper gestures" to moderate their consumption.



## Aerial infrared Thermography

Early in 2011, the Direction of The Environment presented the results of Monaco's aerial infrared thermography in the Commercial Gallery of Fontvieille. Each resident of Monaco could view the heat print of his/her roof, discover graphically phenomena of heat loss, and understand some simple actions to minimise them.

This operation is part of the Energy/Climate Plan, as one of the objectives of the plan is to increase by 20% the energy efficiency of buildings by 2020, compared to 2007.

### Increasing energetic independence

The development of renewable energy must make it possible to increase the country's energy security, targeting by 2020 a 20% share of consumption derived from renewable energy sources.

In Monaco, these renewable energy sources are primarily available in the following forms:

- through the energetic valorisation of waste, thanks to the Plant for the Incineration of Urban and Industrial Residues (UIRUI: *Usine d'Incineration des Résidus Urbains et Industriels*). Waste is used as fuel to produce vapour which feeds the heat and cold urban network of the Fontvieille district and also generates electricity.
- through the development of heat pumps using sea water. This process consumes four times less energy than a boiler with conventional fuel to deliver the same quantity of heat. . . Most of these systems are reversible, that is, can be used for heating and for air-conditioning. The first heat pump with sea water in Monaco dates back from 1963. Today, heat pumps produce 17% of the energy consumed in the Principality, saving more than 15,000 tons of oil equivalent annually.

In the future, the development of renewable energy sources in Monaco will also involve:

- the production of warm water via thermal solar panels. A subsidy of 30%, up to 30,000 Euro, is granted to any person wishing to install this kind of panels to replace a fossil fuel thermal installation.
- electric production via photovoltaic solar panels.

### Increasing the energy efficiency of buildings

Energy sobriety also contributes to the energy security of the territory. Our efforts must target primarily the main sources of consumption, namely, building. We have set a reduction target of 20% of unit consumption of energy in buildings in 2020, compared to 2007.

Since 2007, the Government has been applying the Haute Qualité Environnementale® approach (Environmental Top quality) in all the new buildings of the State. This approach, piloted by the Service of Public Work, aims at improving the design of the buildings by minimising their environmental impact. That may involve the choice of building materials, factoring in the maintenance costs of the building, and possibly its deconstruction, but mostly energy saving.

Moreover, for the existing public buildings, the State's services carry out energy audits followed by operations of restoration conducted by the Service of State Buildings.

## The struggle against climate change

The second component of the Energy/Climate Plan relates to the Principality's international commitment the relative to the United Nations framework Convention on Climate change.

Under the Kyoto protocol, Monaco pledged to reduce by 8% between 2008 and 2012 its direct greenhouse gas emissions compared to 1990. In addition, during the Climate Conference in Copenhagen, HSH the Sovereign Prince announced His determination to reduce the Principality's emissions by 30% in 2020 compared to 1990 and 80% in 2050. Additionally, the residual emissions will have to be compensated, so that the Principality of Monaco reaches carbon neutrality by 2050.

## Reducing direct greenhouse gas emissions

Direct GHG emissions as identified in Monaco are mainly related to the burning of fuel and gas, urban and industrial waste incineration, and the consumption of car fuel sold on Monaco's territory.

Between 1990 and 2009, the Principality's GHG emissions decreased by 15%.: Monaco is on the right track to respect its commitments.

This is the result of a range of proactive measures.

The Government of Monaco has set up since 2003 legal measures prohibiting the installation of fuel-based heating systems in new buildings. Because of the strong urban renewal which characterises Monaco, this decision accounts for almost all of the 15% reduction of GHG emissions observed between 1990 and 2009.

Moreover, selective waste collection, initiated in Monaco in 1992, was intensified from 2008. During this period, the per capita production on the Principality of waste to be incinerated was reduced by 15%. Lastly, since 2011, the collection and recycling of used paperboard from stores and companies is starting to develop, reducing the overall weight of incinerated waste. These actions also contribute to decrease the sources of GHG emissions.

These actions are supplemented by an incentive policy of the State via subsidies for installations using renewable energy, a pricing incentive for energy saving, and a financial incentive for the repurchase of renewable energy produced on the territory.

The regulation of urban freight transportation, subsidies for the purchase of hybrid or electric vehicles, and an incentive pricing policy in favour of public transportation, are some of the initiatives which contribute to limit the GHG emissions of the Principality.

## Reaching carbon neutrality

The objective is to compensate for the emissions which cannot be reduced on the Monegasque territory in order to reach carbon neutrality.

This concept rests on the principle that the greenhouse effect is a total phenomenon and that a quantity of carbon emitted somewhere in a given place can be compensated by the reduction or the sequestration of the same quantity in another place. This is concretised in contributions to projects for the reduction and the capture or sequestration of the quantity of carbon emitted by the Principality, via the purchase of reduction credits abroad. Within the United Nations Environment Program (UNEP), Monaco entered the Network for a Neutral Climate (Carbon Neutral Network) and set itself an objective of carbon neutrality by 2050.

## EcoWatt Provence Azur

The Principality of Monaco became a partner of RTE's EcoWatt initiative since its inception on December 13, 2010.

This innovating and original operation is based on the triggering of alerts to limit the risks of power outages due to the structural fragility of the grid in the East of the PACA area.

It aims at encouraging the inhabitants, companies and associations of Var, Alpes-Maritimes and Monaco, to join in the community of "EcoWatters" by signing its charger on the site [www.ecowatt-provence-azur.fr](http://www.ecowatt-provence-azur.fr). They are encourage with adopt positive gestures to reduce their consumption during winter evenings (between 6 and 8 PM) during cold peaks.



# Sustainable city



The Principality currently has 48,000 employees and 35,000 residents moving across a territory of 2 sq km. This represents more than 385,000 daily transfers in all modalities (car, bus, TER (regional train), walking, motorbike) including 103,000 in/out car vehicles on working days, with 14,200 vehicles between 7:30 and 9:30 and 17,000 vehicles in the evening.

Being a pole of economic and touristic attraction, Monaco also receives nearly 5 million visitors a year. These figures clearly illustrate the importance of flows of circulation and their impact on the city. ([www.infotraffic.mc](http://www.infotraffic.mc)).

The Government of Monaco has a policy for a sustainable city focusing on the preservation, even the reinforcement, of a recognised and appreciated quality of life. This policy is articulated in particular around mobility management, waste treatment, green spaces, and noise pollution.

## Mobility policy

The State's policy for mobility is designed to reduce the negative impacts of motor vehicle traffic (traffic, air quality, noise pollutions, etc.) but also to propose alternative modes of displacement. Actions address two fields: the installation of a strategic plan of the urban infrastructures and the implementation of an Urban Mobility Plan (P.D.U.: *Plan de Déplacement Urbain*) articulated around the development of public transit; the optimisation of the transport of goods downtown; the promotion of clean or low-pollution vehicles; and the development of soft mobility.

## Infrastructure improvement

The strategic plan for road infrastructures is characterised by the development of boulevard du Larvotto as a traffic backbone on the former



Soft mobility

path of the train line from Saint-Roman to Cap d'Ail. The objective of this axis is to facilitate movements between districts and reducing the parasitic transit within the various districts of the Principality.

The strategic plan for infrastructures also covers the installation of “park and ride” facilities at the access points into the Principality, and the project for a sloping tunnel from Monaco’s access near the Exotic Garden down to the Fontvieille district. The opening-up of this district will be supplemented by the construction of the Saint-Antoine commercial zone in Cap d’Ail and its street network.

## Development of public transport

The Government is enhancing the equipment and services of Monaco’s Bus Company (CAM: *Compagnie des Autobus de Monaco*), improving the quality of service: there is a bus every 8/9 minutes on lines 1,2,6 and a bus every 11 minutes on lines 4 and 5; and there are new services of evening buses (nearly 3,000 trips/months), night buses and boat shuttles. The CAM also set up a new vehicle scheduling control system with GPS localisation of the buses and real-time traveller information. ([www.cam.mc](http://www.cam.mc)). The new contactless ticketing system offers better reliability and more services, in particular the interoperability with the ticketing system of the TAM and AZUR lines connecting with the department of Alpes-Maritimes.

Lastly, the incentive pricing policy (for example with the yearly subscription as low as 15 Euros a month) was instrumental in an increase of more than 4% of usage in a year, reaching close to 7.5 million trips in 2010.

## Supporting public/interurban transportation

For three years the State has strengthened its action in favour of public transportation, both inside the Principality and to or from surrounding municipalities and regions.

The purchase of five TER train sets integrated with the French regional railway network contributes to the transportation of the employees commuting each day to Monaco, with a frequency of a quarter of an hour in morning and evening rush hours (and 1/2 hour at normal otherwise), accounting for a hundred trains per day. Today, more than 15,000 users per working day transit in Monaco’s train station. The annual increase is estimated at +8%, with a total yearly figure close to 5 million travellers.

Today, the interoperability between SNCF and CAM is being set up, by proposing a combined rate for “work” subscribers and students who make a combined use of the TER network and CAM buses.

Additionally, TAM line n° 100, connecting Nice to Menton and serving Monaco, has an annual increase of 6% with more than 4,000 travellers per working day.



A Smart brand electric car in the EVER trade show

## Urban distribution centre

The Principality of Monaco set up in 1989 an Urban Distribution Centre (CDU: *Centre de Distribution Urbaine*) to ease downtown car traffic by decreasing the circulation of trucks and optimising their load. In 1999, this CDU was connected to a pre-consolidation platform in the logistics zone (PAL: *Park d'Activités Logistiques*) of Nice Saint Isidore. The CDU-PAL connection is handled by the Monaco Logistique company. This creation of the PAL allowed the rationalisation of the freight traffic, the provision of delocalised storage surfaces and the sharing of logistic and traction costs.

This freight platform reduces by 50% the congestion of the roadway system by commercial vehicles and, according to a study by ADEME, reduces air pollution by 30%.

## Carpooling



The Government also supports initiatives for a better control of urban movement. The State ensures the promotion of carpooling for active population of the Principality. Created in October 2006 the car pooling service ([www.monacovoiturage.mc](http://www.monacovoiturage.mc)) has today more than 1,000 registered users. Also, carpooling, through

preferential car park subscription rates and the splitting of travel expenses (like fuel and motorway subscription), also substantially reduces displacement costs. Savings are currently evaluated at €2,000 a year.

## Electrically assisted bicycles

Public car parks currently manage about forty bicycles with electric assistance, free for the residents of the Principality, and CAM is experimenting a self-service of electrically assisted bicycles.

## Promoting electric and hybrid vehicles

The State supports the promotion of clean or low polluting vehicles by subsidising the purchase of a hybrid or electric vehicle and the exemption from the cost of the annual stamp for electric vehicles as well as the free use of surface car parks.

The Service of Public Car Parks provides users of electric vehicles with free access to 400 refill plugs and proposes rebates on park subscriptions. The State and the Municipality set the example: almost all the vehicles bought by these administrations are either electric, or hybrid.



## Mobility Week

From September 16 to 18, 2011, the Principality has participated in the European Mobility Week.

During this event, the electric car was showcased, with drive tests for the public in Larvotto, in La Rose des Vents. The distributors Go Electrix, Newteon, Venturi, Auto Bleue Nice, Monacourse, Auto Moto 2000 were present, but also the Compagnie de Carabiniers du Prince, La Poste and the Public parks with I-Miev, as well as the Monaco Bus Company with electrically assisted bicycles.

The Principality currently has more than 550 electric or hybrids vehicles, representing 1.6% of the cars registered in Monaco.

This policy is reinforced by partnerships with manufacturers like Mitsubishi, Renault-Nissan, Smart which regularly evaluate the innovations and technical capabilities of their electric vehicles. A regulation also imposes on certain vehicles, such as taxis, a maximum threshold of CO<sub>2</sub> emissions of 190 g/km.

### Encouraging soft modalities of movement

In the context of quieter mobility, modes of “soft” movement (walking and cycling) are encouraged. Today Monaco has 28 connections by elevators, 7 by moving stairways and 26 by classic stairs. In order to better move around the city, the “Monaco Malin” guide was updated and reissued. The new version lists information about all the alternative modes to avoid using cars, bus stops, car parks proposing to subscribers and residents free loans of electric bicycles, cycle lanes and elevator accommodating bicycles. Finally let us recall, that the World Health Organisation recommends at least half an hour of physical exercise per day. This is equivalent to walking 2 km per day.

## Waste management

The Principality's waste management policy is designed to limit their production, and to optimise their collection, reclamation, treatment and elimination in particular through the waste energy plant.

The Principality is autonomous for the daily collection and treatment of its energetically reclaimable waste except types of waste which would be hazardous for human safety or the environment if incinerated. Bulky waste, the residues of incineration and toxic and ultimate wastes are evacuated and treated outside of the Principality. In addition, since 1986, an entirely automated pneumatic collection process chain was commissioned in the Fontvieille district: it covers 22 ha on a 6 km network.

## Waste to Energy

Currently in the Principality, 92% of waste is energetically valorised in plant for the Incineration of Urban and Industrial Residues. This energy system results concretely in the production of electricity and the distribution of heat and cold over the Fontvieille district.

## Waste recycling

Approximately 8% of waste is redirected to material recycling processes, especially for paper, glass and recyclable consumer packaging. The effectiveness of this collection is optimised by the multiplication of voluntary dump spots or the installation of sorting containers in buildings.

This device was recently supplemented by the development of the collection of carton from companies. A dock for the transfer of domestic garbage is planned, to equip Monaco with efficient equipment to compact sorted waste and redirect it to material recycling processes.

## Pollution control

In order to improve the treatment of fumes from incineration plants, 20 million euros' worth of work was performed in 2007 on the oven-boiler system, the improvement of purification, the doubling of the washing tower and the installation of a catalytic filter.

The smoke rejected by the factory is controlled permanently. The values measured at the exit of the chimney are compared with the European standards

and a rate of conformity of 100% is observed. Moreover, campaigns for the measurement of their impact in the area are carried out regularly.

The latest results show values lower than 1 picogramme per square metre and per day for the concentrations in dioxanes and furans in the vicinity, only slightly higher than their detection threshold; this confirms the effectiveness of the new purifiers.

## Struggle against noise pollution

The issue of noise pollutions is an integral part of the quality of life in the Principality. The Government's action addresses two aspects:

### Sound pollution monitoring

This monitoring is ensured by the deployment of a network of continuous measurements of downtown noise and the periodic elaboration of a sound map of the Principality. The first stations of this inspection network were installed near the heliport in 2009 in order to measure the sonic impact of helicopters on the nearby residents and on rue Grimaldi.

Logo of the SMA: Société Monégasque d'Assainissement, especially in charge of selective waste collection. A selective waste collection spot with underground containers.





## Struggle against the noise pollution caused by building sites

The struggle against the noise pollution caused by building sites was reinforced in 2010 by a ministerial decree modifying the allowed opening and closing times of sites. Additionally, a letter was circulated to construction firms so that they could integrate the issue of noise when planning building sites.

Under this regulation, the constructor must perform a preliminary noise study defining the initial state of the immediate surroundings of the building site, and produce a curve of estimated noise pollution due to the building site. The constructor also has to give preference to proper techniques and materials to limit the acoustic impact.

## Green space management

Private and public green spaces cover approximately 20% of the national territory with 470,000 sq m, against 50,000 sq m in 1961. They include 274,000 sq m of public green spaces, mainly pleasure gardens, generally thematic: Princess Grace Rose garden, Olive grove, Japanese Garden, Exotic Garden, fitness circuit, kindergarten, etc., and 800 avenue trees.

The Direction of Territorial is in charge of the maintenance of public green spaces. It calls on techniques that are respectful of the environment, resorting for example to such gardeners' assistants as ladybirds rather than chemicals. The management of water resources includes the implementation of drip watering adjusted according to rainfall levels.

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**“The Government of Monaco has a policy for a sustainable city focusing on the preservation, even the reinforcement of a recognised and appreciated quality of life.”**

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The Rainier III project received the *“Habitat et Environnement”* label of the French certification organisation CERQUAL



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# Mobilising the Monegasque community



The Government of Monaco policy in favour of sustainable development is fully legitimated through the engagement and mobilisation of the whole Monegasque Community, the private sector stakeholders and the associative network.

## The eco-responsible approach

The public administration has to show the way. It launched an eco-responsible approach, initiated by the creation in 2009 of a network of consultants in each administrative service. Thanks to a guide of “eco-attitude”, everyone could participate in this approach through simple acts.

The reflexion and work are continuing today with the following objectives:

- limiting the demand for energy;
- limiting waste production and ensuring its collection and optimal sorting;

- reducing drinking water consumption;
- supporting the diffusion of the environmental good practices through training.

To achieve these goals, the eco-responsible advocates are in charge of the follow-up of an action plan whose main points are based on the sensitisation of the stakeholders to sustainable development; a purchases policy supporting green products, the implementation of recycling in the services; the development of the carbon assessment of the public administration, etc.

## The private sector

The contribution of the Monegasque Community and its adhesion to selective waste collection (sorting domestic paper, glass, packagings...) tells about the state of mind which prevails in the Principality in favour of sustainable development and related



## ECO-RESPONSIBILITY

Monaco's public administration launched its eco-responsible approach in April 2009. Since, the Direction of the Environment regularly convenes the eco-advocates representing all the services of the public administration, to discuss various issues like waste in general, with a training session on selective recycling, green purchasing, carbon balance assessment...

In 2011, new actions will be developed along this approach thanks to the increasing implication of the State's agents and civil servants: The objective is to make the Administration exemplary in its operation in order to limit the environmental impact of its activities, while preserving and by improving the agents' working conditions.

issues. This commitment is widely shared by the private and associative sector, as demonstrated by the creation by Monaco's Young Economic Chamber of a charter of social responsibility, signed by nearly a hundred companies.

This mobilisation for Sustainable development is also found in the daily operation of several leading entities like the Société des Bains de Mer or the Grimaldi Forum (ISO 14001 certified).

We can also mention the commitment of the Monegasque company Venturi in favour of the green car which, showed the reliability of this technology with an electric Berlingo which drove to Paris from Shanghai, over more than 13,000 km (8100 miles). This company also holds the world speed record for an electric vehicle, at 515 km/h (320 mph).

### A schedule of green and sustainable events

This mobilisation is also present in the schedule of events of the Principality throughout the year, including the following:

- Monacology, organised in the port of Monaco in early June (at the time of the World Environment Day), raising awareness in schoolboys of the Principality

and the greater public about the environmental challenges through games, documentation and videos.

- The annual "Jeun élec" contest organized by AMAVE, awarded to schoolboys to make them more aware of the environment and the use of electric cars.
- The EVER show has become in 5 years a landmark event in the world of electric vehicles, with the first presentation or preview of numerous models and the presence of the major manufacturers. This event is the occasion for professionals and for the general public alike to become acquainted with advanced technologies in electric mobility for 2- and 4-wheel vehicles. This show takes place every year in the Grimaldi Forum in March.
- The Monte Carlo Rally for alternative energy vehicles, organized simultaneously with the EVER show, by the Automobile Club of Monaco, became a major test in this category.
- The Alain Vatrican Prize, organized by the RAMOGE Agreement, rewards an initiative, a project or a study related to the marine environment or the awareness of the general public regarding marine issues. Two categories are considered each year: for candidates who are 11-15 and 21-26 years of age, with sums from € 750 to € 3,500.

## EVER 2011

EVER Monaco 2011 was a success! From March 30 to April 3, the show of green vehicles and renewable energy hosted 8,000 visitors

During four days, various manufacturers and equipment suppliers allowed the general and professional public to discover their prototypes and their production or near-production models.

The round table on the topic "Which type of energy for future mobility" took place in front of a dense audience including numerous members of the French Parliament.

At the closing of the show, a hybrid Toyota was offered to the winner of the lottery organised in partnership with HSBC Private Bank.



- The MC2D association, in close cooperation with the Direction of National Education, Youth and Sports, organises each year the Youth and Sustainable development encounters, based on verbal tournaments between two teams which must advocate their ideas on two imposed ecological issues.

Additionally, HSH the Sovereign Prince rewards each year, under the aegis of His Foundation, personalities and young researchers for their exemplary action and work in favour of the environment and sustainable development in the three priority fields of action of the Foundation: preservation of biodiversity, climate change and energy, and access to water and struggle against desertification. Through these awards, the Foundation wishes to accompany these people in their approach and to help them conduct their research.

### Associations

The Monegasque associative network too is quite active, with ten structures which develop action programmes in favour of the protection of the environments, the promotion of mobility and eco-responsibility. This associative vitality reflects a collective awakening.

#### • Association Découverte Nature

##### Goals:

- Support the discovery and the knowledge of nature, mainly through entomology or any other discipline;
- Enrich this awakening by a thorough study of fauna and flora;

- Contribute in this way to general knowledge and the proper human balance.

Address: 40, quai Jean-Charles Rey

Phone: +377 92 05 21 34 - [www.insectomania.org](http://www.insectomania.org)

#### • Association Monégasque des Amis du Véhicule Électrique

##### Goals:

- Bring together all persons and groups with interest in electric vehicles as well as potential users of these vehicles;
- The encouragement and promotion of the use of electric vehicles in any form;
- Research on, archival, publication and diffusion of any information concerning electric vehicles;
- The development of knowledge in this field by means of conferences, debates or colloquia and through international relations with organisations having similar objectives.

Address: Patio Palace, 41, avenue Hector Otto

Phone: +377 97 77 54 21 - [www.amave.mc](http://www.amave.mc)

#### • Association Monégasque pour les Amoureux de la Mer Méditerranéenne

##### Goals:

- Gather all the people who love the Mediterranean Sea;
- Promote by any means the access to, discovery and preservation of the Mediterranean Sea.

Address: Local A.M.A.M.M.,

Esplanade du Larvotto

Phone: +33 06.78.63.03.85

E-mail : [pierrefrolla@pierrefrolla.com](mailto:pierrefrolla@pierrefrolla.com)

# The Monte Carlo Rally for alternative energy vehicles

The 5<sup>th</sup> Monte Carlo Rally for alternative energy vehicles took place from March 31 to April 3<sup>rd</sup> during the EVER show.

This race, part of the official calendar of the International Automobile Federation, brought together this year 96 teams, half of which were driving a hybrid vehicle.

Worth noting:

- TESLA won once again
- the I-MIEV (Mitsubishi) of Fondation Prince Albert II de Monaco and the NISSAN LEAF drove from Nice-East to La Turbie at 80 km/h for the regularity contest.

This Rally is a success, and a brilliant showcase of electric vehicles.



## • Association Monégasque pour la Protection de la nature

### Goals:

- Propagate in the Principality of Monaco the idea of the protection of nature, a better use of its resources, and foster its implementation by any suitable means;
- Encourage any actions and studies in this direction;
- Manage the Protected Area du Larvotto and the Protected Area du Tombant des Spélugues;
- Propose the creation of new nature reservations.

Adress : 14, quai Antoine I<sup>er</sup>, Le Ruscino

Phone : +377 92.05.61.70 - [www.ampn-asso.mc](http://www.ampn-asso.mc)

## • l'École Bleue, Académie Monégasque de la Mer

### Goals:

- Make the population sensitive to the need for the environmental protection of the littoral and the seabed through education and prevention;
- Cooperate with all the organisations, associations or confederations working for maritime environmental protection or the development of scuba diving;

- Elaborate educational and training contents; produce documents and educational tools to support teaching;
- Direct novice children and divers in the discovery of the fauna and flora of the Mediterranean Sea, by any available forms of accesses (water excursions, boat excursions, hiking, courses, scuba diving sessions, etc.);
- Contribute to accident prevention by the development of safety regulations and standards of supervision for scuba diving and water excursions;

- Executive training,

Adress : Local AMAMM,

Esplanade du Larvotto, Avenue Princesse Grace

Phone : +33 06.78.63.03.85

[www.ecolebleue-monaco.com](http://www.ecolebleue-monaco.com)

## • Ecopolis

### Goals:

- Support Sustainable development and promote social, cultural, economic and industrial behaviours in its favour in our city;
- Raise awareness about the concept of Sustainable development;

## Career Day

Career Day, organized each year by the Direction of National education, Youth and Sport, aims allows alumni to gather as much information as possible about careers and functions in companies and public administration. The Direction of the Environment participated in the 17<sup>th</sup> Career Day in Collège Charles III on February 3, 2011. During this day, the Direction of the Environment told school youth about the careers related to the environment and about its role within the Government of Monaco.



- Take part in the improvement of the quality of life in the urban environment;
- Act for the reduction of the consumption of energy, raw materials and natural resources;
- Inform the public about the ecological quality of products;
- Carry out reflexion about waste management and present proposals for its optimisation.

Adress : 1, avenue des Guelfes

Phone: +377 92.05.64.48

## • MC H<sub>2</sub>O

### Goals:

- Coordinate knowledge and amplify positive actions concerning sustainable development with respect to the hydrological cycle;
- Be a force of initiative and establish a constructive dialogue with the public authorities, especially with regard to urban mobility, waste management, the development of renewable energies;
- Promote the spirit of sustainable development beyond the borders of the Principality through co-operation with the general public, schools, companies, other non-governmental organisations and governments, in particular in developing countries;

- Promote an environmental approach geared to responsible sustainable development, through any appropriate means, such as the organisation of events, symposiums and exhibitions on these issues.

Adress : 25 bis, boulevard Albert I<sup>er</sup>

## • MC2D

### Monaco Développement Durable

#### Goals:

Coordination of existing Monegasques environmental associations, of their members and of any other person in order to coordinate and amplify their action in the spirit of sustainable development and the safeguarding of the environment.

Adress : Le Patio Palace, 41, Avenue Hector Otto

Phone : +377 97.77.54.21 - [www.mc2d.org](http://www.mc2d.org)

## • Monacelec

#### Goals:

- Facilitate, for the largest number of people, the access to modes of mobility using renewable energies and/ or alternatives to public transport;
- Sharing of all means of transportation (air, ground and sea) of materials and resources and all forms of recovery and recycling;



## “Youth and sustainable development” Encounters in Monaco

Organised by the association MC2D in collaboration with the Direction of National education, Youth and Sport, the final of the seventh edition of the “Youth and sustainable development” Encounters in Monaco took place on April 1<sup>st</sup>, 2011 in the Grimaldi Forum during the EVER show.

This edition focused on a current issue: “Nuclear energy - a sustainable and controlled resource, or a danger for the planet?”, debated by two groups of 5 school students advocating their views.

A jury consisting of members of the Government and various Monegasque institutions celebrated 5 alumni from Lycée Albert I<sup>er</sup>.

- Discovery and promotion of renewable energy and new forms of energy;
- Development, assistance with the design and fabrication of all electronic, electric, mechanical and products and the development of any system which can contribute directly or indirectly to the goals determined by the association;
- Organisation of one or more events in order to supplement these educational objectives for the missions determined by the association;
- Promotion of alternative modes of transport and products able to contribute to them through participation in shows, fairs, conferences, colloquia, etc.

Adress : 1, avenue des Guelfes

### • The International Seakeepers Society (Monaco) – Association Internationale pour la Sauvegarde des Océans :

#### Goals :

- Work towards the attainment of the Seakeepers' objectives, and in particular the objectives stated by the Association formed in Florida in 1988 (The International Seakeepers Society) including the establishment of a global presence.
- To support synergies between people, governments, educational institutions and companies for the preservation and protection of the oceans.

Adress : 7, avenue du Président J F Kennedy

## International Environmental Calendar

### Days

- In February
  - Career Day.
  - Jeun'Élec award ceremony
- March 22: World Water day;
- 1<sup>st</sup> week of April: Sustainable Development Week;
- May 22: International Day for Biological Diversity;
- June 5: World Environment Day;
- In September: European Mobility Week;
- In October: European Heritage days: Monaco.

### Years

2010: International year of Biodiversity;

2011: International Year of Forests.

## Monacology 2011

The 7<sup>th</sup> edition of Monacology took place during the environment awareness week, on June 14-17, 2011, on quai Antoine 1<sup>er</sup>. This event organised by the Monaco-based NGO Act for Nature with Stars n' Bars brought together young people and adults around 4 workshops:

- one on trees and forests, as 2011 was declared International Year of Forests
- another on in-season fruit and vegetables, to tell participants about responsible consumer attitudes
- a third workshop call "bingo of materials", the occasion of an introduction to the cycle of manufactured products
- and another on a concrete example - the cycle of a water bottle.



## Useful contacts

### Direction of the Environment

3, Avenue de Fontvieille, MC 98013 Monaco  
Phone : +377 98.98.80.00 / Fax : +377 92.05.28.91  
E-mail : [environnement@gouv.mc](mailto:environnement@gouv.mc)

### Fondation Prince Albert II de Monaco

Villa Girasole  
16, Boulevard de Suisse ; 98000 MONACO  
Phone : +377 98.98.44.44 / Fax : +377 98.98.44.45  
[www.fpa2.com](http://www.fpa2.com)

### CSM : Centre Scientifique de Monaco

General secretary  
"Villa les Pins", Block C,  
7, rue Honoré Labande, MC 98000 MONACO  
Phone : +377 98 98 86 60  
[www.centrescientifique.mc](http://www.centrescientifique.mc)

### CIESM : International Commission for the Scientific Exploration of the Mediterranean

Villa Girasole,  
16, bd de Suisse, MC 98000 Monaco,  
Phone : +377 93.30. 38.79  
[www.ciesm.org](http://www.ciesm.org)

### Institut Océanographique Fondation Albert I<sup>er</sup> Prince de Monaco

Oceanographic Museum of Monaco  
Avenue Saint-Martin, MC 98000 Monaco  
Phone : +377 93 15 36 00 / Fax : +377 93 50 52 97  
[www.oceano.mc](http://www.oceano.mc)

### Ramoge

Secretariat RAMOGE  
3 Av. de Fontvieille, 98000 Monaco  
Phone : +377 98.98.42.29 / Fax : +377 98.98.40.07  
[www.ramoge.org](http://www.ramoge.org)

### ACCOBAMS : Agreement on the Conservation of the Cetaceans of the Mediterranean and the Black Sea, and the Adjacent Atlantic Zone

Permanent Secretariat of ACCOBAMS  
Jardin de l'UNESCO, Les Terrasses de Fontvieille,  
MC 98000 MONACO  
Phone : +377 98 98 80 10 / 20 78  
Fax : +377 98 98 42 08  
[www.accobams.org](http://www.accobams.org)